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Project #: 150148/06

Massachusetts Department of Environmental Protection
Northeast Regional Office
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Subject: Phase V Remedy Operation Status - Inspection & Monitoring Report
April 1, 2013 through September 30, 2013
Former Varian Facility Site
Beverly, Massachusetts
MADEP # 3-0485

To Whom It May Concern:

On behalf of Varian Medical Systems, Inc., Shaw Environmental, Inc. (a CB&I company) has prepared the enclosed Phase V Remedy Operation Status - Inspection & Monitoring Report summarizing the activities conducted from April 1, 2013 through September 30, 2013 for the former Varian Facility Site in Beverly, Massachusetts. A copy of this report has also been provided to the Varian Public Involvement Plan (PIP) repository at the Beverly City Library, the City of Beverly Board of Health, and the Beverly Conservation Commission. An e-copy of this report will shortly be posted on the web site maintained for the former Varian Facility Site (<http://www.beverlycleanup.varian.com>). A notice of availability for this document has also been issued to the PIP mailing list established for this Site.

If you have any questions regarding the report, please do not hesitate to contact me.

Sincerely,

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**MASSACHUSETTS CONTINGENCY PLAN
PHASE V REMEDY OPERATION STATUS
INSPECTION & MONITORING REPORT
April 1, 2013 through September 30, 2013**

**FORMER VARIAN FACILITY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS 01915**

MADEP Site # 3-0485

October 31, 2013

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(A CB&I Company)

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1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

On behalf of Varian Medical Systems, Inc. (Varian), Shaw Environmental, Inc. (Shaw), a CB&I company, has prepared this semi-annual Remedy Operation Status (ROS) Inspection and Monitoring Report for the former Varian facility located at 150 Sohler Road and other properties located in the vicinity (the Site) in Beverly, Massachusetts. This report is being submitted for Release Tracking Number (RTN) 3-0485 in accordance with the requirements of the Massachusetts Contingency Plan (MCP; 310 CMR 40.000). A Site Location Map illustrating the location of the former Varian facility is attached as **Figure 1**, and a Site Plan is attached as **Figure 2**.

This semi-annual report summarizes activities conducted during the period of April 1, 2013 through September 30, 2013. Results of remedial activities and monitoring conducted during this reporting period are presented in this report. As required, the Massachusetts Department of Environmental Protection (MADEP) Comprehensive Response Action Transmittal Form (BWSC108) and Remedial Monitoring Reports (RMR) associated with this submittal were submitted electronically to MADEP. Copies of BWSC108 and the RMRs are included in **Appendix A**. This Inspection and Monitoring Report has been formatted to reference the requirements outlined in Section 310 CMR 40.0892(2) of the MCP.

1.2 Background Information

Based on the Phase II Comprehensive Site Assessment (CSA) completed in 2000 (IT, 2000), a condition of No Significant Risk existed at the Site with the exception of potential future significant risk associated with groundwater use in the area identified as a Potentially Productive Aquifer (PPA) north of Route 128. Groundwater concentrations in this PPA area were above applicable Massachusetts Drinking Water Standards. As a result, one of the stated remedial action goals in the December 2001 Phase IV Remedial Implementation Plan (Phase IV Plan) submitted to MADEP for the Site, was to achieve Drinking Water Standards in this area of the site (IT, 2001).

The Phase IV Plan proposed remedial actions for addressing volatile organic compounds (VOCs) in soil and groundwater at the subject Site. *In situ* oxidation of VOCs in soil and groundwater using permanganate solution was chosen as the best remedial alternative for the Site. The Phase IV Plan proposed treatment in the "source areas" to achieve these objectives. The Potential Source Location (PSL) areas at the former facility identified in the Phase IV Plan as potentially affecting the PPA area are listed below:

- PSL 5 – Potential former septic tank near Building 3
- PSL 6 – Building 6 - Potential former septic tank/leach field
- PSL 9 – Inspection pit near Building 3
- PSL 11 – Building 3 chemical laboratory
- PSL 12 – Potential former lime pit near Building 3

Other PSL areas that do not impact the PPA and certain other downgradient areas have been included in the *in situ* oxidation program to expedite groundwater cleanup. These areas include PSL 7--Building 5

Lab, PSL 10--open field at south end of 150 Sohier Road, and downgradient treatment areas at 31 Tozer Road and in the Longview/Hill Street area.

Implementation of the Comprehensive Response Actions, including the injection of permanganate solution, began in July 2002 and a Phase IV As-Built and Final Inspection Report (Shaw, 2002a) detailing initial Phase IV activities including permitting, well installation, construction of the remedial treatment system, and initial implementation of remedial actions was submitted to MADEP in October 2002. The Phase IV As Built and Final Inspection Report also provided results of additional soil and groundwater analyses, identified minor modifications made to the Phase IV Plan, and documented the final inspection of the remedial system.

In December 2002, Varian submitted a Remedy Operation Status Opinion (Shaw, 2002b), which stated that the performance standards for ROS, as specified in 310 CMR 40.0893(2), have been achieved and will be maintained at the Site. A Response Action Outcome (RAO) has not yet been achieved at the Site, and the operation and maintenance of the remedial action will proceed under Remedy Operation Status.

The sodium permanganate treatment conducted at the Site since 2002 has produced significant reductions in chlorinated VOC levels at multiple depths in groundwater across the Site. These remedial activities are reported to MADEP in regular semi-annual ROS reports. As detailed in the October 2006 status report, bioremediation was proposed as a supplemental remedial approach to address two small VOC impacted areas in the northeast corner of the Site (Shaw, 2006). The first area includes shallow groundwater with residual trichloroethene (TCE) impacts located close to the Unnamed Stream to the northeast of Building 9 (**Figure 3**). Bioremediation was used to address the shallow groundwater near the Unnamed Stream in lieu of permanganate because permanganate treatment may affect the stream. The second bioremediation area is northeast of Building 3 where deep overburden groundwater is impacted with residual 1,1,1-trichloroethane (TCA), which is not effectively treated with permanganate.

Subsequent to the start of Comprehensive Response Actions, the PPA designation for the area to the north of Route 128 was removed by MADEP and, as a result, Drinking Water Standards no longer apply to this area. Therefore, the Remedial Action Goal specified in the Phase IV Plan to achieve drinking water standards in downgradient wells in the PPA area such as BR-1 is no longer applicable. As presented in the October 30, 2010 ROS report (Shaw, 2010b), the following updated remedial action goals will be used for ongoing response actions being conducted under Phase V ROS at the Site:

1. Maintain compliance with Upper Concentration Limit (UCLs);
2. Achieve a condition of No Significant Risk for site workers in site buildings, by remediating, where necessary, elevated VOC concentrations in soil and groundwater beneath buildings;
3. Limit rebound in VOC source areas such that potential impacts to indoor air in downgradient areas continue to pose No Significant Risk;
4. Demonstrate that VOC concentrations in groundwater at the Site do not represent an uncontrolled source for impacts to surface water; and
5. Demonstrate that VOC concentrations in soil and groundwater at the Site continue to pose No Significant Risk in accordance with current MADEP requirements.

To achieve these goals, the previously proposed remediation planning criteria will continue to be applied to focus remediation activities at the Site. These remediation planning criteria include the decrease of

target VOC concentrations in certain source area wells to 50 percent or less of the UCL and the reduction of target VOC concentrations (including breakdown products) in treatment areas by at least 50 percent below pretreatment levels in order to mitigate potential post-remediation rebound effects. These remediation planning criteria are consistent with MADEP guidance (Policy #WSC-04-160) on the feasibility of achieving background concentrations which indicates that a reduction of risk to 50% of a level where No Significant Risk is achieved will be considered approaching background conditions and appropriate site closure criteria with Presumptive Certainty (MADEP, 2004b).

In December 2012, Shaw submitted a modification of the Phase III Remedial Action Plan (RAP) and Phase IV Plan for RTN 3-0485 (Shaw, 2012d). This modification addressed the Building 5 remedial area, located in the central portion of the former Varian facility (**Figure 2**). The Building 5 treatment area was not previously included in the original Phase III RAP and Phase IV Plan submitted to MADEP in 2001 (IT, 2001). The Phase III RAP was modified to identify, evaluate, and select remedial action alternatives to reduce potential risk associated with indoor air exposure in the Building 5 area. Soil vapor extraction (SVE) was selected as the preferred remedial alternative. The goal of the selected remedial action alternative in the Modified Phase III RAP was to control exposures and reduce VOC concentrations remaining in shallow soil that have the potential to migrate into the indoor air of Building 5. The Modified Phase IV Plan provided detail engineering designs, waste management plans, and initial operation and maintenance activities for the selected SVE remedial alternative (Shaw, 2012d). Details regarding the Building 5 SVE installation, including a Final Licensed Site Professional (LSP) Inspection and Phase IV Completion Statement, are included in Section 2.6 of this status report.

Remediation in the Building 3 area, located in the northeast corner of the former Varian facility (**Figure 2**), has been conducted under ROS (to address groundwater impacts) and as an Immediate Response Action (IRA) under RTN 3-2853 (to address potential vapor intrusion). IRA activities included installation of a SVE system in December 2009. Phase II CSA and Phase III Remedial Action Plan reports were submitted for RTN 3-28531 in May 2012 (Shaw, 2012b and Shaw, 2012c). The Phase II and Method 3 Risk Assessment (Shaw, 2012b) concluded that a Condition of No Significant Risk had been achieved with the operation of the existing Building 3 SVE system which is effectively reducing VOC levels in indoor air in the Building 3 area. An Immediate Response Action Completion Report was submitted for RTN 3-28531 in February 2013 (Shaw, 2013). The IRA Completion Report concluded that the primary objective of the IRA (to assess and mitigate the potential impacts to indoor air in the Building 3 area and thereby eliminate the potential for an Imminent Hazard) had been met by conducting IRA activities. Response actions for RTN 3-28531 had been effective in decreasing indoor air concentrations to below levels that would constitute an Imminent Hazard. However, continued operation of the SVE system is necessary to maintain a level of No Significant Risk in the Building 3 area. The IRA Completion Report linked RTN 3-28531 to RTN 3-0485 and also included a Phase IV Remedy Implementation Plan, Phase IV Completion Report, and Phase V Remedy Operation Status Opinion. The combined report for RTN 3-28531 closed this RTN and concluded that continued response actions (including the operation of the Building 3 SVE system) would be conducted in conjunction with Comprehensive Response Actions under Phase V ROS for RTN 3-0485. Building 3 remedial activities are therefore included as part of this ROS report.

2.0 DESCRIPTION OF OPERATION, MAINTENANCE, AND/OR MONITORING ACTIVITIES (310 CMR 40.0892 (2)(a))

The following sections summarize Phase V ROS activities that were conducted during the reporting period of April 1, 2013 through September 30, 2013.

2.1 Site-Wide Groundwater and Surface Water Sampling

2.1.1 Sample Collection and Analysis

Groundwater sampling to monitor groundwater conditions across the Site and the progress of both the permanganate and bioremediation programs was conducted in late April and early May 2013 during this reporting period. The April/May 2013 sampling event monitored VOC trends and groundwater conditions at select wells across the Site. Groundwater and surface water samples were submitted to ALS Environmental (ALS) for analysis of site specific VOCs (by EPA Method 8260B), dissolved iron and manganese, methane, ethane, ethene, total organic carbon, and chloride as outlined on **Table 1**. Additionally, groundwater samples collected from select bioremediation wells were submitted for analysis of *Dehalococcoides sp.* bacteria (DHC) at Shaw's Technology Development Laboratory in Knoxville, Tennessee.

The April/May 2013 sampling event also included select stream surface water locations previously requested by the Beverly Conservation Commission in various Orders of Condition (Beverly, 2002; 2003; 2004). Sampling locations are shown on **Figures 2 and 3**.

Groundwater VOC sampling of monitoring and application wells during this reporting period utilized passive diffusion bag (PDB) samplers, with the exception of stream monitoring points and certain wells where alternative sampling methods were used, as discussed below. For wells sampled utilizing the PDB method, the sampling apparatus was deployed in each groundwater monitoring well for a minimum two-week equilibration period, after which the samples were collected.

Surface water stream samples were collected directly from the sample locations with a bailer or laboratory-supplied containers.

At locations where analyses of dissolved metals (manganese and/or iron) and chloride were performed, samples were collected using a conventional bailer, since these constituents cannot be accurately assessed using PDB samplers. Dissolved manganese and iron samples were field-filtered using a 0.45-micron filter prior to laboratory analysis consistent with MADEP policy.

During the April/May 2013 sampling event, groundwater samples from select permanganate injection and monitoring wells were also collected for bench-top colorimetric permanganate concentration analysis. These groundwater samples were field filtered using a 0.45-micron filter prior to permanganate concentration analysis. Samples that were collected for colorimetric analysis of residual permanganate concentrations were analyzed by Shaw using a Hach DR/890 colorimeter. The colorimeter utilizes a spectrophotometric method to determine the permanganate concentration based on a permanganate color calibration standard.

Depth-to-groundwater, total-well-depth measurements, and gauging for potential dense non-aqueous phase liquid (DNAPL) at selected wells were performed in April 2013 when the PDB samplers were deployed. The electronic interface probe used during these monitoring activities did not detect DNAPL at monitoring wells gauged during this reporting period. Water level monitoring data from the April 2013 sampling event are summarized in **Appendix B**.

VOC analytical results from the April/May 2013 sampling event are summarized on **Table 2**. Results of chloride, iron, and manganese samples collected during the sampling event are summarized on **Table 3**. Results of bioremediation parameter analyses (i.e., methane, ethane, ethene, total organic carbon, and DHC bacteria) are summarized on **Table 4**. Results of bench-top colorimetric analysis of residual permanganate are included in **Table 5**. Complete laboratory analytical reports for samples collected in April 2013 are provided in **Appendix C**. Sampling results are discussed below.

Depth to groundwater measurements collected during the April 2013 sampling event (**Appendix B**) were used to develop groundwater contour maps for the shallow overburden, deep overburden, and bedrock aquifers (**Figures 4, 5, and 6**). These figures show that the majority of Site groundwater in each aquifer generally flows to the west/southwest, following the regional groundwater flow pattern, which is south and west toward Shoe Pond and the Bass River. The gradient in each aquifer is moderate to steep east of Tozer Road and very flat to the west of Tozer Road. There are indications of limited northerly groundwater flow in the contours at the northern end of the Site towards the former PPA area. Overall, the groundwater gradients shown on these figures are consistent with historical data from the Site.

2.1.2 VOC Monitoring Results

In general, the analytical results of groundwater samples collected during the April 2013 sampling event (**Table 2**) show decreasing or consistent concentrations of TCE and tetrachloroethene (PCE) at monitoring wells across the Site. However, concentrations of cis-1,2-dichloroethene (DCE) have been more variable. This variability may be due to the higher mobility of cis-1,2-DCE in groundwater compared to TCE and PCE and the generation of this daughter compound during natural attenuation and/or bioremediation processes.

Graphs illustrating concentration trends over time for the primary Site contaminants including TCE, PCE, cis-1,2-DCE, TCA, and vinyl chloride for numerous injection and monitoring wells are provided in **Appendix D**. Graphs for shallow overburden, deep overburden, and bedrock monitoring wells that are located in proximity to each other are grouped together for comparative purposes. These graphs indicate that data from many of the wells monitored continue to show decreasing concentration trends or sustained reductions in VOC concentrations as a result of Varian's remedial activities. These trends indicate that the remedial program is effectively treating groundwater and the Site is progressing toward a Permanent Solution as defined by the MCP.

Analytical results of target VOCs from the April 2013 groundwater sampling event were used to generate VOC iso-concentration maps for the shallow overburden, deep overburden, and bedrock aquifers (**Figures 7, 8, and 9**, respectively). The "total" VOC numbers consider concentrations of the Site-related VOCs, which include TCE, PCE, TCA, cis- and trans-DCE, 1,1-dichloroethane (DCA), 1,1-DCE, 1,2-DCA, and vinyl chloride.

A more detailed discussion of VOC monitoring results for the various treatment areas at the Site is presented below.

North of Route 128

Historically, VOC concentrations in the area north of Route 128 have been low or non-detectable in the shallow and deep overburden aquifers. Impacts have been noted in the bedrock aquifer north of Route 128. Permanganate injection has not been performed directly in this area, but source area treatment south of Route 128 was conducted to address downgradient groundwater impacts north of the former Varian facility. Recent groundwater sampling results for this area demonstrate that:

- At bedrock well CL02-BR, located at 16 Tozer Road, PCE concentrations have been non-detectable since October 2009. TCE was detected in April and November 2012, but decreased to non-detectable in May 2013. Daughter products at CL02-BR continue to show fluctuating concentrations, with vinyl chloride increasing from non-detectable in November 2012 to 0.043 milligrams per liter (mg/L) in May 2013 and cis-1,2-DCE decreasing from 0.29 mg/L to 0.057 mg/L over the same period.
- At bedrock well CL09-BR, located on Commons Drive, TCE and PCE concentrations have remained fairly consistent in all three zones. For example, in CL09-BR zone 1, TCE was detected at a concentration of 1.8 mg/L in May 2013, which is consistent with the range of 1.1 to 2.2 mg/L observed since 2009. Daughter products in each zone continue to show fluctuating concentrations. For example, cis-1,2-DCE at CL09-BR zone 1, which was detected at 4.8 mg/L in May 2013, has ranged from 0.4 mg/L to 11 mg/L between 2009 and 2013. At the adjacent deep overburden well CL9-DO, concentrations of TCE, PCE and cis-1,2-DCE decreased to non-detectable in April 2013.
- In each zone of bedrock monitoring well BR1, located on Walden Street, target VOC concentrations decreased to non-detectable in April 2012 and were non-detectable again in April 2013.

Building 3/6 Treatment Areas

Permanganate injection in the Building 3/6 area during this reporting period was conducted after the April 2013 groundwater sampling event. However, results of the April 2013 groundwater sampling event indicate that significant target VOC reductions have been maintained at a number of monitoring wells, including AP25-DO, AP30R-DO, MW-9, MW-9A, MW-13, OB9-S, OB9-DO, OB32-DO and OB37-DO. TCE concentrations at these wells have been reduced by previous treatment as much as 99 percent from historical highs. Groundwater analytical results for this area are summarized below:

- In shallow overburden wells adjacent to the Unnamed Stream east of Building 3, emulsified vegetable oil (EVO) application was conducted in July 2012 to continue reductive dechlorination. Sampling results from February and April 2013 indicate non-detectable concentrations of TCE and PCE at wells BW-4, BW-6, BW-8 and BW-9. Low and non-detectable concentrations of degradation products cis-1,2-DCE and vinyl chloride, and the presence of ethene, indicate that complete breakdown of TCE and PCE is continuing in the shallow overburden aquifer in this area. At wells BW-8 and BW-9, detected concentrations of 1,1,1-TCA have been non-detectable since April 2012. Concentrations of breakdown products 1,1-dichloroethane and chloroethane have decreased over the sampling events from April 2012 to April 2013, indicating that complete degradation of 1,1,1-TCA is occurring in the shallow overburden aquifer in this area.

- At deep overburden well OB12-DO, located north of Building 3, significant VOC concentration reductions were observed following the 2009 permanganate injections (e.g. 99 percent reduction in TCE). However, concentrations of TCE have rebounded following several more recent permanganate treatment events. This rebound effect is often observed due to the permanganate injections re-solubilizing VOC bound to soil particles. For example, TCE concentrations increased to 37 mg/L in April 2012, once permanganate in the area of OB12-DO was consumed. This TCE concentration still represents an approximate 70 percent reduction from the highest detected TCE concentration at OB12-DO, but the April 2012 TCE concentration was above the remedial planning criteria and further treatment was determined to be warranted. Permanganate injections were conducted at OB12-DO during the 2012 treatment period and TCE concentrations decreased to non-detectable in November 2012 and remained non-detectable in April 2013, indicating that further treatment is not warranted at this time. Analytical data from October 2013 will be evaluated to determine if residual permanganate in groundwater near OB12-DO is continuing to control potential VOC desorption from soil.
- At shallow well OB15-S, adjacent to the Unnamed Stream east of Building 3, PCE and TCE concentrations have decreased significantly since January 2009, when they were 6.1 mg/L and 4.3 mg/L, respectively. In April 2012, PCE and TCE were non-detectable and breakdown products cis-1,2-DCE and vinyl chloride were present. EVO injections were conducted in July 2012 to enhance further dechlorination. Vinyl chloride and cis-1,2-DCE concentrations have decreased since EVO application. For example, cis-1,2-DCE decreased from 1.4 mg/L in April 2012 to 0.024 mg/L in April 2013. The presence of ethene at nearby well MW-9 and the decreased concentration of daughter products indicate that complete degradation is occurring in the area.
- At deep overburden well OB19-DO, located just west of Building 1, VOC concentrations have been relatively consistent since 2010. However the TCE concentration increased from 3.1 mg/L in April 2012 to 24 mg/L in November 2012 (approaching the planning criteria of 25 mg/L). The concentration of PCE increased over this same period from 0.8 mg/L to 12 mg/L. In April 2013, the TCE and PCE concentrations decreased to 3.8 mg/L and 0.83 mg/L, respectively. This may have been in response to permanganate treatment conducted at nearby well AP26-DO in 2012. Additional treatment was conducted at well AP26-DO following the April 2013 sampling to sustain the observed decrease at OB19-DO and to address VOC present at AP26-DO. October 2013 analytical data will be evaluated to see if further treatment is warranted in the area.
- At bedrock well OB25-BR, located west of Building 1, the concentrations of cis-1,2-DCE and vinyl chloride detected in April 2009 increased and remained elevated in July and October 2010. Because the detected concentration of cis-1,2-DCE at this well was above the remedial planning criterion (67 mg/L in October 2010), permanganate treatment was conducted at OB25-BR in January and February 2011. In response to this treatment, concentrations of VOC reduced to non-detectable in April 2011. VOC concentrations increased at OB25-BR as the permanganate was consumed by VOC destruction and in April 2012 the cis-1,2-DCE concentration was 30 mg/L, once again above remedial planning criteria. Permanganate injections were conducted at OB25-BR during the 2012 treatment period. VOC concentrations responded to treatment with PCE, TCE and cis-1,2-DCE concentrations decreasing to non-detectable levels in November 2012 and remaining non-detectable in April 2013, indicating that further treatment is not warranted at this time. Analytical data from October 2013 will be evaluated to determine if residual permanganate in groundwater near OB25-BR is continuing to control potential VOC migration from upgradient areas.

- Bedrock well OB27-BR, located near the south west corner of Building 7, received permanganate injection in 2010 and early 2011 to address increased concentrations of VOCs. As a result of this treatment, TCE, PCE, and cis-1,2-DCE concentrations were reduced significantly and only indicated a low concentration of PCE in April 2011 (0.0026 mg/L). In October 2011, VOC concentrations showed an increase, with PCE detected at 7.4 mg/L and TCE present at 22 mg/L, both similar to previous high levels. The TCE concentration remained similar in April 2012 (20 mg/L). Therefore, it was determined that further treatment was warranted. Permanganate injections were conducted at OB27-BR during the 2012 treatment period. VOC concentrations responded to treatment. In November 2012, the TCE and PCE concentrations were both non-detectable. TCE remained non-detectable in April 2013 and PCE was detected at 0.071 mg/L, indicating that further treatment is not warranted at this time. Analytical data from October 2013 will be evaluated to determine if residual permanganate in groundwater near OB27-BR is continuing to control potential VOC migration from upgradient areas.
- Deep overburden well OB34-DO, located just north of Building 3, last received permanganate treatment in August 2009. Although permanganate addition was not conducted in 2010, the TCE concentrations decreased at this well in October 2010 and remained relatively low in April 2011, suggesting that benefits of permanganate injections at nearby wells AP30R-DO, AP31-DO and AP32-DO were being observed in the area of OB34-DO. In October 2011, the TCE concentration increased to 11 mg/L, but remained below the remedial planning criteria. The TCE concentration at OB34-DO decreased slightly in April 2012 to 8.5 mg/L. Permanganate treatment was not conducted at AP30R-DO, AP31-DO, and AP32-DO in 2012. Despite this, the concentration of TCE at OB34-DO remained similar at 9.5 mg/L in November 2012 and decreased slightly to 7.6 mg/L in April 2013. VOC concentrations appear to have stabilized below the remedial criteria. Permanganate treatment was conducted at wells AP32-DO and AP31-DO following the April 2013 sampling event. October 2013 sampling results from OB34-DO will be reviewed to assess if continued benefits of treatment at wells AP32-DO and AP31-DO are observed.
- Deep overburden wells AP30R-DO, AP31-DO and AP32-DO, located just north of Building 3, responded well to the permanganate treatment conducted in 2010 and 2011. Concentrations of TCE and PCE at AP30R-DO decreased from pre-treatment levels of 680 mg/L and 59 mg/L, respectively to non-detectable in November 2011 and remained non-detectable in April 2013. TCE at AP31-DO decreased from a pretreatment concentration of 940 mg/L in 2010 to non-detectable in November 2011 and PCE decreased from 71 mg/L in February 2010 to 0.043 mg/L in November 2011. In April 2013 TCE and PCE were present in AP31-DO at concentrations of 4.4 mg/L and 2.1 mg/L, respectively. Concentrations of VOCs exhibited a significant decrease after treatment in AP32-DO, for example TCE decreased from a 950 mg/L pre-treatment concentration (November 2010) to 0.15 mg/L in April 2011. However, as permanganate in the area has been consumed, the TCE concentration has increased and was detected at 370 mg/L at AP32-DO in April 2013. The concentration of TCE at AP32-DO is well above the remedial planning criteria. Therefore, further treatment was conducted following the April 2013 sampling event at AP32-DO and AP31-DO. Analytical data from October 2013 will be evaluated to determine if further treatment is warranted.
- Deep overburden well OB36-DO, located beneath the Building 6 loading dock, had responded well to permanganate treatment in 2005. VOC concentrations at this well were relatively consistent below the remedial planning criteria for years, with TCE detected at 9.1 mg/L in November 2012. This represents an approximate 90 percent reduction from the historic TCE concentration at OB36-DO. However, in April 2013, TCE increased to 48 mg/L, which is above remedial criteria. Additional treatment was conducted at well OB36-DO following the April 2013 sampling to address this increased TCE level. October 2013 analytical data will be evaluated to determine if further treatment is warranted in the area.

- At deep overburden well AP12-DO, located near the southeast corner of Building 6, permanganate treatment was conducted in 2004 and TCE concentrations remained non-detectable until residual permanganate from treatment in the Building 6 area was consumed and an increase was observed in April 2010. In October 2011, the TCE concentration measured 27 mg/L, which is above the remedial planning criteria. It increased further in April 2012, to 39 mg/L. This TCE level suggested that further treatment was warranted and permanganate injections were conducted at AP12-DO during the 2012 treatment period. VOC concentrations responded well to permanganate treatment, with TCE and PCE concentrations decreasing to non-detectable levels in November 2012. TCE concentrations remained non-detectable in April 2013 and PCE showed a minimal increase, to 0.002 mg/L. At bedrock well AP12-BR, concentrations of PCE and TCE were non-detectable for the seventh sampling event in April 2013.
- Deep overburden well AP26-DO, located west of Building 2, received permanganate treatment in 2004. Concentrations of VOCs at this well have fluctuated over recent sampling events, with the level of TCE detected in 2011 and 2012 near the remedial planning criteria. In April 2012, the concentration of TCE was 27 mg/L and the level of PCE was 11 mg/L. Therefore, permanganate injections were conducted at AP26-DO during the 2012 treatment period. VOC concentrations responded well to permanganate injections in 2012, with the concentration of TCE decreasing to non-detectable in November 2012. However, in April 2013 TCE increased to 17 mg/L. Additional treatment was conducted at well AP26-DO following the April 2013 sampling to address the increased TCE level. October 2013 analytical data will be evaluated to determine if further treatment is warranted in the area.
- At deep overburden well AP23-DO, located near Building 3 concentrations of TCE have remained elevated with TCE detected at 510 mg/L in May 2013. This concentration is above the remedial criteria. In addition, acetone was detected at AP23-DO in April 2013 at a concentration of 79 mg/L. This area has not benefited from permanganate treatment conducted at AP30R-DO located to the west and bioremediation at this well has had limited success. Therefore, new deep overburden bioremediation wells were installed following the April 2013 sampling event (see Section 2.3.2) and additional bioremediation will be conducted in this area during the next reporting period to address elevated VOC concentrations in groundwater.
- At deep overburden wells AP13-DO and AP24-DO, located near the northeast corner of Building 3, concentrations of TCE, PCE and 1,1,1-TCA have remained elevated. For example, at AP13-DO, PCE was detected at 60 mg/L, TCE was detected at 330 mg/L and 1,1,1-TCA was detected at 26 mg/L in April 2013. In addition, acetone was detected at AP13-DO in April 2013 at a concentration of 62 mg/L. Additional bioremediation will be conducted in this area during the next reporting period to address elevated VOC concentrations in groundwater. At the adjacent shallow well AP13-DO, VOC remain non-detectable.
- In the stream adjacent to Building 9, the Unnamed Stream sample location continues to indicate fluctuating concentrations of VOCs. This is expected due to the ongoing bioremediation program in the adjacent shallow groundwater aquifer. Just downstream at the STR-3 stream sample location, TCE and PCE concentrations remain low, with concentrations of 0.0083 mg/L and 0.004 mg/L, respectively detected in April 2013. Low levels of VOCs detected at STR-3 indicate that fluctuations in surface water VOC concentrations are limited to the area immediately adjacent to the active bioremediation treatment zone. The continued presence of ethene in adjacent shallow well samples indicates that complete VOC degradation is occurring.

Building 5 Treatment Area

Permanganate application to groundwater in the Building 5 treatment area was conducted at well AP27-DO, located east of Building 5, in 2004, 2005, and 2012, and at OB-35DO, located beneath Building 5, from 2005 to 2008, in 2011, and 2012. Permanganate injection during this reporting period was conducted after the April 2013 sampling event. The most recent groundwater sampling results for this area demonstrate that:

- VOC concentrations at well AP27-DO decreased significantly after treatment in 2004. In October 2011, the TCE concentration increased to 12 mg/L and remained similar in April 2012 at 13 mg/L. To address the increased level of TCE noted at AP27-DO and nearby well OB35-DO, permanganate treatment was conducted at AP27-DO in 2012. VOC concentrations responded to treatment, with TCE at AP27-DO decreasing to non-detectable in November 2012 with a slight increase to 0.0039 mg/L observed in April 2013.
- Permanganate treatment at well OB35-DO, located inside Building 5, has had mixed results. Treatment has reduced the concentration of TCE at OB35-DO from 440 mg/L in May 2005 to 8.6 mg/L in April 2013. This reflects approximately a 98 percent reduction in TCE concentrations. However, the concentration of PCE at OB35-DO has not yet responded to treatment. Despite injections in 2011 and 2012, the concentration of PCE at well OB35-DO has remained elevated and increased to 47 mg/L in April 2013. PCE tends to adhere to the soil matrix more than TCE, so the continued detection of PCE at this well may be the result of the permanganate desorbing PCE bound to soil particles, where it then can be destroyed by the oxidizer. Additional treatment was conducted at well OB35-DO following the April 2013 sampling to address the elevated PCE level. October 2013 analytical data will be evaluated to determine if further treatment is warranted in the area.
- TCE and PCE concentrations at deep overburden well OB38-DO, located on the east side of Building 5, have been relatively consistent over recent sampling events. In April 2013, TCE was detected at 0.62 mg/L and PCE was present at 0.45 mg/L. The detected VOCs at this well are below prior concentrations and the remedial planning criteria.

PSL 10 Treatment Area

This area is located to the south of the Building 5 area, adjacent to the 32 Tozer Road property. Permanganate injection was conducted in this area from 2002 to 2004 and 2006 through 2008. Additional permanganate injections were conducted in this area at wells AP-19 and AP-22 during the summer 2011 treatment period. The most recent groundwater sampling results for this area demonstrate that:

- VOC concentrations at shallow overburden well CL10-S, located just downgradient of PSL 10 on the 32 Tozer Road property, continued to exhibit seasonal fluctuations. Higher concentrations of PCE are noted in the spring sampling with lower levels observed in the fall (consistent with groundwater table fluctuations). For example, the PCE concentration increased to 1.3 mg/L in April 2013 from 0.013 mg/L in November 2012. The concentration of PCE detected at CL10-S in April 2013 was the highest since April 2009, but is lower than the historical high concentration (2.3 mg/L in March 2000).
- TCE and PCE concentrations remain non-detectable in April 2013 at deep overburden well CL10-DO and bedrock well CL10-BR.
- Concentrations of PCE at deep overburden well AP-19 also exhibit seasonal fluctuation, with a higher concentration noted in the spring compared to the fall. For example, the PCE

concentration increased at AP-19 from 0.28 mg/L in November 2012 to 1.3 mg/L in May 2013. At shallow well AP-20, the April 2013 sampling event indicated a decrease in the PCE concentration from 2.1 mg/L in November 2012 to 0.39 mg/L. At deep overburden well AP-21 and shallow overburden well AP-22, concentrations of PCE and TCE have been non-detectable over multiple events.

- Concentrations of VOCs at deep overburden monitoring well MW2-32Tozer, located west of AP-21 and AP-22 on the 32 Tozer Road property, have been relatively consistent since the well was installed in 2011. The concentrations of PCE and TCE detected in April 2013 at MW2-32Tozer, 6.7 mg/L and 3.8 mg/L, respectively, reflected a decrease compared to the November 2012 results. These concentrations are lower than levels observed at deep overburden well CL10-DO prior to the start of treatment in PSL 10 (e.g., PCE and TCE were present at 9.2 mg/L and 16 mg/L, respectively in May 2003). Downgradient from well MW2-32Tozer, VOC concentrations are significantly lower. For example, VOCs were non-detectable at MW4-32Tozer in April 2013 and the PCE concentration detected at MW5-32Tozer was 0.0043 mg/L in April 2013.

Tozer Road Treatment Area South of 128

No permanganate injections have been performed at 28 Tozer Road since 2006. Permanganate injection during this reporting period was conducted in this downgradient treatment area after the April 2013 groundwater sampling event. The most recent groundwater sampling results for this area demonstrate that:

- At deep overburden well CL3-DO, located on 28 Tozer Road, the detected concentrations of TCE and PCE increased in April 2012 and April 2013. For example, TCE increased to 15 mg/L in April 2012 and increased to 30 mg/L in April 2013, exceeding the remedial planning criteria of 25 mg/L. Permanganate treatment was conducted at well CL3-DO following the April 2013 sampling to address the increased VOC concentrations. October 2013 analytical data will be evaluated to assess if further treatment is warranted in the area. VOC levels at shallow well CL3-S have remained low, with TCE detected at a concentration of 0.012 mg/L in April 2013.
- At well OB05-DO, located at 27 Tozer Road, PCE, TCE, and cis-1,2-DCE have shown an increasing trend over recent years. For example, TCE has increased from 0.44 mg/L in April 2008 to 3 mg/L in April 2013. This may be connected to the increased VOC concentrations noted upgradient at CL3-DO. October 2013 analytical data will be evaluated to determine if the benefits of treatment at CL3-DO are observed at OB5-DO. At the adjacent bedrock well OB05-BR, concentrations of TCE and PCE remained non-detectable in April 2013.
- At well OB06-DO, located on Sonning Road, concentrations of TCE and PCE have remained consistent for several sampling rounds. In April 2013, TCE was detected at 0.25 mg/L at OB6-DO. In the adjacent bedrock well OB06-DO, VOC concentrations illustrate an overall decreasing trend.
- Well OB43-S is located at 27 Tozer adjacent to the existing building. Since installation in 2011, VOC concentrations at this well have been below or just above method detection limit. In April 2012, PCE was present at a concentration of 0.0024 mg/L while other target VOC were non-detectable.
- At shallow monitoring well W-1, located at 30 Tozer Road, VOCs concentrations have fluctuated over recent sampling events. In April 2013 the TCE concentration was 1.3 mg/L, indicating an increase from 0.17 mg/L in November 2013 at this well.

- At well OB42-S, located at 30 Tozer just downgradient of W-1, VOC results in April 2013 indicate the presence of TCE, PCE, and cis-1,2-DCE at concentrations of 3.5 mg/L, 0.13 mg/L and 1.4 mg/L, respectively. These concentrations are generally consistent with the levels observed in the previous sampling events in 2011 and 2012 at OB42-S.

31 Tozer Road Treatment Area

Shallow groundwater treatment was conducted in 2002 and 2003 and deep overburden permanganate injection occurred in this area in 2004. The most recent groundwater sampling results for this area demonstrate that:

- Three shallow wells located at 31 Tozer Road were sampled during the April 2013 event. VOC concentrations were non-detectable at well AP15-S in April 2013 and the previous four sampling rounds. Concentrations of TCE and PCE have been higher over the last three sampling events at GZ-1 after several years of lower concentrations. For example, the TCE concentrations have ranged from 0.76 to 1.6 mg/L between 2011 and 2013 after ranging from 0.0064 mg/L to 0.016 mg/L between 2008 and 2010. Concentrations of VOCs were non-detectable in April 2013 in shallow well OB18-S and have been non-detectable four of the past five sampling rounds.
- Shallow well OB8-S, located at 39 Tozer Road, was also sampled to assess shallow overburden impacts. VOC concentrations at this well have been relatively consistent over a number of years, with the TCE present at 0.36 mg/L and cis-1,2-DCE present at 0.082 mg/L in April 2013.
- Shallow monitoring well OB41-S is located at 39 Tozer just downgradient of OB8-S, adjacent to the existing building. VOC results from OB41-S in April 2013 indicate an increase in concentrations. For example, TCE increased from 0.082 mg/L in November 2012 to 0.29 mg/L in April 2012.
- Stream points STRHA-7A (Stream A on the 39 Tozer Road property) and STRHA-7B (Unnamed Stream on the 39 Tozer Road property) are sampled to monitor VOC impacts to surface water. Detected VOC concentrations at these sample points have been generally consistent over the last two years at a relatively low concentration. In April 2013, TCE was detected at a concentration of 0.046 mg/L at STRHA-7A and 0.035 mg/L at STRHA-7B.

Longview/Hill Street Treatment Area

In the Longview/Hill Street area, permanganate injections were conducted at wells AP3-DO and AP4-DO during 2004, and at AP3-DO and AP3-BR in 2005. The most recent groundwater sampling results for this area demonstrate that:

- Several monitoring wells in this downgradient area of the site are sampled to assess shallow overburden impacts. These include wells P-9R and P-19A on Hill Street and OB20-S by Stream A, south of Sonning Road. VOCs remained non-detectable at shallow wells P-9R and OB20-S in April 2013. At well P-19A, concentrations of PCE, TCE, and cis-1,2-DCE have remained relatively consistent and at low levels, with cis-1,2-DCE detected at the highest concentration (0.16 mg/L in April 2013).
- Shallow wells P-11R, located on Longview Terrace and P-20R, located to the east of Longview Terrace, are also sampled to assess VOC levels in this area. Concentrations of TCE, PCE and cis-1,2-DCE remained non-detectable at both these shallow wells in April 2013.

- At stream monitoring point STRM-A-SCDS, located east of Longview Terrace, the VOC concentrations have been generally consistent at a low level over recent sampling events. In April 2013 the TCE and cis-1,2-DCE concentrations decreased slightly to 0.0055 mg/L and 0.0028 mg/L, respectively.

2.2 Groundwater Permanganate Treatment Program

The permanganate injections planned for 2013 are focused on reducing VOC concentrations and minimizing potential contaminant migration from source areas at the Site by treating areas with VOC concentrations that exceed the remedial planning criteria. Based on the results of the April 2013 sampling event, wells that exhibited concentrations of VOCs that exceed the remedial planning criteria and were selected for permanganate treatment during this reporting period include: AP32-DO (beneath Building 3), OB36-DO (inside Building 6), OB35-DO (inside Building 5) and CL3-DO (located at 28 Tozer Road). In addition, two other wells (AP26-DO and AP31-DO) which did not indicated VOC concentrations that exceed the remedial planning criteria were also treated with permanganate. TCE increased from non-detectable in November 2012 to 17 mg/L in April 2013 at AP26-DO (west of Buildings 1 & 2). Although this concentration did not exceed the remedial planning criteria, additional injection was conducted at AP26-DO to reduce the VOC levels at this well and to sustain the decrease in the TCE concentrations observed just downgradient at OB19-DO. VOC concentrations also did not exceed the remedial planning criteria at AP31-DO in April 2013, but additional permanganate injection was conducted at this well to treat the significant VOC concentrations observed in groundwater just downgradient at AP32-DO. Well locations are illustrated on **Figures 2 and 3**.

2.2.1 Permanganate Injection Activities

The 2013 permanganate injection program was initiated on July 24, 2013. Volumes of sodium permanganate injected during this reporting period are summarized on **Table 6**. The permanganate solution was applied to the target wells manually under gravity flow conditions.

During this reporting period, 40 percent sodium permanganate solution was delivered to the Site in 250-gallon totes which were stored in an on-site storage shed with secondary containment. Prior to conducting treatment activities, the permanganate was diluted to an approximate 20 percent solution. A tote placed in the bed of a pickup truck was used to transport the 20 percent permanganate solution to the majority of individual injection wells and then allowed to flow by gravity into the wells. Under the supervision of Shaw field personnel, application of permanganate into wells located inside facility buildings was performed by transferring the 20 percent permanganate solution into portable 5-gallon containers which were manually transported to a well location.

The permanganate totes, drums, hoses, portable containers, pumps, and associated equipment were periodically inspected during this reporting period to ensure no leaks occurred. Additionally, the spill containment features of the storage shed were inspected periodically during this monitoring period. No problems or releases were reported.

2.2.2 Permanganate Parameter Monitoring Results

The Phase IV Plan (IT, 2001) detailed monitoring activities for the various permanganate treatment areas of the Site. As discussed in previous monitoring reports, monitoring activities have been adjusted, based

upon changing site conditions. Groundwater physical parameters were monitored biweekly during permanganate injection in select monitoring wells in active treatment areas. Monitoring activities typically completed during the permanganate treatment program include:

- visual observation of groundwater color for identification of residual permanganate;
- depth-to-groundwater measurements; and
- measurement of oxidation-reduction potential (ORP), and pH using a down-well water parameter probe (if no residual permanganate is observed, which could damage the probe).

Results of water quality parameter measurements collected from monitoring wells during this reporting period are presented in **Appendix B**.

Sampling for analytical parameters associated with permanganate treatment during this monitoring period was completed in April 2013 prior to the start of the 2013 permanganate injection program. Groundwater samples were collected from select wells in April 2013 for bench-top colorimetric permanganate concentration analysis. The permanganate analysis results are provided in **Table 5**. As would be expected, samples from wells where permanganate injection was conducted in 2012 indicated residual permanganate was present. For example, permanganate was detected in April 2013 at a concentration of 17,000 mg/L in AP12-DO, located east of Building 6, which received over 400 gallons of permanganate in 2012.

Typically, the dissolved iron concentrations (**Table 3**) are expected to decrease in treatment areas due to the oxidizing nature of permanganate and associated iron precipitation from the treated groundwater. Results of monitoring in areas where permanganate treatment has occurred generally demonstrate low or non-detectable dissolved iron concentrations. For example, in OB-27BR located west of Building 7, where permanganate injections were conducted during the summer/fall of 2012, dissolved iron was non-detectable in April 2013.

Generally, elevated dissolved manganese concentrations (**Table 3**) are noted where unreacted permanganate was observed. For example, at well OB27-BR located west of Building 7, permanganate was present at approximately 2,000 mg/L in April 2013 and dissolved manganese was detected at a concentration of 770 mg/L in April 2013. Outside of the permanganate treatment areas, dissolved manganese concentrations are generally low or non-detectable. At deep overburden well OB19-DO, located adjacent to Building 1 and 2 and downgradient of well AP26-DO, where permanganate injection was conducted in 2012, the dissolved manganese concentration was 0.061 mg/L in April 2013. Baseline chloride concentrations at the site were highly variable (**Table 3**). As a result of permanganate treatment, chloride levels in groundwater typically increase from the destruction of the chlorinated VOCs. An example of this is observed at AP12-DO, located near the southeast corner of Building 6, where permanganate treatment was conducted in 2012. At AP12-DO, TCE decreased from 39 mg/L in April 2012 to non-detectable in November 2012 and remained non-detectable in April 2013. Chloride at well AP12-DO increased from a pre-treatment level of 34.4 mg/L to 538 mg/L in November 2012 and remained elevated (156 mg/L) in April 2013.

2.3 Bioremediation Program

The original bioremediation program proposed for a portion of the Site was detailed in the October 2006 ROS report and included treatment at shallow wells in the Building 9 area near the Unnamed Stream, as shown on **Figure 3**. As noted above, the bioremediation program has significantly reduced concentrations of TCE, PCE and 1,1,1-TCA in the shallow overburden in this area. Bioremediation injections were not conducted during this reporting period; however, monitoring activities associated with the bioremediation program were completed during this reporting period and are discussed below. In addition, other field activities were completed to supplement bioremediation in the deep overburden aquifer near Building 3 as described below.

2.3.1 Bioremediation Parameter Monitoring Results

Bioremediation injections were most recently conducted in the summer/fall 2012. Following these activities, VOCs and bioremediation parameters in groundwater samples are analyzed quarterly to monitor reductive dechlorination processes. During this reporting period, sampling was conducted in April 2013 in the shallow bioremediation area near the Unnamed Stream. These parameters included oxidation reduction potential (ORP), dissolved oxygen (DO), methane, ethane, ethene and total organic carbon as summarized on **Table 4**.

The previously observed reductions in TCE and PCE concentrations noted in the shallow overburden groundwater near OB9-S and MW-9 located by the Unnamed Stream are the result of reductive dechlorination. The remaining breakdown products present (i.e., cis-1,2-DCE and vinyl chloride) are continuing to degrade further. Observed decreases in the detected concentrations of 1,1,1-TCA in select shallow overburden wells are also the result of reductive dechlorination. Monitoring results that continue to support this conclusion include the following:

- Favorable conditions for reductive dechlorination were established and maintained in the groundwater (dissolved oxygen levels <1.0 mg/L and negative ORP readings).
- Increased or continuing elevated ethene concentrations were observed in April 2013 at wells MW-9 and OB15-S. Ethene is the non-toxic end product of complete dechlorination of VOCs, including vinyl chloride.
- Increased or continuing elevated ethane concentrations were observed in April 2013 at well MW-9 in the area. Ethane is an end product resulting from the complete degradation of 1,1,1-TCA.
- Methane concentrations have increased or remained elevated in OB9-S, MW-9, and other shallow wells in the Unnamed Stream area. The presence of methane is indicative of methanogenic conditions that favor the biodegradation of target VOCs via reductive dechlorination.
- April 2013 analytical results showed a healthy *Dehalococcoides* bacteria population is present in shallow groundwater of the treatment area.

The bioremediation program appears to have successfully addressed the shallow overburden impact of TCE and PCE in the area of the Unnamed Stream. Based on an evaluation of groundwater data

collected through April 2013, active reductive dechlorination is continuing to address residual VOC daughter products in the shallow overburden near the Unnamed Stream. The data suggest that additional active bioremediation in this area is not warranted at this time. October 2013 analytical data will be reviewed and additional activities will be conducted as necessary.

2.3.2 Bioremediation Application Well Installation

The bioremediation program in the deep overburden near Building 3 has had limited success in sustaining reductive dechlorination of target VOC. The limiting factor appears to be providing a sufficient volume of lactate to the deep overburden to sustain the reductive dechlorination of the elevated VOC concentrations present in the area of wells AP13-DO, AP23-DO and AP24-DO. Additional well installation activities were completed in the area of these deep overburden wells to increase the ability to apply more lactate to the deep overburden aquifer and thereby provide a sufficient carbon source to sustain reductive dechlorination.

Three new application wells (AP33-DO, AP34-DO, and AP35-DO) were installed on the east side of Building 3 from September 9 through 12, 2013 by Technical Drilling Services (TDS) of Sterling Massachusetts. The locations of these wells are illustrated on **Figure 3**. Well installation was conducted using a hollow stem auger rig under the direct supervisor of Shaw personnel. Digsafe notification was conducted before the start of field work and the first five feet of drilling was completed using a vacuum rig to limit the potential of contacting subsurface utilities. During drilling soil samples were collected for logging purposes and to conduct headspace VOC screening with a photoionization detector (PID). Soil descriptions and headspace screening results are summarized on the drilling logs provided in **Appendix E**. Based on soil headspace screening results, potential soil staining and geologic soil type, five soil samples were collected during drilling and submitted to ALS for analysis of VOCs by EPA Method 8260B. Soil headspace screening results and soil analytical data are discussed in the following section.

During drilling, soil cuttings from well installation were drummed and stored onsite for future disposal. The application wells were completed to a depth of 40 feet below grade feet. Each was constructed of 20 feet of solid two-inch diameter PVC well screen and approximately 20 feet of solid PVC riser. Well completion included a grout seal from above the sand pack to just below grade. The wells were finished at grade with a bolting road box set in concrete. A well completion diagram is included on each drilling log.

Following well installation, wells AP33-DO, AP34-DO, and AP35-DO were developed by pumping and surging to remove silt from the sand pack and improve the hydraulic connection with the surrounding aquifer. Once each well was developed, a grab groundwater sample was collected and submitted to ALS for laboratory analysis of VOCs by EPA Method 8260B. Analytical results of the water samples are discussed in the following section. Well development water was stored in drums onsite for future disposal.

The 2013 bioremediation injection program will be initiated in October 2013. Active injection into the three new wells under a low pressure (three to five pounds per square inch) will be conducted to apply lactate to the deep overburden treatment area at the northeast corner of Building 3. To aid movement of the lactate through the formation, groundwater may be pumped from nearby wells AP13-DO, AP23-DO

and AP24-DO to distribute lactate into the deeper portions of the aquifer. A summary of lactate application at these wells will be provided in the next ROS report.

2.3.3 Soil and Groundwater Analytical Results

Soil headspace screening results during drilling of AP33-DO, AP34-DO, and AP35-DO indicate VOC concentrations ranging from non-detectable to 3,596 parts per million (ppm) in a sample collected from approximately 34 feet below grade at AP35-DO. In general VOC were less than 5 ppm from surface grade to approximately 18 feet below grade. Elevated soil headspace screening results (e.g. >200 ppm) were generally observed deeper than 28 feet below grade in finer grained silt and clay deposits. Analytical results of soil samples collected from AP33-DO, AP34-DO, and AP35-DO are summarized in **Table 7** and a complete laboratory analytical report is provided in **Appendix C**. Results of these soil samples indicate:

- acetone was detected above reporting limits in two of the five soil samples collected at concentrations of 0.19 milligrams per kilogram (mg/kg) (24 to 26 feet at AP33-DO) and 12 mg/kg (34 to 36 feet at AP34-DO)
- TCE was detected above reporting limits in two of the five soil samples collected at concentrations of 70 mg/kg (34 to 36 feet at AP34-DO) and 450 mg/kg (33 to 35 feet at AP35-DO)
- PCE was detected above reporting limits in three of the five soil samples collected at concentrations of 0.29 mg/kg (24 to 26 feet at AP33-DO), 52 mg/kg (34 to 36 feet at AP34-DO) and 740 mg/kg (33 to 35 feet at AP35-DO)
- 1,1,1-TCA was detected above reporting limits in two of the five soil samples collected at concentrations of 2 mg/kg (22 to 24 feet at AP33-DO) and 1.7 mg/kg (24 to 26 feet below grade at AP33-DO)
- cis-1,2-DCE (0.42 mg/kg, 22 to 24 feet at AP33-DO and 1.7 mg/kg, 24 to 26 feet at AP33-DO) and vinyl chloride (0.52 mg/kg, 24 to 26 feet at AP33-DO) were also detected above reporting limits.

Analytical results of the grab groundwater samples collected from AP33-DO, AP34-DO, and AP35-DO are summarized in **Table 8** and a complete laboratory analytical report is provided in **Appendix C**. Results of these groundwater samples indicate:

- TCE was detected at AP33-DO (26 mg/L), AP34-DO (25 mg/L) and AP35-DO (98 mg/L)
- PCE was detected at AP33-DO (24 mg/L), AP34-DO (35 mg/L) and AP35-DO (77 mg/L)
- 1,1,1-TCA was at AP33-DO (19 mg/L)
- cis-1,2-DCE was detected at AP33-DO (4.6 mg/L), AP34-DO (0.73 mg/L) and AP35-DO (19 mg/L)
- 1,1-DCE was detected at AP33-DO (0.85 mg/L)
- vinyl chloride was detected at AP33-DO (0.74 mg/L) and AP35-DO (2.1 mg/L)

Geologic observations and analytical results of soil and groundwater samples from the installation of wells AP33-DO, AP34-DO, and AP35-DO will be used to refine the deep overburden bioremediation program in at the northeast corner of Building 3 in the next reporting period. The following presents some initial conclusions based on data from wells AP33-DO, AP34-DO, and AP35-DO:

- Fill material, consisting of a well sorted medium sand was encountered from grade to approximately seven feet below grade at AP33-DO; however, this fill material extended deeper at

AP34-DO and AP35-DO (approximately 26 and 22 feet, respectively). This higher porosity fill material may contribute to the downward hydraulic gradient noted in the area and likely extends beneath Building 3 where it may contributing to migration from potential source areas beneath the building.

- Beneath the fill material, a sand and gravel mix with some silt and boulders was encountered. This material became dense with depth and was underlaid by a stiff clay deposit that was encountered to the bottom of exploration.
- Although 1,1,1-TCA has been detected in the deeper existing wells AP13-DO, AP23-DO and AP24-DO, this compound was only present in soil samples collected AP33-DO. This suggests that adsorbed impacts of 1,1,1-TCA are limited to the area of AP33-DO.
- Although acetone has been intermittently detected in the deeper existing wells AP13-DO, AP23-DO and AP24-DO, this compound was detected at an elevated concentration (12 mg/kg) in soil at AP34-DO. It is likely that acetone is more prevalent in groundwater in this area, but the higher concentrations of TCE have masked detection of this compound in previous groundwater samples from existing wells.
- Groundwater analytical results from deeper existing wells AP13-DO, AP23-DO and AP24-DO have indicated the presence of elevated concentrations of TCE and PCE in this area. Soil analytical results from AP34-DO and AP35-DO also indicate significant concentrations of TCE and PCE are adsorbed to the fine soil particles at depth in this area. This likely has contributed to the high carbon demand needed to sustain reductive dechlorination of VOC in deep overburden groundwater in this area.

2.4 Building 3 SVE System

The Building 3 soil vapor extraction (SVE) system was installed in December 2009 and system startup was completed in January 2010 (Shaw, 2010a). The SVE system was designed to reduce VOC concentrations in the vadose zone soil beneath Building 3 as well as to control potential vapor intrusion into the building.

The SVE system consists of the following components:

- two horizontal soil vapor extraction wells (BLDG3-SVE1 & BLDG3-SVE2) installed beneath Building 3
- one 5 horsepower blower
- one moisture knock-out drum
- two 2,000-pound granular activated carbon (GAC) vessels piped in series (with a spare third 2,000 pound GAC vessel)

The locations of the two SVE wells and the treatment system trailer are shown on **Figures 10** and **11**. The March 2010 IRA status report included an Operation & Maintenance (O&M) Manual developed to ensure that the system is operated properly to meet the intended design criteria and achieve site remedial goals (Shaw, 2010a). The O&M Manual includes manufacturer's literature and specific procedures for individual components for proper operation and maintenance. As-built drawings for the SVE system, a site-specific data collection form, preventive maintenance charts for key equipment and appropriate system start-up and shutdown procedures were also included.

The following section presents data regarding the operation of the Building 3 SVE system during this reporting period.

2.4.1 Building 3 SVE System Operation and Maintenance

During this monitoring period, regular twice-monthly O&M site visits were performed by Shaw personnel. Activities performed during regular O&M visits include checking and recording information from SVE system alarms, gauges and meters, and screening soil vapor recovered by the system with a PID to assess VOC recovery and off-gas treatment removal efficiency. The results of regular O&M system monitoring conducted from April 1, 2013 to September 30, 2013 are summarized in **Table 9**. From April 1, 2013 to September 30, 2013, the average total flow rate for the SVE system was approximately 150 cubic feet per minute (cfm), with an average pretreatment total VOC concentration of 7 ppm. VOC recovery continues to be higher at BLDG3-SVE2, with an average concentration of approximately 9 ppm.

Table 9 also includes calculated off-gas removal efficiency, which demonstrates that with the exception noted below, greater than 95 percent removal of VOCs from the vapor discharge was maintained by the GAC vessels as required by MADEP (MADEP, 1994).

During O&M site visits, the applied vacuum on the SVE wells was adjusted to optimize VOC recovery from beneath Building 3. This included increasing or decreasing applied vacuum on the individual SVE wells or adjusting the ambient air dilution valve to increase or decrease the total applied vacuum. Other activities performed during this reporting period included draining condensation from lines in the system and monitoring vacuum influence at the sub-slab soil vapor points inside Building 3.

On April 8, 2013, PID screening of soil vapor from the secondary GAC vessel indicated potential breakthrough of the secondary carbon (**Table 9**). The secondary GAC vessel was taken offline and the stand-by GAC vessel was brought into service as the new secondary treatment vessel. The SVE system was then reactivated and subsequent monitoring of the secondary carbon effluent (discharge to atmosphere) on this date indicated greater than 95 percent treatment of VOC.

On June 28, 2013, an alarm notice was received indicating the SVE system had shutdown due to a power outage. A subsequent alarm notice that same day indicated that power was restored. Shaw personnel visited the site later that day to inspect the Building 3 SVE system and determined that the system was operating normally.

On August 9, 2013, PID screening of the primary and secondary GAC vessels indicated potential breakthrough of the carbon (**Table 9**). A new stand-by GAC vessel was not available; however, delivery and carbon change out had already been scheduled for August 19, 2013. Since 93 percent of the VOCs were still being removed by the off-gas treatment and the SVE system is critical to maintaining a condition of No Significant Risk, the SVE system remained operational until additional carbon would be delivered to the Site.

On August 19, 2013, approximately 2,000 pounds of spent GAC were removed from the off-line Building 3 vessel and new GAC was installed. The spent Building 3 GAC was transported off site with 2,000 pounds of spent carbon from the Building 5 SVE system (see Section 2.6) for regeneration at Siemens Water Technologies Corporation in Parker, Arizona. A copy of the Uniform Hazardous Waste Manifest for the shipment of carbon is provided in **Appendix F**. Once the new GAC was installed the secondary

vessel was switched to be the primary treatment vessel and the fresh carbon vessel was brought into service as the new secondary treatment vessel.

On August 23, 2013, PID screening of soil vapor between primary and secondary carbon treatment vessels indicated potential breakthrough of the primary carbon (**Table 9**). Monitoring of the secondary carbon effluent (discharge to atmosphere) on this date indicated greater than 95 percent treatment of VOCs was maintained. A stand-by vessel with fresh GAC was not yet available so the configuration of the carbon vessels was not changed.

On September 11, 2013, approximately 2,100 pounds of spent GAC were removed from the out of service carbon vessel and approximately 2,100 pounds of spent GAC were removed from the primary carbon vessel. The 4,200 pounds of carbon were transported off site for regeneration at Siemens Water Technologies Corporation in Parker, Arizona. A copy of the Uniform Hazardous Waste Manifest for the shipment of carbon is provided in **Appendix F**. After the removal of the spent carbon, new GAC was installed in both vessels. Then the secondary GAC vessel was switched to be the primary treatment vessel and a vessel with new GAC was configured as the secondary polish on the SVE system effluent. The third vessel with new GAC remained on site as a stand-by in the event that vapor screening indicates carbon breakthrough.

On September 27, 2013, PID screening of soil vapor between primary and secondary carbon treatment vessels indicated potential breakthrough of the primary carbon (**Table 9**). Monitoring of the secondary carbon effluent (discharge to atmosphere) on this date indicated greater than 95 percent treatment of VOCs was maintained. The primary GAC vessel was taken offline, the secondary vessel was used as the new primary vessel and the stand-by GAC vessel was brought into service as the new secondary treatment vessel. The SVE system was then reactivated and operated normally. A carbon service was conducted at the beginning of the next reporting period in early October 2013 to provide a stand-by vessel with fresh GAC in the event that vapor screening indicates carbon breakthrough.

2.4.2 Building 3 SVE System Performance

Measured VOC concentrations in soil vapor recovered by the Building 3 SVE system using a PID are evaluated to approximate the VOC mass removed by the treatment system. Both the VOC mass removal rate and total VOC mass removed by the Building 3 SVE system are presented in **Table 10** and illustrated in **Figure 12**. Through the end of this reporting period, the SVE system has removed an estimated 1,294 pounds of VOCs from beneath Building 3.

In August 2012, a packer was installed in horizontal vapor well BLDG3-SVE1, resulting in a reduction of the exposed well screen length from 60 feet to 25 feet and focusing the vacuum on the shorter length of well screen between 30 and 50 feet from the well head near soil boring BLDG3-SB-100 (see **Figure 11**). This well modification has resulted in increased VOC recovery from BLDG3-SVE1.

On July 17, 2013 a packer was installed into horizontal vapor well BLDG3-SVE2 to focus vapor extraction on the deeper part of this well (i.e., 40 to 60 feet away from the exterior wall of Building 3; refer to **Figure 11**). Although system monitoring has not indicated a significant increase in VOC concentration recovery

since the modification to BLDG3-SVE2 was completed (**Table 9**), more frequent breakthrough of GAC has been observed, suggesting a higher rate of VOC extraction by the Building 3 SVE system.

Monitoring of applied vacuum beneath the Building 3 floor is conducted at the sub-slab vapor monitoring points installed inside Building 3. The results of this monitoring are provided on **Table 9** and the locations of the sub-slab vapor monitoring are illustrated on **Figure 11**. Results of this monitoring indicates that vacuum influence from operation of the SVE system is present beneath Building 3, including point BLDG3-VP6, which is located approximately 22 feet to the south of BLDG3-SVE2. This data demonstrates soil vapor control is maintained by operation of the Building 3 SVE system beneath this portion of the Building 3 floor slab.

2.4.3 Building 3 Soil Vapor and Indoor Air Sampling

On August 5, 2013, sub-slab soil vapor samples were collected from three vapor points beneath Building 3 (BLDG3-VP1, BLDG3-VP2 and BLDG3-VP3). The sub-slab soil vapor sampling points are illustrated on **Figure 11**. Each sample was collected using evacuated Summa[®] canisters over a two-hour sampling interval. The soil vapor samples collected were submitted to ALS for laboratory analysis of select VOCs referencing EPA Method TO-15 (MassDEP Method WSC-CAM-IXB). Analytical results of the soil vapor samples are summarized on **Table 11**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

Analytical results of the August 2013 sub-slab soil vapor samples collected beneath Building 3 indicated:

- TCE was detected at concentrations ranging from 25 micrograms per meter cubed (ug/m^3) at BLDG3-VP2 to 670 ug/m^3 at BLDG3-VP1
- PCE was detected at concentrations ranging from 130 ug/m^3 at BLDG3-VP2 to 3,200 ug/m^3 at BLDG3-VP1
- cis-1,2- DCE was detected at a concentration of 19 ug/m^3 at BLDG3-VP3

Additional VOCs detected in sub-slab soil vapor samples collected from beneath Building 3 in August 2013 include acetone (up to 220 ug/m^3), carbon tetrachloride (up to 1 ug/m^3), chloroform (up to 25 ug/m^3), and chloroethane (2.5 ug/m^3).

While the VOC concentrations detected at BLDG3-VP3 remained well below pre-remedial levels, an increase in the PCE concentration detected in BLDG3-VP1 was observed in August 2013. This is likely the result of a lower operational vacuum measured at the two SVE wells during the time of the soil vapor sampling. Subsequent adjustments to the Building 3 SVE system over several site visits have increased the sub-slab vacuum measured at BLDG3-VP1 from 0.181 inches of water on August 9, 2013 to 0.318 inches of water on September 27, 2013. It is expected that the increased applied vacuum in this area will result in additional VOC recovery and lower VOC concentrations in soil vapor during the planned sampling event inside Building 3 in November 2013. Those results will be included in the next ROS report.

In conjunction with the August 5, 2013 sub-slab soil vapor sampling, indoor air samples were collected from Building 3. Four indoor air samples were collected from inside the Building 3 area (BLDG2-6, BLDG3-2, BLDG3-3, and BLDG3-4) using evacuated Summa[®] canisters over a four-hour sampling

interval. The indoor air sampling locations are also illustrated on **Figure 11**. The indoor air samples were submitted to ALS for laboratory analysis of select VOCs referencing EPA Method TO-15 (MADEP Method WSC-CAM-IXB). Analytical results of the indoor air samples are summarized on **Table 12**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

Analytical results of the August 5, 2013 indoor air samples collected from the Building 3 area indicated:

- TCE was detected at concentrations ranging from non-detectable in BLDG3-4 to 2.3 ug/m³ in BLDG2-6
- PCE was detected at concentrations ranging from 0.89 ug/m³ in BLDG3-3 to 7.5 ug/m³ in BLDG2-6
- trans-1,2-DCE was present at a concentration of 1.4 ug/m³ at BLDG2-6
- carbontetrachloride was detected at concentrations ranging from 0.51 ug/m³ in BLDG2-6 to 0.58 ug/m³ in BLDG3-2
- trichlorofluoromethane was present at a concentration of 1.8 ug/m³ at BLDG2-6
- acetone was detected at concentrations ranging from 340 ug/m³ in BLDG2-6 to 2,900 ug/m³ in BLDG3-2.

Detected concentrations of VOC in indoor air samples from the Building 3 area remain well below historic high levels. As demonstrated by the evaluation presented in Section 4.0 below, the August 2013 indoor air results continue to show that operation of the Building 3 SVE system continues to maintain a condition of No Significant Risk.

2.5 Building 3 Investigation Activities

A portion of Building 3 is still used as a chemical laboratory (**Figures 10 and 11**) by the current operator. Historically, wastewater containing acids, cyanides, and solvents from this area was reported to have been discharged through a floor drain system, to an inspection sump (PSL9) and then to the Unnamed Stream north of Building 3 prior to the installation of the on-site wastewater treatment system in 1972. Piping in this drainage system was reported to have leaked to the environment and may have been located in the former utility trenches located in the chemical laboratory. The chemical laboratory is referred to as PSL 11 and is illustrated along with PSL 9 on **Figure 11**.

To evaluate potential treatment of VOC impacted soil in PSL 11 beneath Building 3, Shaw conducted additional subsurface investigations beneath Building 3 as well as a video survey of drain lines within PSL 11 during this reporting period. These assessment activities are further described in the following sections.

2.5.1 Building 3 Subsurface Investigation

Between July 24 and 29, 2013 Shaw supervised the installation of five soil borings (BLDG3-SB-104 through BLDG3-SB-108) in the PSL 11 area (**Figure 11**). These soil borings were located to assess potential shallow soil impacts from the former utility trench. Soil boring installation was not conducted within the chemical laboratory containment area to maintain the integrity of chemically resistant industrial seal in place on the concrete containment floor. The soil borings were advanced by New Hampshire Boring of Derry, New Hampshire using a tripod drill rig and 140 pound hammer. Digsafe notification was

conducted before the start of field work and the first five feet of soil boring advancement was completed using hand tools to limit the potential of contacting subsurface utilities. The soil borings were advanced to refusal in each location, which ranged from 8.5 to 11.5 feet below the floor. Soil samples were collected continuously for logging and soil headspace screening of VOC with a PID. Soil descriptions and headspace screening results are summarized on the drilling logs provided in **Appendix E**. Soil encountered during drilling included five to six feet of fill material over a dense sand and gravel till. Soil headspace screening results indicated VOC concentrations in soil ranging from 1.2 ppm at BLDG3-SB104 to 485 ppm from approximately 11.5 feet below the floor at BLDG3-SB105. Two soil samples were collected from each soil boring based on soil headspace screening results and submitted to ALS for analysis of site specific VOCs by EPA Method 8260B. Soil analytical results from soil borings BLDG3-SB-104 through BLDG3-SB-108 are summarized on **Table 13** and a complete laboratory analytical report is provided in **Appendix C**. Soil analytical results from these soil borings indicate:

- acetone was detected above reporting limits in eight of ten soil samples at concentrations ranging from 0.0032 mg/kg in BLDG3-SB108 (9-9.6 feet below the floor) to 0.0093 mg/kg in BLDG3-107 (7-8.5 feet below the floor)
- PCE was detected above reporting limits in six of ten soil samples collected at concentrations ranging from 0.0085 mg/kg in BLDG3-SB107 (7-8.5 feet below the floor) to 22 mg/kg in BLDG3-105 (11-11.8 below the floor).
- TCE was detected above reporting limits in one of the ten soil samples at a concentration of 0.0027 mg/kg in BLDG3-SB107 (5-7 feet below the floor).

Based on existing data and the additional data collected during the July 2013 soil boring installation, the following conclusions can be drawn regarding VOC impacts to soil in the PSL 11 area:

- impacts appear to be centered in the northwest side of the chemical laboratory at soil borings B2-PSL5, B3-PSL5, BLDG3-LAB and BLDG5-SB105;
- impacts are characterized by PCE concentrations ranging from 1,200 mg/kg at soil boring B2-PSL5 (from 1995) to 22 mg/kg at soil boring BLDG5-SB105 (from 2013);
- impacts appear to begin approximately five feet below the concrete floor and exhibit VOC soil headspace readings of 18 ppm to 40 ppm; and
- impacts increase with depth, exhibiting VOC soil headspace readings ranging from 400 ppm to 780 ppm between the seasonal low and high water table and increase to greater than 1,000 ppm approximately 30 feet below the concrete floor.

As outlined in Section 2.0 above, deep overburden groundwater impacts in the PSL 11 area (north of Building 3) are being treated by permanganate applications at wells AP31-DO and AP32-DO. The results of shallow soil sampling in the PSL 11 area in July 2013 continue to indicate the presence of elevated PCE impacts in soil beneath the building. To mitigate the recontamination of groundwater by potential downward migration of VOC and to reduce the potential contribution of shallow soil impacts to indoor air quality inside Building 3, additional treatment measures for the PSL 11 area are being evaluated by Varian. These remedial measures may include additional SVE or shallow permanganate treatment and will be presented in the next ROS report.

2.5.2 Building 3 Roof Drain Investigation

Shaw conducted a video inspection of the roof drains and associated sub-slab drain lines in the Building 3 area on July 17, 2013. The inspection was conducted to assess if rain water from the roof drain system could be infiltrating through impacted soil under the Building 3 chemical laboratory, either through holes in the drainage system or potential connection to former dry wells. Water infiltration through potentially impacted soil in PSL11 could be acting as a continuing source of VOC impact to groundwater in the Building 3 area.

Two active roof drains are located on the east side of Building 1 (**Figure 11**). These drains convey collected rain water from Building 1 through a horizontal pipe inside the chemical laboratory in Building 3 to an unconfirmed location beneath Building 3. A 1949 foundation plan of Building 1 indicated that these roof drains may have discharged to potential former dry wells. The route and flow direction determined by the video inspection of the lines associated with the Building 1 roof drains are illustrated on **Figure 11**. Also refer to the sketch and screen shots from the drain video inspection in **Appendix G**.

The two active roof drains (Roof Drain 1 and Roof Drain 2) were accessed in Building 3 chemical laboratory through cleanout fittings inside the building. Vapor in the pipe at each cleanout was monitored with a PID when first opened and results were non-detectable. The two drains consist of four-inch vertical sections of cast iron pipe that receive rainwater from roof drain inlets on the east side of Building 1. Roof Drain 1 is connected to drain Roof Drain 2 approximately 2.5 feet below floor and runs northwest approximately nine feet and then elbows east, running approximately 21 feet (Drain Line 1). Drain Line 1 was dry and was constructed of clay pipe. The sections of pipe in Drain Line 1 appeared in good condition during the inspection; however, some of the joints in the line were offset and one did have a crack, suggesting the line may not be water tight (see screen shots 1 & 2, **Appendix G**).

Drain Line 1 connects to a second drain line (Drain Line 2). Drain Line 2 appears to be an 8-inch clay pipe that runs southeast to northwest and did contain a small amount of standing water (screen shots 3 & 4). Drain Line 2 is located approximately four feet below the floor and appeared in good condition. No sediment was noted initially in Drain Line 2 (screen shots 4), but about three feet after the intersection sediment with debris (metal) was observed inside the drain line (screen shot 5). Some sediment appeared stained (screen shot 6) and additional debris (possible electric wire nut) was noted (screen shot 7). After approximately 16 feet Drain Line 2 connected to a third drain line (Drain Line 3). Given the angle of the connection between Drain Line 1 and Drain Line 2, and the type of camera used, inspection of Drain Line 2 to the southeast could not be completed.

Drain Line 3 appeared to be a four-inch diameter clay pipe that ran westward. The angled connection between Drain Line 2 and Drain Line 3 created an area where sediment and water collected (screen shot 8). In addition, the connection between Drain Line 2 and Drain Line 3 did not appear competent as water pushed by the camera appeared to be flowing into the ground around the smaller drain line Drain Line 3. The camera was not able to enter Drain Line 3 due to the distance and turns along the inspection path, and the angle of the connection.

Video inspection of a suspected former siphon vent line (Vent 1) was also conducted southeast of Roof Drain 1 and Roof Drain 2 (**Figure 11** and sketch in **Appendix G**). This vertical vent was accessed from

the roof and consisted of a four-inch cast iron pipe. Approximately one foot below the roof, a one-inch horizontal line was noted heading to the south (screen shot 9). About 12 feet from the roof (three feet above the Building 3 Lab floor) the four-inch vertical line includes two 22 degree elbows, and reduces to a three-inch line after the second elbow. These two fittings offset the line from where it comes down the wall of the building about 1.3 feet to the north before the line penetrates the floor. Approximately 17.6 feet from the roof (0.7 feet below the building floor) the line appears to be broken. At the vent line break sediment and/or soil with metal debris were observed (screen shot 10).

The following conclusions are made based on the drain inspection that was completed on July 17, 2013:

- Drain Line 1, which collects rainfall from two active roof drains on Building 1, does not appear to be water-tight and likely results in some limited flushing of contaminants from potentially impacted soil beneath the floor of Building 3.
- The ultimate discharge location of the two active roof drains could not be determined during this video inspection due to the obtuse angle of Drain Line 3. Therefore, it is not clear if rain water from the roof drain discharge may be contributing to recontamination of groundwater in the area.
- Additional upstream discharges to Drain Line 2 could not be determined during this video inspection due to the angle of the connection between Drain Line 1 and Drain Line 2.
- Given its proximity, the siphon vent (Vent 1) located in the PSL 11 area may have been associated with piping in the former utility trench system within the Building 3 chemical laboratory and therefore was potentially a source of VOCs released to the environment in the area.

Additional video drain inspection of Drain Line 2 and Drain Line 3 is planned in October 2013 to assess the ultimate discharge location of the roof drains and other potential upstream discharges to Drain Line 2. This information will be reported in the next ROS report.

2.6 Building 5 SVE System

On December 17, 2012, Shaw submitted a modification of the Phase III RAP and Phase IV Plan for RTN 3-0485 (Shaw, 2012d). This modification addressed the Building 5 remedial area, located in the central portion of the former Varian facility (**Figure 2**). The Building 5 treatment area was not previously included in the original Phase III RAP and Phase IV Plan submitted to MADEP in 2001 (IT, 2001). Indoor air sampling results from 2011 and 2012 in Building 5 indicated that indoor air VOC concentrations were variable and the estimated hazards were at, but did not exceed, the MCP risk limits. However, it is likely that a Permanent Solution for the Building 5 area would not be achieved without some VOC remediation at Building 5 to reduce potential risk to site workers. Therefore, the Phase III RAP was modified to identify, evaluate, and select remedial action alternatives to reduce potential risk associated with vapor intrusion and indoor air exposure in the Building 5 area. SVE was selected as the preferred remedial alternative. The goal of the selected remedial action alternative in the Modified Phase III RAP was to control exposures and reduce VOC concentrations remaining in shallow soil that have the potential to migrate into the indoor air of Building 5. The design vapor extraction rate selected was based upon SVE pilot testing conducted under Building 5 in September 2012. Modifications to the original Phase IV Plan, including detail engineering designs, waste management plans, and operation and maintenance activities for the selected SVE remedial alternative were provided in the modified Phase IV Plan (Shaw, 2012d). The Building 5 remedial treatment area is shown on **Figure 13**.

2.6.1 Building 5 SVE System Construction

The sub-slab SVE system was constructed from December 26, 2012 through March 11, 2013 and is composed of the following elements:

- Three horizontal soil vapor extraction wells that were installed during July and August 2012. Each SVE well is constructed of 4-inch diameter PVC well screens and is illustrated on sheets Y-1 and Y-4 of the As-Built-Drawings in **Appendix H**.
- One regenerative blower, associated controls, and moisture knock-out tank are located within the SVE treatment trailer.
- Two, 2,000 pound vapor phase GAC vessels for treatment of recovered soil vapor are located next to the SVE treatment container. In addition, a stand-by 2,000 pound GAC vessel is located next to the other GACs.

The following activities were conducted from December 26, 2012 through March 11, 2013 for the SVE system installation:

- Set up and orientation of the SVE remedial equipment trailer outside of Building 5
- aboveground piping assembly
- connection of electrical power to the SVE remedial trailer
- connection of piping from the SVE wells to soil vapor extraction manifold in the equipment trailer
- set up and piping of the GAC vessels

The system construction tasks outlined above were completed in general accordance with the system design drawings and specifications presented in the Phase III RAP and Phase IV Plan (Shaw, 2012d).

The SVE system is housed in a trailer that was built by Air Energy of South Easton, Massachusetts in late 2012 and early 2013. The treatment trailer (including soil vapor extraction equipment) was delivered to the site on February 27, 2013 and set outside the eastern side of Building 5 on a gravel area.

The Building 5 SVE system is equipped with automatic controls and a remote monitoring telemetry system to communicate if an alarm condition occurs. The following is a list of the potential alarm conditions associated with the SVE system:

- High level of water in the moisture knock-out tank;
- Low vacuum alarm upstream of the SVE blower; and
- High temperature alarm downstream of the SVE blower.

Activation of the above alarms automatically deactivates the SVE equipment to ensure a safe and orderly system shut down. The monitoring system also includes a programmable logic controller (PLC) that will communicate the alarm condition immediately via a wireless text message allowing for prompt operator response.

The final design plans and construction details for the SVE remedial system are depicted on the as-built drawings located in **Appendix H** including:

Sheet T-1

Title Sheet

Sheet Y-1	Site Plan
Sheet Y-2	Site Detail
Dwg. 3200 1-T41-L	Sub-Slab Venting/Vapor Extraction System Trailer Layout
Sheet Y-4	Construction Details – SVE Piping, Monitoring, Piping Support and Electrical Schematic Detail
Sheet P-1	Piping and Instrumentation Diagram Legend
Sheet P-2	Sub-Slab SVE system - Piping and Instrumentation Diagram
Dwg. 32001-T41-P	Sub-Slab Venting/Vapor Extraction Process and Instrumentation Diagram

To monitor the vacuum influence of the sub-slab venting/SVE system, soil vapor monitoring points were installed in select locations through the Building 5 floor slab. A total of five vapor monitoring points (BLDG5-SV1, BLDG5-SV2, BLDG5-SV3, BLDG5-SV5, and BLDG5-SV6) were installed. The construction of these vapor points is illustrated on sheet Y-4 of the as-built plans.

2.6.2 Building 5 SVE System Startup and Testing

Building 5 SVE system startup was initiated on March 11, 2013. A 28-day system start-up and testing period was conducted from March 11, 2013 until April 8, 2013 in accordance with MADEP policy (MADEP, 1994). During the startup period, site visits were completed on March 13, 18 and 25, and April 8, 2013.

Activities performed by Shaw during start-up included checking and recording information from SVE system alarms, gauges and meters, and screening soil vapor recovered by the system with a PID to assess VOC recovery and removal efficiency. Specifically, VOC levels were monitored at the three horizontal SVE wells, at the primary GAC vessel influent, mid-point between the two GAC vessels in series, and at the secondary GAC vessel effluent. A calculation was performed in the field to determine the removal efficiency of the system based on the PID readings and ensure that the 95 percent off-gas treatment goal outlined in MADEP guidance (MADEP, 1994) was achieved. The results of system monitoring completed during this reporting period are summarized in **Table 14**. System monitoring during start-up indicated a total average flow rate of approximately 194 cfm and an average pretreatment total VOC concentration of 11.5 ppm. **Table 14** illustrates that greater than 95 percent removal of VOCs was maintained by the carbon off-gas treatment.

Other O&M activities conducted included: draining condensation from lines in the system, monitoring vacuum influence at the soil vapor points inside Building 5 and adjusting the system to maintain efficient operation.

2.6.3 Building 5 SVE System Operation and Maintenance

An O&M Manual has been prepared for the sub-slab SVE system and is included as **Appendix I**. The O&M Manual was completed to ensure that the system is operated properly to meet the intended design criteria and site remedial goals. The O&M Manual includes manufacturer's literature and specific procedures for individual components for proper operation and maintenance. As-built drawings for the sub-slab SVE system, a site-specific data collection form, preventive maintenance charts for key equipment and appropriate system start-up and shutdown procedures are also included O&M Manual.

Following system start-up, regular twice monthly operation and maintenance site visits were performed during this monitoring period. Activities performed during regular O&M visits include checking and recording information from system alarms, gauges and meters, and screening soil vapor recovered by the system with a PID to assess VOC recovery and off-gas treatment removal efficiency. The results of regular O&M system monitoring conducted during this reporting period are also summarized in **Table 14**. During this reporting period, including system startup and regular O&M, the average total flow rate for the SVE system was approximately 182 cfm, with an average pretreatment total VOC concentration of approximately 7 ppm. VOC recovery continues to be higher at BLDG5-SVE1, with an average concentration of approximately 11 ppm during this reporting period.

Table 14 also includes calculated off-gas treatment removal efficiency, which demonstrates greater than 95 percent removal of VOCs from the SVE system discharge was maintained during this reporting period by the carbon treatment vessels as required by MADEP (MADEP, 1994).

During O&M site visits, the applied vacuum on the SVE wells was adjusted to optimize VOC recovery from beneath Building 5. This included increasing or decreasing applied vacuum on the individual SVE wells or adjusting the ambient air dilution valve to increase or decrease the total applied vacuum. Other activities performed during this reporting period included draining condensation from lines in the system and monitoring vacuum influence at the sub-slab soil vapor points inside Building 5.

On April 29, 2013, during a system inspection, it was noted that short circuiting of air was occurring along seams between the concrete floor and SVE trench wells. This short circuiting was resulting in ambient air being drawn into the SVE trenches, reducing the vacuum applied to sub-surface soil beneath the floor. Sealing of these areas with cement and silicon cocking was conducted on May 10 and 20, 2013 and resulted in an increase in the applied vacuum at each of the SVE trench wells. For example, at roughly the same flow rate the applied vacuum at BLDG5-SVE1 increased from approximately 11 inches of water on April 29, 2013 to over 18 inches of water on May 24, 2013 after sealing.

On July 25, 2013, PID screening of soil vapor between primary and secondary GAC treatment vessels indicated potential breakthrough of the primary carbon (**Table 14**). Monitoring of the secondary GAC effluent (discharge to atmosphere) on this date indicated greater than 95 percent treatment of VOCs was maintained. The primary GAC vessel was taken offline, the secondary vessel was used as the new primary vessel and the stand-by GAC vessel was brought into service as the new secondary GAC treatment vessel. The SVE system was then reactivated and operated normally.

On August 19, 2013, approximately 2,000 pounds of spent GAC were removed from the offline Building 5 carbon vessel. The Building 5 spent carbon was transported off site with 2,000 pounds of spent GAC from the Building 3 SVE system for regeneration at Siemens Water Technologies Corporation in Parker, Arizona. A copy of the Uniform Hazardous Waste Manifest for the shipment of carbon is provided in **Appendix F**. The third Building 5 GAC vessel was filled with new carbon and remains on site as a stand-by in the event that vapor screening indicates carbon breakthrough.

On August 23, 2013, PID screening of soil vapor between primary and secondary GAC treatment vessels indicated potential breakthrough of the primary carbon (**Table 14**). Monitoring of the secondary GAC effluent (discharge to atmosphere) on this date indicated greater than 95 percent treatment of VOCs was

maintained. The primary GAC vessel was taken offline, the secondary vessel was used as the new primary vessel and the stand-by GAC vessel was brought into service as the new secondary treatment vessel. The SVE system was then reactivated and operated normally.

On September 17, 2013, PID screening of soil vapor between primary and secondary GAC treatment vessels indicated potential breakthrough of the primary carbon (**Table 14**). Monitoring of the secondary GAC effluent (discharge to atmosphere) on this date indicated greater than 95 percent treatment of VOCs was maintained. The spent GAC in the stand-by vessel had not yet been changed, so the configuration of the carbon vessels was not changed. A carbon service was conducted in early October 2013 (at the beginning of the next reporting period) to provide a stand-by vessel with fresh carbon in the event that vapor screening indicates carbon breakthrough.

2.6.4 Building 5 SVE System Performance

Measured VOC concentrations in soil vapor recovered by the SVE system using a PID are evaluated to approximate the VOC mass removed by the treatment system. Both the mass removal rate and total mass removed by the Building 5 SVE system are presented in **Table 15** and illustrated in **Figure 14**. Since the Building 5 SVE system was activated on March 11, 2013 through the end of this reporting period, it has removed an estimated 45 pounds of VOCs from beneath Building 5.

Monitoring the vacuum beneath the building floor is conducted at five sub-slab vapor monitoring points (BLDG5-SV1, BLDG5-SV2, BLDG5-SV3, BLDG5-SV5 and BLDG5-SV6) installed inside Building 5 (**Figure 13**). Soil vapor point BLDG5-SV4 was not completed due to a subsurface obstruction. The monitoring data indicates that vacuum influence from operation of the SVE system is observed at each vapor monitoring location demonstrating vapor control beneath this portion of the Building 5 floor slab.

2.6.5 Final LSP Inspection Activities and Findings [310 CMR 40.0878]

This section fulfills the MCP requirements for a Final Inspection Report by a Licensed Site Professional (LSP) as outlined in 310 CMR 40.0878. Upon completion of construction of the comprehensive remedial activities (as described above), the site LSP of Record, Tim Kemper (LSP #9070), conducted a final inspection to document that the Phase IV activities had been completed in accordance with the Phase III RAP and Phase IV Plan (Shaw, 2012d), and are expected to meet remedial objectives leading to a Permanent Solution. This section also includes a list of federal, state, or local permits, licenses and/or approvals obtained related to the design, construction and operation of the selected remedial action.

On June 20, 2013, the LSP conducted a final inspection of the sub-slab SVE remedial system. This inspection included a review of piping and instrumentation diagrams and a visual review of the actual system components, and operating data from the SVE system. Based on the LSP's final inspection, the remedial system's piping, wells, and equipment were found to have been installed in accordance with the Phase IV Plan and appropriate engineering standards. The remedial system components were also found to be operating properly based on data collected and the system is anticipated to meet the remedial objectives identified in the Phase IV Plan.

With the exception of an electrical permit, approvals and/or licenses were not required to construct or operate the SVE system. According to the City of Beverly, a building permit was not required as the remedial system is temporary and was constructed off site inside a trailer. An air discharge permit was

not necessary as the SVE system will not exceed the 1-ton per year effluent limit permitted by the Massachusetts Air Regulations (310 CMR 7.00). An electrical permit for the Building 5 SVE system was obtained prior to system installation from the City of Beverly.

2.6.6 Phase IV Completion Statement [310 CMR 40.0879]

As described in the preceding sections of this report, remedial activities at this site have been completed in accordance with the modified Phase III RAP and Phase IV Plan (Shaw, 2012d). Therefore, a Phase IV Completion Statement as described under 310 CMR 40.0879 is provided on the attached MADEP form (BWSC-108), a copy of which is included as **Appendix A**. Active O&M of the Building 5 SVE remedial system will be conducted in accordance with the Phase IV Plan and the O&M Plan included in **Appendix I** of this report. The status of ongoing remedial and monitoring activities will continue to be reported to MADEP at six-month intervals in Phase V ROS reports until a Response Action Outcome is achieved.

2.6.7 Building 5 Soil Vapor and Indoor Air Sampling

On April 18, 2013, sub-slab soil vapor samples were collected from five vapor points beneath Building 5 (BLDG5-SV1, BLDG5-SV2, BLDG5-SV3, BLDG5-SV5, and BLDG5-SV6, **Figure 13**). This sampling was conducted to assess VOC concentrations in soil vapor beneath the concrete floor of the Building 5 treatment area with the SVE system operating. Each sample was collected using an evacuated Summa[®] canister over a two-hour sampling interval. The soil vapor samples collected were submitted to ALS for laboratory analysis of select VOCs by EPA Method TO-15. Analytical results of the soil vapor samples are summarized on **Table 16**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

Analytical results of the April 18, 2013 sub-slab soil vapor samples collected beneath Building 5 indicated:

- TCE was detected at concentrations ranging from 3.5 ug/m³ in BLDG5-SV5 to 9,000 ug/m³ in BLDG5-SV6;
- PCE was detected at concentrations ranging non-detectable in BLDG5-SV1 to 570 ug/m³ in BLDG5-SV6;
- cis-1,2-DCE was detected at concentrations of 2.1 ug/m³ in BLDG5-SV5 and 3,200 ug/m³ in BLDG5-SV6; and
- 1,1,1-TCA was detected at a concentration of 2,000 ug/m³ in BLDG5-SV6.

Additional VOC reported above detection limits in sub-slab soil vapor samples collected from beneath Building 5 in April 2013 include: 1,1-dichloroethane (2,700 ug/m³); 1,1-dichloroethene (480 ug/m³); acetone (up to 1,300 ug/m³); carbontetrachloride (up to 0.62 ug/m³); ethylbenzene (up to 11 ug/m³); xylenes (up to 50 ug/m³); trichlorofluoromethane (up to 2.7 ug/m³); and vinyl chloride (85 ug/m³).

Data from soil vapor sampling points BLDG5-SV1, BLDG5-SV2 and BLDG5-SV3 in April 2013 indicated a significant decrease in TCE and PCE concentrations compared to analytical results from before the Building 5 SVE system was activated. For example, TCE decreased from 5,800 ug/m³ at BLDG5-SV1 in January 2012 to 5.1 ug/m³ in April 2013. Because soil vapor sample points BLDG5-SV5 and BLDG5-SV6 were installed during system installation, pretreatment VOC data from these locations is not available.

In conjunction with the April 18, 2013 sub-slab soil vapor sampling, indoor air samples were collected from the Building 5 treatment area. Three indoor air samples were collected from inside Building 5 (BLDG5-1, BLDG5-2, and BLDG5-3) using evacuated Summa[®] canisters over a four-hour sampling interval. The indoor air sampling locations are also illustrated on **Figure 13**. This sampling was conducted to assess VOC concentrations in indoor air of the Building 5 treatment area with the SVE system operating. The indoor air samples were submitted to ALS for laboratory analysis of VOCs by EPA Method TO-15. Analytical results of the indoor air samples are summarized on **Table 17**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

Analytical results of the April 18, 2013 indoor air samples collected from Building 5 indicated:

- TCE was detected at concentrations ranging from 1.7 ug/m³ in BLDG5-3 to 4.4 ug/m³ in BLDG5-2
- PCE was detected at a concentration of 2.9 ug/m³ in BLDG5-2
- dichloromethane was detected at concentrations ranging from 3.6 ug/m³ in BLDG5-2 to 6.5 ug/m³ in BLDG5-1

Additional VOC reported above detection limits in the indoor air samples collected in Building 5 in April 2013 include: chloroethane (1.7 ug/m³); acetone (up to 3,300 ug/m³); ethylbenzene (up to 1.9 ug/m³); xylenes (up to 10ug/m³); and trichloroflouromethane (up to 4.1 ug/m³).

Analytical results from indoor air sampling points BLDG5-1, BLDG5-2, and BLDG5-3 in April 2013 indicated a decrease in TCE and PCE concentrations compared to data from before the Building 5 SVE system was activated. For example, TCE in BLDG5-2 decreased from 17 ug/m³ in January 2012 to 4.4 ug/m³ in April 2013.

On August 5, 2013, another round of sub-slab soil vapor samples were collected from five vapor points beneath Building 5 (BLDG5-SV1, BLDG5-SV2, BLDG5-SV3, BLDG5-SV5, and BLDG5-SV6). Each sample was collected using an evacuated Summa[®] canister over a two-hour sampling interval and was submitted to ALS for laboratory analysis of select VOCs by EPA Method TO-15. Analytical results of the soil vapor samples are summarized on **Table 16**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

Analytical results of the August 5, 2013 sub-slab soil vapor samples collected beneath Building 5 indicated:

- TCE was detected at concentrations ranging from 5.9 ug/m³ in BLDG5-SV1 and BLDG5-SV5 to 3,300 ug/m³ in BLDG5-SV6
- PCE was detected at concentrations ranging from 2.9 ug/m³ in BLDG5-SV1 to 1,200 ug/m³ in BLDG5-SV6
- cis-1,2-DCE was detected at a concentration of 1,800 ug/m³ in BLDG5-SV6
- 1,1,1-TCA was detected at concentration of 1,200 ug/m³ in BLDG5-SV6

Additional VOCs detected in sub-slab soil vapor samples collected from beneath Building 5 in August 2013 include; 1,1-dichloroethane (1,500 ug/m³), 1,1-dichloroethene (340 ug/m³), acetone (up to 1,500 ug/m³), carbontetrachloride (up to 0.62 ug/m³), trichloroflouromethane (up to 4 ug/m³), and vinyl chloride (81 ug/m³).

Data from soil vapor sampling points BLDG5-SV1, BLDG5-SV2 and BLDG5-SV3 in August 2013 continued to indicate lower concentrations of TCE and PCE compared to analytical results from before the Building 5 SVE system was activated.

In conjunction with the August 5, 2013 sub-slab soil vapor sampling, indoor air samples were collected from the Building 5 treatment area. Three indoor air samples were collected from inside Building 5 (BLDG5-1, BLDG5-2, and BLDG5-3) using evacuated Summa[®] canisters over a four-hour sampling interval. The indoor air samples were submitted to ALS for laboratory analysis of select VOCs by EPA Method TO-15. Analytical results of the indoor air samples are summarized on **Table 17**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

Analytical results of the August 5, 2013 indoor air samples collected from Building 5 indicated:

- TCE was detected at concentrations ranging from 8.5 ug/m³ in BLDG5-3 to 12 ug/m³ in BLDG5-2
- PCE was detected at concentrations ranging from 1.8 ug/m³ in BLDG5-3 to 8.2 ug/m³ in BLDG5-2
- acetone was detected at concentrations ranging from 400 ug/m³ in BLDG5-3 to 1,000 ug/m³ in BLDG5-1
- carbontetrachloride was detected at a concentration of 0.53 ug/m³ in BLDG5-3
- trichlorofluoromethane was detected at a concentration of 2.5 ug/m³ in BLDG5-3

Analytical results of indoor air samples from August 2013 indicate a slight increase in the TCE and PCE concentrations compared to the April 2013 data. However, the August 2013 results are comparable or lower than analytical data from before the Building 5 SVE system was activated.

The April and August 2013 indoor air results are further evaluated in Section 4.0 of this report.

2.7 32 Tozer Road Soil Vapor and Indoor Air Sampling

Previously collected data, including indoor air sampling results, indicated a condition of No Significant Risk exists at the 32 Tozer road building. Building renovations by the owner that resulted significant changes to the 32 Tozer Road building floor plan were completed in May 2013. To confirm that a condition of No Significant Risk still existed at this property, Shaw completed additional soil vapor and indoor air sampling within the 32 Tozer Road building in late May 2013.

During building renovations, Shaw coordinated with the owner to install three soil vapor monitoring points in locations within the building. The locations of soil vapor sampling points (32Tozer-SV3, 32Tozer-SV4 and 32Tozer-SV5) were based on existing data and are shown on **Figure 15**. Installation of the soil vapor points consisted of coring a hole through the building floor with hand tools and installing a three quarter inch diameter metal probe with a screened tip to a depth of approximately 2 feet below the floor. The screen probe was fitted with Teflon tubing to allow monitoring of soil vapor. Once in place, the tubing was backfilled with sand and sealed to the concrete floor using cement. The soil vapor points were finished with a flush-mounted floor cover.

On May 28, 2013, three sub-slab soil vapor samples (32Tozer-SV3, 32Tozer-SV4, and 32Tozer-SV5) were collected from beneath the building floor at 32 Tozer Road using evacuated Summa[®] canisters over

a two-hour sampling interval. These samples were submitted to ALS Environmental for analysis of select VOCs by EPA Method TO-15.

Analytical results of the sub-slab soil vapor samples collected beneath the 32 Tozer Road building on May 28, 2013 are summarized in **Table 18**. A complete copy of the laboratory analytical report is included in **Appendix C**. The May 28, 2013 soil vapor analytical results indicate the following:

- TCE was detected at concentrations ranging from 15 ug/m³ in 32 Tozer-SV5 to 6,100 ug/m³ in 32 Tozer-SV-3
- PCE was detected at concentrations ranging from 32 ug/m³ in 32 Tozer-SV5 to 8,600 ug/m³ in 32 Tozer-SV-3
- cis-1,2-DCE was detected at concentrations ranging from 38 ug/m³ in 32 Tozer-SV5 to 8,900 ug/m³ in 32 Tozer-SV-3

As shown on **Table 18**, concentrations of some VOC in samples 32 Tozer-SV-3 and 32 Tozer-SV-4 from May 28, 2013 exceeded the Commercial/Industrial Sub-Slab Soil Gas Screening Values, which are screening criteria recommended by the MADEP for initial evaluation of soil vapor data in a commercial or industrial setting.

On May 28, 2013, three indoor air samples (32Tozer-1, 32Tozer-2, and 32Tozer-3) were collected concurrently with the soil vapor samples using evacuated Summa[®] canisters over a four-hour sampling interval (**Figure 15**). These indoor air samples were submitted to ALS for analysis of select VOC by EPA method TO15. Analytical results of the indoor air samples collected inside the 32 Tozer Road building are also summarized in **Table 18**. A complete copy of the laboratory analytical report is included in **Appendix C**. The May 28, 2013 indoor air analytical results indicate the following:

- target VOC were not reported above method detection limits in 32 Tozer-3
- TCE was detected at concentrations of 0.96 ug/m³ in 32Tozer-1 and 1.3 ug/m³ in 32 Tozer-2
- PCE was detected at concentrations of 6.5 ug/m³ in 32 Tozer-1 and 12 ug/m³ in 32 Tozer-2
- cis-1,2-DCE was detected at concentrations of 1.5 ug/m³ in 32 Tozer-1 and 1.8 ug/m³ in 32 Tozer-2

As indicated in **Table 18**, PCE was detected in the May 28, 2013 indoor air samples at concentrations exceeding the Commercial/ Industrial Threshold Value in 32Tozer-1 and 32Tozer-2. This threshold value is a screening criterion recommended by the MADEP for initial evaluation of indoor air data in a commercial or industrial setting. Further evaluation of potential risk associated with indoor air at 32 Tozer Road was therefore conducted and is discussed in Section 4.0.

2.8 Quality Assurance/Quality Control (QA/QC)

In general, the environmental data collected by Shaw during these remedial monitoring activities meets the "presumptive certainty" criteria described in MADEP guidance (MADEP, 2004a). To make this determination, the laboratory reports were reviewed by Shaw to confirm that each sample was analyzed within holding times and to ensure that surrogate recoveries and internal laboratory standards were within QA/QC limits. Based on a data usability assessment of the laboratory analytical reports, the data are appropriate for use in this ROS report. Copies of Data Usability Worksheets that document this review

are included with each laboratory analytical report in **Appendix C**. If applicable, results from samples reported beyond the calibration range of the laboratory instrument are flagged with an "E" (exceeds calibration range) qualifier in the laboratory analytical report and associated data tables in this report. However, these samples were reanalyzed by the laboratory as a secondary diluted sample. A "D" (diluted) qualifier in the laboratory analytical report and on the data tables indicates compounds that are reported from a secondary diluted sample.

Potential QA/QC issues identified during this reporting period included percent recoveries outside of control limits for certain compounds in laboratory control samples (LCS)/laboratory control sample duplicates (LCSD) in ALS submission numbers R1302628, R1302629, R1302631 and R1306722. As a result of this, a "J" (estimated) qualifier was assigned to positive detects in applicable samples.

In ALS submission numbers R1302628, R1302629, R1302631, and R1303084 certain batches of samples had continued calibration verification (CCV) outside the control range. As a result, a "J" (estimated) qualifier was assigned to positive and non-detectable results in applicable samples.

In summary, no data collected during this reporting period were rejected and the data generally meet the QA/QC requirements of the MCP.

3.0 SIGNIFICANT MODIFICATIONS TO THE OPERATION, MAINTENANCE, AND/OR MONITORING PROGRAM (310 CMR 40.0892 (2)(b))

No major modifications to the remediation or monitoring plans for the Site were made during this reporting period.

The original Phase IV Plan (IT, 2001) detailed groundwater remediation and monitoring activities for the various permanganate treatment areas of the Site. Details of the bioremediation monitoring activities have been presented in previous ROS status reports. The operation, maintenance and monitoring plans for the Building 3 SVE system were submitted to the MADEP in a March 2010 IRA status report (Shaw 2010a). The operation, maintenance and monitoring plans for the Building 5 SVE system were presented in the modified Phase IV Plan (Shaw, 2012d). Minor adjustments to each remedial monitoring plan will continue to be made as site conditions warrant and will be reported in subsequent ROS reports.

4.0 EVALUATION OF THE PERFORMANCE OF REMEDIAL ACTIVITIES (310 CMR 40.0892 (2)(c))

As described in the preceding sections, remedial activities are progressing at the former Varian Facility Site in general accordance with the Phase IV Plan (IT, 2001) and the Modified Phase IV Plan (Shaw 2012d). Consistently lower VOC levels and decreasing VOC concentration trends in groundwater have been observed at monitoring wells across the Site as a result of the permanganate injection program. In addition, the limited bioremediation program which began at the Site in 2006 has resulted in significant decreases in VOC levels in shallow groundwater near the Unnamed Stream, where permanganate

application is not appropriate. Site data continue to show that the remedial program is effectively treating Site groundwater in accordance with remedial objectives.

The Building 3 and Building 5 SVE systems are being operated in accordance with their respective Phase IV O&M plans (Shaw, 2012d and Shaw, 2013). Monitoring of vacuum beneath the building floor in each area is conducted to demonstrate that soil vapor control is maintained beneath the building.

The following sections present an evaluation of new indoor air data collected during this monitoring period as it pertains to potential risk posed by oil or hazardous materials associated with the Site.

4.1 Building 3 Indoor Air Evaluation

The Phase II CSA for Building 3 (Shaw, 2012b) included an evaluation of exposure to indoor air with the SVE system operating, considering four rounds of indoor air data collected from February 2011 to January 2012. The conclusion of the Phase II evaluation was that a Condition of No Significant Risk has been achieved with the operation of the SVE system.

As discussed in Section 2.4.3, another round of indoor air samples was collected in August 2013 during this monitoring period. As shown in **Table 12**, concentrations of VOC detected in the August 2013 sample round are similar to those evaluated in the Phase II (February 2011 to January 2012). Therefore, the results from August 2013 indicate that the SVE system is continuing to maintain a Condition of No Significant Risk.

4.2 Building 5 Indoor Air Evaluation

As shown in **Table 16**, soil vapor VOC concentrations beneath Building 5 have decreased substantially with the operation of the SVE system. Indoor air concentrations were relatively low prior to the installation of the SVE system and have also declined, but not to the same degree as soil vapor (**Table 17**). In the April 2011 through March 2012 status report (Shaw, 2012a), an evaluation of indoor air exposure was conducted using three rounds of indoor air data, collected from August 2011 to January 2012. This evaluation concluded that indoor air sampling results did not indicate the presence of an Imminent Hazard or Significant Risk in Building 5, but that indoor air concentrations are likely to be variable. Estimated non-cancer hazards for workers in the Building 5 shipping area (location BLDG5-2) and sanding room (location BLDG5-3) resulted in Hazard Indexes of 1, and 0.9, respectively. These estimated Hazard Indices do not exceed the MCP cumulative non-cancer risk limit of 1 for Significant Risk. Estimated cancer risks were 4×10^{-6} and 3×10^{-6} for the shipping area and sanding room, respectively. Each of these estimated cancer risks are below the MCP cumulative cancer risk limit of 1 in 100,000 or 1×10^{-5} .

As shown in **Table 17**, the maximum concentrations of PCE and TCE in indoor air at Building 5 were lower in both the April and August 2013 sampling rounds than the maximum of the three previous rounds used in the evaluation described above. Given that only two rounds of indoor air sampling have been collected since the installation of the SVE system, and concentrations have been reduced, risks have not been reevaluated, but would be lower than the estimates provided above. Data from subsequent indoor air sampling events will be evaluated, as needed, to continue to assess potential risk.

4.3 32 Tozer Indoor Air Evaluation

The soil vapor and indoor air analytical data collected at 32 Tozer in May 2013 were evaluated in an effort to confirm that the condition of No Significant Risk documented in the Phase II Report for RTN 3-0485 (IT, 2000) and the October 2011 ROS report (Shaw, 2011), continues to exist for site workers at this downgradient property. In May 2013, PCE was detected in indoor air at concentrations of 6.5 ug/m³ in 32 Tozer-1 and 12 ug/m³ in 32 Tozer-2. Both of these concentrations of PCE exceed the Commercial/Industrial Threshold Value (4.1 ug/m³) which is a screening criterion recommended by the MADEP for initial evaluation of indoor air data in commercial or industrial settings.

Consistent with MADEP guidance, an indoor air risk evaluation was conducted to estimate the potential risk to workers from exposure to VOCs detected at the 32 Tozer road property using procedures recommended by MADEP. Exposures were assumed to occur for 40 hours per week, 50 weeks per year, over 27 years (MADEP, 2008). Each chemical detected in indoor air was included in the evaluation. The assumptions, equations, and results of this evaluation are summarized in **Table 19**. This evaluation demonstrates, based on one round of indoor air sampling since the completion of the building renovations in May 2013, that there is No Significant Risk associated with VOCs from the former Varian Site at the 32 Tozer Road property. The estimated lifetime cancer risk (7×10^{-7}) and the cumulative non-cancer hazard (0.3) are both below MADEP limits, which are 1×10^{-5} and 1, respectively. Additional rounds of indoor air sampling are planned for the 32 Tozer Road Building in October 2013, January 2014 and April 2014 to continue to monitor building conditions. Once this additional sampling is complete, the potential risks will be reevaluated considering the potential indoor air concentrations observed over the year-long sampling period.

5.0 MEASURES TAKEN TO ADDRESS PROBLEMS AFFECTING THE PERFORMANCE OF THE REMEDIAL ACTION (310 CMR 40.0892 (2)(d))

No problems affecting the performance of the selected remedial actions were identified during this reporting period. As demonstrated by the analytical data contained in this ROS report, significant remedial progress continues to be made with lower VOC concentrations measured across the Site. The performance of on-going remedial actions will continue to be documented in future ROS reports.

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7.0 LIMITATIONS ON WORK PRODUCT

The information contained in this report, including its conclusions, is based upon the information that was made available to Shaw Environmental, Inc. (Shaw), a CB&I company, during the investigation and obtained from the services described, which were performed within time and budgetary restraints.

Shaw makes no representation concerning the legal significance of its findings or of the value of the property investigated. Shaw has no contractual liability to any third parties for the information or opinions contained in this report.

Unless and until the parties agree otherwise in writing, the use of this report or any information contained therein by any third party shall be at such third party's sole risk. Such use shall constitute an agreement to release, defend and indemnify Varian Medical Systems, Inc. and Shaw from and against any and all liability in connection therewith.

TABLES

Table 1
Water Quality Sample Summary
April and May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Sample Location	Location	Rationale for Sampling	Analysis Performed
AP-12-BR	East Building 6	Monitor injection & Site conditions	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-12-DO	East Building 6	Monitor injection & Site conditions	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-12-S	East Building 6	Monitor injection & Site conditions	VOCs permanganate
AP-13-DO	East Building 3	Monitor injection & Site conditions	VOCs
AP-13-S	East Building 3	Monitor injection & Site conditions	VOCs
AP-14-S	North Building 3	Monitor injection & Site conditions	VOCs
AP-15-S	31 Tozer Road	Monitor Site conditions	VOCs
AP-19	PSL 10	Monitor residual permanganate and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-20	PSL 10	Monitor residual permanganate and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-21	PSL 10	Monitor residual permanganate and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-22	PSL 10	Monitor residual permanganate and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-23-DO	Northeast Building 3	Monitor injection & Site conditions	VOCs
AP-26-DO	West Building 1 & 2	Monitor injection & Site conditions	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-27-DO	East Building 5	Monitor residual permanganate and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-30-DO	North Building 3	Monitor remediation and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-31-DO	Beneath Building 3	Monitor remediation and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
AP-32-DO	Beneath Building 3	Monitor remediation and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
APBIO-01	East of Longview Terrace	Monitor VOC trends	VOCs
B-2	East Building 5	Monitor shallow VOC concentrations	VOCs
B-3	East Building 3	Monitor injection & Site conditions	VOCs
BR-1_ZONE1	Walden Street	Monitor VOC trends	VOCs
BR-1_ZONE2	Walden Street	Monitor VOC trends	VOCs
BR-1_ZONE3	Walden Street	Monitor VOC trends	VOCs
BR-3_ZONE1	Devon Street	Sentry Wells	VOCs
BR-3_ZONE2	Devon Street	Sentry Wells	VOCs
BR-3_ZONE3	Devon Street	Sentry Wells	VOCs
BR-5_ZONE1	28 Tozer	Monitor Site conditions	VOCs
BR-5_ZONE2	28 Tozer	Monitor Site conditions	VOCs
BR-5_ZONE3	28 Tozer	Monitor Site conditions	VOCs
BR-6_ZONE1	Hill Street	Monitor VOC trends	VOCs
BR-6_ZONE2	Hill Street	Monitor VOC trends	VOCs
BR-6_ZONE3	Hill Street	Monitor VOC trends	VOCs
BR-7_ZONE1	29 Tozer Road	Sentry Wells	VOCs
BR-7_ZONE2	29 Tozer Road	Sentry Wells	VOCs
BR-7_ZONE3	29 Tozer Road	Sentry Wells	VOCs
BW-04	By Unnamed Stream	Monitor remediation and VOC trends	VOCs Ethane, Ethene & Methane Total Organic Carbon
BW-05	By Unnamed Stream	Monitor remediation and VOC trends	VOCs Ethane, Ethene & Methane Total Organic Carbon

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Sample Location	Location	Rationale for Sampling	Analysis Performed
BW-06	By Unnamed Stream	Monitor remediation and VOC trends	VOCs Ethane, Ethene & Methane Total Organic Carbon
BW-08	By Unnamed Stream	Monitor VOC trends and confirm no adverse downgradient impacts	VOCs Ethane, Ethene & Methane Total Organic Carbon
BW-09	By Unnamed Stream	Monitor VOC trends and confirm no adverse downgradient impacts	VOCs Ethane, Ethene & Methane Total Organic Carbon
CL02-BR	16 Tozer Road	Monitor injection & Site conditions	VOCs
CL03-DO	28 Tozer Road	Monitor VOC trends	VOCs
CL03-S	28 Tozer Road	Monitor VOC trends	VOCs
CL04-BR	30 Tozer Road	Monitor VOC trends	VOCs
CL04-DO	30 Tozer Road	Monitor VOC trends	VOCs
CL06-BR	Walden Street	Added to confirm VOC concentrations	VOCs
CL06-DO	Walden Street	Added to confirm VOC concentrations	VOCs
CL08-BR_ZONE1	Longmeadow Road	Sentry Wells	VOCs
CL08-BR_ZONE2	Longmeadow Road	Sentry Wells	VOCs
CL08-BR_ZONE3	Longmeadow Road	Sentry Wells	VOCs
CL08-DO	Longmeadow Road	Sentry Wells	VOCs
CL09-BR_ZONE1	Commons Drive	Monitor Site conditions	VOCs
CL09-BR_ZONE2	Commons Drive	Monitor Site conditions	VOCs
CL09-BR_ZONE3	Commons Drive	Monitor Site conditions	VOCs
CL09-DO	Commons Drive	Monitor Site conditions	VOCs
CL10-BR	32 Tozer Road	Monitor VOC trends	VOCs
CL10-DO	32 Tozer Road	Monitor VOC trends	VOCs permanganate
CL10-S	32 Tozer Road	Monitor VOC trends	VOCs
CL11-DO	Southwest Building 7	Monitor VOC trends	VOCs
CL11-S	Southwest Building 7	Monitor VOC trends	VOCs
CULVERT_OUTFALL	29 Tozer Road	Sentry Wells	VOCs
GZ-1	31 Tozer Road	Monitor Site conditions	VOCs
GZ-4	31 Tozer Road	Monitor Site conditions	VOCs
MW-002R	16 Tozer Road	Monitor injection & Site conditions	VOCs
MW-003R	16 Tozer Road	Monitor current VOC concentrations	VOCs
MW-004R	16 Tozer Road	Monitor injection & Site conditions	VOCs
MW-005R	16 Tozer Road	Monitor current VOC concentrations	VOCs
MW-008	By Unnamed Stream	Monitor remediation and VOC trends	VOCs
MW-009	By Unnamed Stream	Monitor remediation and VOC trends	VOCs Ethane, Ethene & Methane Total Organic Carbon
MW-009A	By Unnamed Stream	Monitor injection and Site conditions	VOCs
MW-013	North Building 3 by Rte. 128	Monitor injection and Site conditions	Dissolved Iron and Manganese VOCs permanganate Chloride
MW-014A	North Building 1	Monitor injection and Site conditions	VOCs
MW-033B	Baseball field	Monitor Site conditions	VOCs
MW-034	29 Tozer Road	Sentry Wells	VOCs
MW-036	28 Tozer Road	Monitor Site conditions	VOCs
MW-1_32-TOZER	32 Tozer Road	Monitor VOC trends	VOCs
MW-2_32-TOZER	32 Tozer Road	Monitor VOC trends	VOCs
MW-4_32-TOZER	32 Tozer Road	Monitor VOC trends	VOCs
MW-5_32-TOZER	32 Tozer Road	Monitor VOC trends	VOCs
OB-04-BR	28 Tozer Road	Monitor Site conditions	VOCs
OB-04-DO	28 Tozer Road	Monitor Site conditions	VOCs
OB-04-S	28 Tozer Road	Monitor Site conditions	VOCs
OB-05-BR	27 Tozer Road	Monitor Site conditions	VOCs
OB-05-DO	27 Tozer Road	Monitor Site conditions	VOCs
OB-06-BR	Sonning Road	Monitor Site conditions	VOCs
OB-06-DO	Sonning Road	Monitor Site conditions	VOCs
OB-08-DO	29 Tozer Road	Monitor Site conditions	VOCs
OB-08-S	29 Tozer Road	Monitor Site conditions	VOCs
OB-09-BR	By Unnamed Stream	Monitor VOC trends and confirm no adverse downgradient impacts	VOCs Ethane, Ethene & Methane Total Organic Carbon
OB-09-DO	By Unnamed Stream	Monitor VOC trends and confirm no adverse downgradient impacts	VOCs Ethane, Ethene & Methane Total Organic Carbon
OB-09-S	By Unnamed Stream	Monitor remediation and VOC trends	VOCs Ethane, Ethene & Methane Total Organic Carbon
OB-10-BR	East Building 4	Monitor injection and Site conditions	VOCs
OB-10-S	East Building 4	Monitor VOC trends and confirm no adverse downgradient impacts	VOCs
OB-11-BR	North Building 3 by Rte. 128	Monitor injection & Site conditions	VOCs
OB-11-DO	North Building 3 by Rte. 128	Monitor injection & Site conditions	VOCs

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OB-12-DO	North Building 3 by Rte. 128	Monitor remediation	Dissolved Iron and Manganese VOCs permanganate Chloride
OB-12-S	North Building 3 by Rte. 128	Monitor VOC trends and confirm no adverse downgradient impacts	VOCs
OB-14-DO	North Building 1	Monitor injection & Site conditions	VOCs
OB-15-S	By Unnamed Stream	Monitor VOC trends and confirm no adverse impacts	VOCs Ethane, Ethene & Methane Total Organic Carbon
OB-16-BR	32 Tozer Road	Monitor VOC trends	VOCs
OB-16-S	32 Tozer Road	Monitor VOC trends	VOCs
OB-17-BR	Commons Drive	Monitor Site conditions	VOCs
OB-17-DO	Commons Drive	Monitor Site conditions	VOCs
OB-18-DO	31 Tozer Road	Monitor Site conditions	VOCs
OB-18-S	31 Tozer Road	Monitor Site conditions	VOCs
OB-19-DO	West Building 1 & 2	Monitor remediation	Dissolved Iron and Manganese VOCs permanganate Chloride
OB-19-S	West Building 1 & 2	Monitor injection & Site conditions	VOCs
OB-20-BR	East of Longview Terrace	Monitor VOC trends	VOCs
OB-20-DO	East of Longview Terrace	Monitor VOC trends	VOCs
OB-20-S	East of Longview Terrace	Monitor VOC trends	VOCs
OB-21-BR	East of Longview Terrace	Monitor VOC trends	VOCs
OB-21-DO	East of Longview Terrace	Monitor VOC trends	VOCs
OB-23-BR	16 Tozer Road	Monitor Site conditions	VOCs
OB-24-S	32 Tozer Road	Monitor VOC trends	VOCs
OB-25-BR	West Building 1 & 2	Monitor injection & Site conditions	VOCs permanganate
OB-26-BR	West Building 1 & 2	Monitor injection & Site conditions	VOCs permanganate
OB-27-BR	West Building 7	Monitor injection & Site conditions	Dissolved Iron and Manganese VOCs permanganate Chloride
OB-28-BR	West Building 1 & 2	Monitor injection & Site conditions	VOCs permanganate
OB-32-DO	North Building 3	Monitor injection & Site conditions	Dissolved Iron and Manganese VOCs permanganate Chloride
OB-34-DO	North Building 3	Monitor injection & Site conditions	VOCs permanganate
OB-35-DO	Inside Building 5	Monitor residual permanganate and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
OB-36-DO	North Building 3	Monitor VOC trends	VOCs
OB-37-DO	North Building 3	Monitor remediation and VOC trends	Dissolved Iron and Manganese VOCs permanganate Chloride
OB-38-DO	East Building 5	Monitor VOC trends	VOCs
OB-41-S	39 Tozer Road	Monitor shallow VOC trends	VOCs
OB-42-S	30 Tozer Road	Monitor shallow VOC trends	VOCs
OB-43-S	30 Tozer Road	Monitor shallow VOC trends	VOCs
P-09R	Hill Street	Monitor VOC trends	VOCs
P-11R	Longview Terrace	Monitor VOC trends	VOCs
P-19A	Hill Street	Monitor VOC trends	VOCs
P-20R	East of Longview Terrace	Monitor VOC trends	VOCs
RW-22	North Building 1	Monitor injection & Site conditions	VOCs
STR-03	Unnamed Stream	Monitor VOC trends and confirm no adverse impacts to surface water, also Con Comm request	VOCs
STRHA-07A	29 Tozer Road	Monitor VOC trends in surface water	VOCs
STRHA-07B	29 Tozer Road	Monitor VOC trends in surface water	VOCs
STRM-A-SCDS	East of Longview Terrace	Monitor VOC trends in surface water	VOCs
UNNAMED_STREAM	Unnamed Stream	Monitor VOC trends and confirm no adverse impacts to surface water, also Con Comm request	VOCs Ethane, Ethene & Methane Total Organic Carbon
W-1	30 Tozer Road	Monitor shallow VOC trends	VOCs

Notes:

Total Organic Carbon, analysis by EPA Method 5310C

Dissolved Iron and Manganese, analysis by Method 6010C

VOCs = Volatile Organic Compounds, analysis by EPA Method 8260C

Methane, ethane, ethene analysis by RSK-175 Method

Dehalococcoides sp. analysis by polymerase chain reaction (PCR)

Permanganate - bench-top colorimetric permanganate concentration analysis using a Hach DR/890 colorimeter

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
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SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-02	6/3/2002	40	0.2	0.034	0.007	ND(0.0020)	---	0.003	ND(0.0020)	0.26	ND(0.010)	ND(0.010)	0.17	0.29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	56	0.21	0.042	0.008	ND(0.0020)	---	0.004	ND(0.0020)	0.27	ND(0.010)	ND(0.010)	0.24	0.41D	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	2/17/2003	56	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.021	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	56	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.009	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/16/2003	56	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/2/2005	56	0.014J	0.0021J	ND(0.0010)J	ND(0.0010)J	---	0.0031J	ND(0.0020)J	0.0022J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J
	4/11/2007	56	0.18	0.053	ND(0.0020)	ND(0.0020)	---	0.017	ND(0.0040)	0.098	ND(0.0040)	ND(0.010)	0.032	ND(0.0020)	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/22/2008	55	0.1	0.035	0.0012	ND(0.0010)	---	0.0015	ND(0.0020)	0.0049	ND(0.0020)	ND(0.0050)	0.068	0.036	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	24	0.16	0.023	ND(0.0020)	ND(0.0020)	---	0.042	ND(0.0020)	0.028	ND(0.0020)	ND(0.0020)	0.032	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
AP-03-BR	9/21/2005	NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.027	0.41	ND(0.010)	ND(0.020)	1.2	ND(0.010)
	1/6/2006	108	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/30/2006	104	ND(0.0010)	0.0017	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	107	ND(0.0010)	0.0018	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0027	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
AP-03-DO	1/3/2005	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0012	0.0041	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/2/2005	42	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.0014J	0.0038J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	1/6/2006	45	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/30/2006	41	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	2/1/2007	45	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0034	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	44	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.002	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
AP-04-BR	9/21/2005	NA	ND(0.010)	0.021	0.02	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.15	0.82	ND(0.010)	0.024	1.2	ND(0.010)
	1/6/2006	120	ND(0.0050)	0.01	0.0051	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0059	0.21	ND(0.0050)	0.011	0.66	ND(0.0050)
	3/30/2006	121	ND(0.0050)	0.013	0.0083	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.019	0.24	ND(0.0050)	0.014	0.64	ND(0.0050)
	4/12/2007	125	ND(0.010)	0.013	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.12	ND(0.010)	ND(0.020)	0.77	ND(0.010)
AP-04-DO	1/3/2005	42	ND(0.0010)	0.0014	0.0012	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.018	0.07	ND(0.0010)	ND(0.0020)	0.016	ND(0.0010)
	5/2/2005	42	ND(0.0010)J	0.0027J	0.0023J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.031J	0.11J	ND(0.0010)J	ND(0.0020)J	0.024J	ND(0.0010)J
	2/1/2007	45	ND(0.0050)	0.011	0.0055	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0054	0.14	ND(0.0050)	0.011	0.61	ND(0.0050)
AP-06-BR	6/3/2002	55	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.005	ND(0.010)	ND(0.010)	0.009	0.034	ND(0.0020)	ND(0.0020)	0.004	ND(0.0020)
	6/3/2002	70	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.007	ND(0.010)	ND(0.010)	0.015	0.063	ND(0.0020)	ND(0.0020)	0.008	ND(0.0020)
	6/3/2002	99	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.006	ND(0.010)	ND(0.010)	0.011	0.059	ND(0.0020)	ND(0.0020)	0.007	ND(0.0020)
	1/24/2003	99	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.005	0.02	ND(0.0020)	ND(0.0020)	0.004	ND(0.0020)
	5/14/2003	99	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.009	ND(0.0020)	ND(0.0020)	0.003	ND(0.0020)
	12/17/2003	99	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.002	0.012	ND(0.0010)	ND(0.0020)	0.0052	ND(0.0010)
	5/1/2004	98	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0048	ND(0.0010)	ND(0.0020)	0.0023	ND(0.0010)
	4/29/2005	96	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.001	ND(0.0010)	ND(0.0020)	0.0011	ND(0.0010)
	3/31/2006	99	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0055	ND(0.0010)	ND(0.0020)	0.0024	ND(0.0010)
	4/11/2007	95	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0022	0.0082
	4/22/2008	75	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	0.01
	4/1/2009	93	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0022	ND(0.0010)	0.024	0.059	ND(0.0010)
	6/3/2002	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	44	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/24/2003	44	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	44	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
AP-06-DO	12/17/2003	44	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	42	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-08-DO	8/13/2003	NA	ND(0.0020)	0.003	0.004	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.034	0.12	ND(0.0020)	ND(0.0020)	0.026	ND(0.0020)
	12/23/2003	40	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0037	0.013	ND(0.0010)	ND(0.0020)	0.0017	ND(0.0010)
	5/3/2004	35	0.001	0.0066	0.006	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.19D	0.60D	ND(0.0010)	ND(0.0020)	0.13D	ND(0.0010)
	1/4/2005	39	ND(0.0050)	0.007	0.0079	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.2	0.53	ND(0.0050)	ND(0.010)	0.13	ND(0.0050)
	4/29/2005	34	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0085	ND(0.0010)	ND(0.0020)	0.0039	ND(0.0010)
	3/29/2006	33	ND(0.0050)	0.0054	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.5	ND(0.0050)	ND(0.010)	0.13	ND(0.0050)
	2/5/2007	40	ND(0.0050)	0.0066	0.0059	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.16	0.48	ND(0.0050)	ND(0.010)	0.13	ND(0.0050)
	4/15/2007	40	ND(0.0050)	0.0056	0.0055	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.51	ND(0.0050)	ND(0.010)	0.15	ND(0.0050)
AP-09-DO	8/13/2003	NA	0.005	0.013	0.02	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.010)	0.21	0.79	ND(0.010)	ND(0.010)	0.2	ND(0.0050)
	12/29/2003	40	ND(0.0050)	0.005	0.0079	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.11	0.45	ND(0.0050)	ND(0.010)	0.1	ND(0.0050)
	5/3/2004	36	ND(0.010)	ND(0.010)	0.015	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.24	0.87	ND(0.010)	ND(0.020)	0.22	ND(0.010)
	12/30/2004	37	0.0064	0.0097	0.013	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.66	ND(0.0050)	ND(0.010)	0.16	ND(0.0050)
	4/29/2005	36	0.013	0.011	0.017	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.23	0.93	ND(0.010)	ND(0.020)	0.23	ND(0.010)
	3/29/2006	35	0.019	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.29	1.1	ND(0.010)	ND(0.020)	0.28	ND(0.010)
	2/5/2007	40	0.011	0.01	0.014	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.26	0.98	ND(0.010)	ND(0.020)	0.25	ND(0.010)
	4/15/2007	40	0.0068	ND(0.0050)	0.0068	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.17	0.59	ND(0.0050)	ND(0.010)	0.16	ND(0.0050)
AP-12-BR	6/3/2002	70	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.40)	6.6	31	ND(0.40)	ND(0.40)	22	ND(0.20)
	6/3/2002	83	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	0.08	0.2	ND(0.10)	ND(0.10)	4.7	ND(0.050)
	1/24/2003	83	0.022	0.012	ND(0.0010)	ND(0.0020)	---	0.058	ND(0.0020)	0.046	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	83	0.011	0.007	ND(0.0010)	ND(0.0020)	---	0.022	ND(0.0020)	0.025	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	83	0.0015	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.0019	ND(0.0020)	0.02	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/23/2004	80	0.002	0.0011	ND(0.0010)	ND(0.0010)	---	0.0023	ND(0.0020)	0.0072	ND(0.0020)	ND(0.0050)	0.001	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2006	74	0.0066	0.0052	ND(0.0010)	ND(0.0010)	---	0.0035	ND(0.0020)	0.035	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/13/2007	82	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0054	ND(0.0020)	ND(0.0050)	0.012	0.0052	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/24/2008	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	0.058	ND(0.10)	ND(0.25)	0.3	6.5	ND(0.050)	ND(0.10)	1.5	ND(0.050)
	4/3/2009	84	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	0.47	24	ND(0.20)	ND(0.20)	9.4	ND(0.20)
	10/26/2009	65	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	0.59	17	ND(0.20)	ND(0.20)	4.6	ND(0.20)
	10/26/2009	76	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	---	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	0.48	12	ND(0.13)	ND(0.13)	3.6	ND(0.13)
	4/20/2010	81	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0091	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/14/2010	81	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.0046	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/14/2011	78	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/28/2011	74	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0020)	0.0031	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2012	80	0.0022J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.010)J	ND(0.0020)J	ND(0.0020)J	0.0036J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J
	11/27/2012	81	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/18/2013	81	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.018	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
AP-12-DO	6/3/2002	45	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	19	26	ND(0.20)	ND(0.20)	0.2	ND(0.10)
	6/3/2002	58	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.40)	15	34	ND(0.40)	ND(0.40)	0.4	ND(0.20)
	1/24/2003	58	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	13	26	ND(0.20)	ND(0.20)	0.2	ND(0.10)
	5/13/2003	58	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	11	30	ND(0.20)	ND(0.20)	0.4	ND(0.10)
	12/17/2003	58	0.0078	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.051	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0067	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/23/2004	57	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.45	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/29/2005	58	0.0034	0.0013	ND(0.0010)	ND(0.0010)	---	0.011	ND(0.0020)	0.053	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2006	54	0.0051	0.0015	ND(0.0010)	ND(0.0010)	---	0.023	ND(0.0020)	0.055	ND(0.0020)	ND(0.0050)	0.15	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/13/2007	58	0.0047	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	0.026	ND(0.0040)	0.045	ND(0.0040)	ND(0.010)	0.15	ND(0.0020)	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/24/2008	51	0.0063	0.0023	ND(0.0010)	ND(0.0010)	---	0.024	ND(0.0020)	0.052	ND(0.0020)	ND(0.0050)	0.1	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	50	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	0.033	ND(0.010)	ND(0.010)	0.94	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	10/26/2009	50	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	0.004	ND(0.0025)	0.019	ND(0.0025)	ND(0.0025)	0.33	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)
	4/20/2010	57	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	7.1	0.53	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
	10/14/2010	37	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	7.7	0.57	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-12-DO (cont.)	4/14/2011	48	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	8.8	4.6	ND(0.10)	ND(0.10)	0.16	ND(0.10)
	10/28/2011	44	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	10D	27D	ND(0.10)	ND(0.10)	2.7	ND(0.10)
	4/5/2012	56	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(2.5)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	14	39	ND(0.50)	ND(0.50)	4.2	ND(0.50)
	11/27/2012	57	0.003	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	0.013	ND(0.0020)	0.083	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/18/2013	35	0.0046	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.023	0.042	ND(0.0020)	0.12	ND(0.0020)	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
AP-12-S	6/3/2002	30	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	12	7.2	ND(0.20)	ND(0.20)	ND(0.10)	ND(0.10)
	2/20/2003	30	0.011	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.006	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.003	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0024	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/23/2004	28	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	30	0.028	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.0046	ND(0.0020)	0.0022	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2006	21	0.015	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.0017	ND(0.0020)	0.0016	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/13/2007	30	0.017	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.001	ND(0.0020)	0.0019	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.014	ND(0.0010)
	4/24/2008	29	0.013	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0016	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/22/2008	30	0.011	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0031	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	26	0.011	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0032	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	29	0.0088	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0035	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/14/2011	31	0.008	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	0.0044	ND(0.0020)	ND(0.0020)	0.0027	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	26	0.0062	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	0.0032	ND(0.0020)	ND(0.0020)	0.016	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/12/2013	22	0.0049	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	0.0034	ND(0.0020)	ND(0.0020)	0.26D	0.11	ND(0.0020)	ND(0.0020)	0.25D	0.0034
AP-13-DO	6/3/2002	50	0.5	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(0.50)	ND(0.50)	ND(3.0)	ND(1.0)	5	49	ND(1.0)	ND(1.0)	ND(0.50)	ND(0.50)
	6/3/2002	61	0.8	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(0.50)	ND(0.50)	ND(3.0)	ND(1.0)	9.5	110	ND(1.0)	ND(1.0)	0.9	ND(0.50)
	1/29/2003	61	20	1.8	1.5	ND(0.50)	---	ND(0.50)	ND(0.50)	ND(0.50)	ND(3.0)	ND(1.0)	64	430DD	ND(1.0)	ND(1.0)	1.1	ND(0.50)
	5/13/2003	61	26	2.3	2	ND(0.50)	---	ND(0.50)	ND(0.50)	ND(0.50)	ND(3.0)	ND(1.0)	54	540D	ND(1.0)	ND(1.0)	0.8	ND(0.50)
	12/16/2003	61	9.1	1.2	ND(0.10)	ND(0.10)	---	0.75	ND(0.20)	1	ND(0.20)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.10)
	5/1/2004	52	13	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(4.0)	ND(2.0)	ND(4.0)	ND(10)	38	220	ND(2.0)	ND(4.0)	ND(2.0)	ND(2.0)
	5/2/2005	61	40J	2.4J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(4.0)J	ND(10)J	120J	220J	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(2.0)J
	12/30/2005	61	27	0.89	ND(0.25)	ND(0.25)	---	0.58	ND(0.50)	1.4	ND(0.50)	ND(1.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.50)	ND(0.25)	ND(0.25)
	4/3/2006	46	32D	1.8	ND(0.20)	ND(0.20)	---	0.4	ND(0.40)	1.7	ND(0.40)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.20)
	4/11/2007	61	46	2.2	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	3.6	ND(1.0)	ND(2.5)	68	33	ND(0.50)	ND(1.0)	ND(0.50)	ND(0.50)
	7/26/2007	59	34	2	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	56	100	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	11/12/2007	36	22	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	54	110	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	1/23/2008	36	36	2	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(4.0)	ND(2.0)	ND(4.0)	ND(10)	78	240	ND(2.0)	ND(4.0)	ND(2.0)	ND(2.0)
	4/21/2008	47	41J	2.4J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(4.0)J	ND(10)J	88J	270J	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(2.0)J
	7/28/2008	47	35J	2.1J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(4.0)J	ND(10)J	100J	260J	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(2.0)J
	10/22/2008	51	29	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	88	130	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	1/14/2009	47	25	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	87	170	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	4/2/2009	51	28	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	86	200	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
	10/26/2009	52	29	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	84	200	ND(2.0)	ND(2.0)	5.2	ND(2.0)
	4/22/2010	60	27	ND(4.0)	ND(4.0)	ND(4.0)	---	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	72	290	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
	7/14/2010	60	28J	ND(2.0)J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(2.0)J	ND(2.0)J	ND(2.0)J	ND(2.0)J	70J	290J	ND(2.0)J	ND(2.0)J	5.8J	ND(2.0)J
	10/12/2010	51	28	ND(5.0)	ND(5.0)	ND(5.0)	28	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	75	350	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)
	1/4/2011	61	13	ND(2.0)	ND(2.0)	ND(2.0)	5.5J	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	40	160	ND(2.0)	ND(2.0)	14	ND(2.0)
	4/5/2011	51.2	18	ND(4.0)	ND(4.0)	ND(4.0)	12J	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	46	200	ND(4.0)	ND(4.0)	5.8	ND(4.0)
	7/28/2011	51	13	ND(2.0)	ND(2.0)	ND(2.0)	41	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	23	150	ND(2.0)	ND(2.0)	3.8	ND(2.0)
	10/25/2011	60	19	ND(2.0)	ND(2.0)	ND(2.0)	ND(10)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	44	230D	ND(2.0)	ND(2.0)	7.2	ND(2.0)
	1/17/2012	51	29	ND(2.0)	ND(2.0)	ND(2.0)	10	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	53	360D	ND(2.0)	ND(2.0)	3.7	ND(2.0)
	4/3/2012	51	25	ND(4.0)	ND(4.0)	ND(4.0)	ND(20)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	59	320	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
	5/2/2013	47.5	26	ND(4.0)	ND(4.0)	ND(4.0)	62	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	60	330	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-13-S	6/3/2002	18	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.006	0.012	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/29/2003	18	0.023	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.36DD	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	18	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.018	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/16/2003	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.01	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.032	0.0064	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/2/2005	18	0.0032J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.023J	0.014J	ND(0.0010)J	ND(0.0020)J	0.0023J	ND(0.0010)J
	4/3/2006	16	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.011	0.001	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/21/2008	16	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.010J	0.0035J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	10/22/2008	16	0.0013	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.011	0.012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	16	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0019	0.0021	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	17	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0037	0.0034	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/4/2011	16.1	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/26/2011	16	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0036	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/17/2012	16	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	16	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	16	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
AP-14-S	6/3/2002	35	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	39D	1.9	ND(0.20)	ND(0.20)	ND(0.10)	ND(0.10)
	2/17/2003	35	0.081	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	0.1	ND(0.0020)	0.037	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	35	0.17	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.43	ND(0.0050)	0.086	ND(0.030)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.010)	ND(0.0050)	ND(0.0050)
	12/16/2003	35	0.13	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.49	ND(0.010)	0.079	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	5/1/2004	33	0.36	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.63	ND(0.010)	0.089	ND(0.010)	ND(0.025)	0.0092	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	5/2/2005	35	0.24J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	---	0.26J	ND(0.0040)J	0.046J	ND(0.0040)J	ND(0.010)J	0.022J	ND(0.0020)J	ND(0.0020)J	ND(0.0040)J	ND(0.0020)J	ND(0.0020)J
	4/3/2006	32	0.48	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.39	ND(0.010)	0.025	ND(0.010)	ND(0.025)	0.013	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/14/2007	35	1	ND(0.010)	ND(0.010)	ND(0.010)	---	0.67	ND(0.020)	0.092	ND(0.020)	ND(0.050)	0.018	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	4/25/2008	34	0.18	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	0.12	ND(0.0040)	0.016	ND(0.0040)	ND(0.010)	0.016	ND(0.0020)	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/3/2009	32	0.19	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	0.14	ND(0.0025)	0.0091	ND(0.0025)	ND(0.0025)	0.28	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)
	4/21/2010	34	0.12	ND(0.010)	ND(0.010)	ND(0.010)	---	0.1	ND(0.010)	0.055	ND(0.010)	ND(0.010)	1.2	1.2	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	4/6/2011	29.1	0.080J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.10)J	0.047J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	1.6J	0.58J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J
	4/5/2012	29	0.0093	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	0.0064	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.35	0.048	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
	5/2/2013	29	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.21	0.022	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
AP-15-S	8/26/2002	NA	ND(0.0020)	ND(0.0020)	0.001	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.025	0.16	ND(0.0020)	ND(0.0020)	0.089	ND(0.0020)
	9/18/2002	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.012	0.14	ND(0.0020)	ND(0.0020)	0.081	ND(0.0020)
	5/14/2003	15	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.006	0.06	ND(0.0020)	ND(0.0020)	0.024	ND(0.0020)
	12/22/2003	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.002	0.016	ND(0.0010)	ND(0.0020)	0.0032	ND(0.0010)
	5/3/2004	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0027	0.012	ND(0.0010)	ND(0.0020)	0.0036	ND(0.0010)
	12/30/2004	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.002	0.0046	ND(0.0010)	ND(0.0020)	0.0015	ND(0.0010)
	4/29/2005	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0013	0.007	ND(0.0010)	ND(0.0020)	0.0022	ND(0.0010)
	3/29/2006	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0027	0.039	ND(0.0010)	ND(0.0020)	0.032	ND(0.0010)
	2/5/2007	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0037	0.02	ND(0.0010)	ND(0.0020)	0.01	ND(0.0010)
	4/15/2007	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0022	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/14/2007	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0074	0.11	ND(0.0010)	ND(0.0020)	0.062	ND(0.0010)
	5/8/2008	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0019	0.027	ND(0.0010)	ND(0.0020)	0.019	ND(0.0010)
	10/20/2008	12	0.0018	0.0045	0.0013	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.014	0.083	ND(0.0010)	0.0034	0.07	ND(0.0010)
	4/2/2009	16	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.01	0.054	ND(0.0010)	ND(0.0010)	0.017	ND(0.0010)
	4/20/2010	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.012	0.036	ND(0.0010)	ND(0.0010)	0.0089	ND(0.0010)
	10/14/2010	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0036	0.025	ND(0.0020)	ND(0.0020)	0.0061	ND(0.0020)
	4/5/2011	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-15-S (cont.)	10/25/2011	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.023	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/12/2012	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
AP-19	4/12/2013	12.2	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/25/2002	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.095	0.03	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.23	0.048	ND(0.0020)	ND(0.0020)	0.002	ND(0.0020)
	12/15/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0020)	0.015	0.0055	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	30	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.7	0.2	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	4/28/2005	30	0.0013	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	29	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	1.4	0.17	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	4/12/2007	29	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	2.8	0.83	ND(0.025)	ND(0.050)	1.1	ND(0.025)
	4/24/2008	29	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.92	0.15	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	10/23/2008	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0036	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/6/2009	27	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.4	0.06	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
	10/27/2009	27	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.32	0.054	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)
	4/21/2010	29	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	1.1	0.13	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	10/14/2010	28	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	---	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.22	0.024	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	4/6/2011	27.5	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.71	0.071	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	10/27/2011	29	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.26	0.036	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	4/5/2012	27	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.94	0.085	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	11/13/2012	19	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.28	0.03	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	5/2/2013	27	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	1.3D	0.12	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
AP-20	6/25/2002	20	0.002	0.004	0.006	ND(0.0040)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	1.7	1.6	ND(0.0020)	0.005	0.62	0.004
	5/14/2003	20	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	ND(0.10)	ND(0.10)	ND(0.20)	ND(0.20)	ND(0.10)	ND(0.10)
	12/15/2003	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.001	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	17	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	16	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.12	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	19	ND(0.0050)	0.013	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.12	0.17	ND(0.0050)	ND(0.010)	0.53	ND(0.0050)
	4/24/2008	19	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.89	0.092	ND(0.010)	ND(0.020)	0.044	ND(0.010)
	10/23/2008	19	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.016	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/6/2009	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	16	0.0021	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	19	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.45	0.012	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
	10/14/2010	15	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	1	0.14	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	4/6/2011	15.1	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.25	0.017	ND(0.0040)	ND(0.0040)	0.01	ND(0.0040)
	10/27/2011	19	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.007	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.96D	0.1	ND(0.0020)	ND(0.0020)	0.06	ND(0.0020)
	11/13/2012	19	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	2.1D	0.41	ND(0.020)	ND(0.020)	0.038	ND(0.020)
	5/2/2013	15	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.39	0.038	ND(0.0050)	ND(0.0050)	0.03	ND(0.0050)
AP-21	6/25/2002	30	ND(0.0020)	0.5	ND(0.0010)	0.003	---	ND(0.0020)	0.003	ND(0.0020)	ND(0.010)	ND(0.010)	4	56	ND(0.0020)	0.1	32	0.13
	5/14/2003	30	ND(0.0020)	0.012	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/15/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	28	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	26	ND(0.0020)	0.25	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0074	ND(0.0020)	0.089	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/12/2007	29	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.96	0.095	ND(0.010)	ND(0.020)	0.044	ND(0.010)
	4/24/2008	29	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	3.2	3.6	ND(0.20)	ND(0.40)	19	ND(0.20)
	10/23/2008	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.026	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)

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150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-21 (cont)	4/6/2009	28	ND(0.0010)	0.002	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0081	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0029	ND(0.0010)	ND(0.0010)	ND(0.0010)
	11/23/2009	28	ND(0.0010)	0.075	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0043	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.058	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	29	ND(0.0010)	0.13	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	0.0014	0.002	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.068	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/14/2010	29	ND(0.0020)	0.17	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/14/2011	24	ND(0.0040)	0.19	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	10/27/2011	29	ND(0.0020)	0.19	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	22.2	ND(0.0020)	0.14	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/13/2012	29	ND(0.0020)	0.15	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	0.0022	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/2/2013	27	ND(0.0020)	0.13	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/25/2002	20	ND(0.010)	0.06	0.05	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.16	0.61	ND(0.020)	ND(0.020)	5.8	0.01
AP-22	5/14/2003	20	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/15/2003	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	18	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.6	0.19	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	3/31/2006	19	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.45	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/12/2007	19	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.42	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/24/2008	19	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	2.9	0.85	ND(0.025)	ND(0.050)	1.5	ND(0.025)
	10/23/2008	19	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.02	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/6/2009	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	0.001	0.0023	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.001	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	17	ND(0.0010)	0.015	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	0.0031	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0099	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	19	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	0.0035	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/14/2010	19	ND(0.0020)	0.017	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	0.0055	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/14/2011	19	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	0.0063	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.4D	0.15	ND(0.0020)	ND(0.0020)	0.33D	ND(0.0020)
	10/27/2011	19	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.015	ND(0.0020)	ND(0.0020)	0.0028	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	18	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	0.0036	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/13/2012	19	ND(0.0020)	0.009	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	0.0052	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/17/2013	20	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)	0.0047	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
AP-23-DO	9/23/2004	NA	2.1	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(4.0)	ND(2.0)	ND(4.0)	ND(10)	34	200	ND(2.0)	ND(4.0)	ND(2.0)	ND(2.0)
	12/29/2004	51	0.85	ND(0.010)	ND(0.010)	ND(0.010)	---	0.84	ND(0.020)	0.12	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	5/2/2005	52	2.4J	ND(0.020)J	ND(0.020)J	ND(0.020)J	---	1.5JN	ND(0.040)J	0.28J	ND(0.040)J	ND(0.10)J	0.071J	0.030J	ND(0.020)J	ND(0.040)J	ND(0.020)J	ND(0.020)J
	12/30/2005	52	3.3	ND(0.025)	ND(0.025)	ND(0.025)	---	1.9	ND(0.050)	0.72	ND(0.050)	ND(0.13)	0.25	0.063	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.025)
	4/3/2006	29	0.27	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	0.056	ND(0.0050)	0.049	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	1/31/2007	52	1.6	ND(0.020)	ND(0.020)	ND(0.020)	---	2.1	ND(0.040)	2.1	ND(0.040)	ND(0.10)	0.13	0.26	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	4/11/2007	52	1.5	ND(0.020)	ND(0.020)	0.039	---	2.2	ND(0.040)	2.4	ND(0.040)	ND(0.10)	0.98	0.028	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	11/12/2007	48	3.4	ND(1.0)	ND(1.0)	ND(1.0)	---	1.9	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	53	100	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	1/23/2008	48	3.8	ND(1.0)	ND(1.0)	ND(1.0)	---	1.2	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	49	100	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	4/21/2008	48	2.4J	ND(1.0)J	ND(1.0)J	ND(1.0)J	---	ND(1.0)J	ND(2.0)J	ND(1.0)J	ND(2.0)J	ND(5.0)J	47J	120J	ND(1.0)J	ND(2.0)J	1.4J	ND(1.0)J
	7/28/2008	51	2.0J	ND(2.0)J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(4.0)J	ND(10)J	59J	210J	ND(2.0)J	ND(4.0)J	36J	ND(2.0)J
	10/22/2008	48	0.63	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	20	58	ND(0.50)	ND(1.0)	3.8	ND(0.50)
	1/14/2009	51	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	35	140	ND(1.0)	ND(1.0)	8.2	ND(1.0)
	4/2/2009	47	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	34	210	ND(2.0)	ND(2.0)	7	ND(2.0)
	10/26/2009	48	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	41	210	ND(2.0)	4.2	29	ND(2.0)
	1/28/2010	51	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	1	ND(1.0)	ND(1.0)	32	150	ND(1.0)	4.8	30	ND(1.0)
	4/22/2010	51	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	40	270	ND(2.0)	ND(2.0)	7.1	ND(2.0)
	7/14/2010	14	ND(2.0)J	ND(2.0)J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(2.0)J	ND(2.0)J	ND(2.0)J	ND(2.0)J	50J	330J	ND(2.0)J	ND(2.0)J	12J	ND(2.0)J
	10/12/2010	47	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	30	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	46	270	ND(4.0)	ND(4.0)	17	ND(4.0)
	1/4/2011	51	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	2.5J	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	11	86	ND(1.0)	5.2	20	ND(1.0)
	4/5/2011	47.4	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	14J	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	20	230	ND(4.0)	ND(4.0)	6.2	ND(4.0)
	7/28/2011	47	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	2.9J	ND(2.0)	ND(2.0)	2	ND(2.0)	ND(2.0)	20	140	ND(2.0)	2.7	7.4	ND(2.0)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-23-DO (cont.)	10/25/2011	51	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(10)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	23	240D	ND(2.0)	3.3	9.6	ND(2.0)
	1/17/2012	47.5	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(10)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	41	490D	ND(2.0)	ND(2.0)	4.7	ND(2.0)
	4/3/2012	47	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(20)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	21	350	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
	5/2/2013	47.4	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	79	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)J	ND(4.0)	47	510D	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)
AP-24-DO	9/23/2004	NA	110	ND(1.0)	ND(1.0)	ND(1.0)	---	1.9	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	12/29/2004	52	32	ND(0.25)	ND(0.25)	ND(0.25)	---	1	ND(0.50)	0.49	ND(0.50)	ND(1.3)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.50)	ND(0.25)	ND(0.25)
	5/2/2005	53	68J	ND(0.50)J	ND(0.50)J	ND(0.50)J	---	2.2J	ND(1.0)J	0.58J	ND(1.0)J	ND(2.5)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(1.0)J	ND(0.50)J	ND(0.50)J
	12/30/2005	52	71	ND(0.50)	ND(0.50)	ND(0.50)	---	1.8	ND(1.0)	0.82	ND(1.0)	ND(2.5)	ND(0.50)	ND(0.50)	ND(0.50)	ND(1.0)	ND(0.50)	ND(0.50)
	4/3/2006	49	63	ND(0.50)	ND(0.50)	ND(0.50)	---	2	ND(1.0)	1.3	ND(1.0)	ND(2.5)	ND(0.50)	ND(0.50)	ND(0.50)	ND(1.0)	ND(0.50)	ND(0.50)
	1/30/2007	53	32	ND(0.50)	ND(0.50)	ND(0.50)	---	0.5	ND(1.0)	0.96	ND(1.0)	ND(2.5)	12	36	ND(0.50)	ND(1.0)	ND(0.50)	ND(0.50)
	4/10/2007	53	55	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(4.0)	2.3	ND(4.0)	ND(10)	47	180	ND(2.0)	ND(4.0)	ND(2.0)	ND(2.0)
	8/9/2007	50	64	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	34	130NN	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	11/12/2007	49	40	ND(0.50)	0.91	ND(0.50)	---	ND(0.50)	ND(1.0)	0.75	ND(1.0)	ND(2.5)	27	56	ND(0.50)	ND(1.0)	0.64	ND(0.50)
	1/23/2008	47	33	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	1.1	ND(2.0)	ND(5.0)	48	120	ND(1.0)	ND(2.0)	2.1	ND(1.0)
	4/21/2008	47	21J	ND(2.0)J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(4.0)J	ND(10)J	65J	220J	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(2.0)J
	7/28/2008	52	45J	ND(2.0)J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(4.0)J	ND(10)J	61J	220J	ND(2.0)J	ND(4.0)J	ND(2.0)J	ND(2.0)J
	10/22/2008	47	19	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	32	140	ND(1.0)	ND(2.0)	13	ND(1.0)
	1/14/2009	52	22	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	41	210	ND(2.0)	ND(2.0)	10	ND(2.0)
	4/2/2009	47	36	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	54	270	ND(2.0)	ND(2.0)	19	ND(2.0)
	10/26/2009	48	62	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	32	270	ND(2.0)	4.2	44	ND(2.0)
	1/28/2010	52	41	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	39	240	ND(2.0)	6	14	ND(2.0)
	4/22/2010	52	52	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	21	270	ND(2.0)	3.7	14	ND(2.0)
	7/14/2010	15.5	38J	ND(2.0)J	ND(2.0)J	ND(2.0)J	---	ND(2.0)J	ND(2.0)J	ND(2.0)J	ND(2.0)J	ND(2.0)J	26J	260J	ND(2.0)J	15J	65J	ND(2.0)J
	10/12/2010	47	27	ND(4.0)	ND(4.0)	ND(4.0)	ND(20)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	13	190	ND(4.0)	27	41	ND(4.0)
	1/4/2011	52	9.5	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	19	9.8D	ND(1.0)	30	75	ND(1.0)
	4/5/2011	47.3	43	ND(4.0)	ND(4.0)	ND(4.0)	ND(20)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	24	300	ND(4.0)	10	28	ND(4.0)
	7/28/2011	47	1.2	ND(0.20)	ND(0.20)	ND(0.20)	0.10J	ND(0.20)	ND(0.20)	0.22	ND(0.20)	ND(0.20)	1.7	16	ND(0.20)	0.94	1.7	ND(0.20)
	10/25/2011	52	35D	ND(0.20)	1.2	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	0.74	ND(0.20)	ND(0.20)	31D	350D	ND(0.20)	6.9	12	ND(0.20)
	4/3/2012	47	27	ND(4.0)	ND(4.0)	ND(4.0)	ND(20)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	ND(4.0)	26	240	ND(4.0)	26	80	ND(4.0)
AP-25-DO	9/23/2004	NA	5.3	ND(0.050)	ND(0.050)	ND(0.050)	---	0.84	ND(0.10)	0.44	ND(0.10)	ND(0.25)	0.054	ND(0.050)	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.050)
	12/29/2004	51	0.27	0.012	ND(0.0025)	0.0039	---	0.0051	ND(0.0050)	0.0068	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	5/2/2005	52	5.2J	ND(0.050)J	ND(0.050)J	ND(0.050)J	---	0.065J	ND(0.10)J	0.066J	ND(0.10)J	ND(0.25)J	ND(0.050)J	ND(0.050)J	ND(0.050)J	ND(0.10)J	ND(0.050)J	ND(0.050)J
	12/30/2005	52	2.2	0.036	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	0.074	ND(0.040)	ND(0.10)	0.13	ND(0.020)	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	4/3/2006	47	7.1	0.14	ND(0.050)	ND(0.050)	---	0.16	ND(0.10)	0.32	ND(0.10)	ND(0.25)	0.058	ND(0.050)	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.050)
	1/30/2007	52	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	19	130	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	4/10/2007	52	0.64	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	0.72	11	ND(0.50)	ND(1.0)	36	ND(0.50)
	8/9/2007	36	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)	14	91	ND(1.0)
	11/12/2007	47	0.029	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	0.54	1.6	0.023
	1/23/2008	47	0.016	0.0049	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0026	0.012	ND(0.0010)	0.032	0.072	0.0047
	4/21/2008	47	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.10)J	---	ND(0.10)J	ND(0.20)J	ND(0.10)J	ND(0.20)J	ND(0.50)J	ND(0.10)J	ND(0.10)J	ND(0.10)J	8.1J	13J	ND(0.10)J
	7/28/2008	51	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.0025J	0.010J	ND(0.0010)J	0.0038J	0.014J	ND(0.0010)J
	10/22/2008	47	0.37	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	4	7.3	ND(0.10)
	1/14/2009	51	0.021	0.006	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0059	ND(0.0050)	0.56	0.62	ND(0.0050)
	4/2/2009	47	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	0.24	1.6	ND(0.20)	2.2	17	ND(0.20)
	10/26/2009	48	0.029	0.025	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0056	ND(0.0050)	ND(0.0050)	0.48	0.74	0.0073
	1/28/2010	51	0.005	0.0054	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0025	0.01	ND(0.0010)	0.047	0.13	ND(0.0010)
	7/14/2010	51	0.14J	ND(0.10)J	ND(0.10)J	ND(0.10)J	---	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.10)J	2.3J	12J	ND(0.10)J
	10/12/2010	47	0.054	ND(0.040)	ND(0.040)	ND(0.040)	---	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	1.8	3.7	ND(0.040)
	1/4/2011	51	0.029	0.065	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.8	0.66	ND(0.010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-25-DO (cont.)	4/5/2011	46.7	0.011	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.012	0.062	ND(0.010)	0.13	0.45	ND(0.010)
	7/28/2011	46	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	2.6	5.4	ND(0.10)
	10/25/2011	51	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	1.6	2.7	ND(0.040)
	1/17/2012	46	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.049	ND(0.040)	0.73	2.1	ND(0.040)
	4/3/2012	47	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	1.1	7.5D	ND(0.040)
AP-26-DO	7/27/2004	NA	ND(1.0)J	ND(1.0)J	ND(1.0)J	ND(1.0)J	---	ND(1.0)J	ND(2.0)J	ND(1.0)J	ND(2.0)J	ND(5.0)J	29J	70J	ND(1.0)J	ND(2.0)J	ND(1.0)J	ND(1.0)J
	12/28/2004	64	0.0014	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	65	0.0073	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0013	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/3/2006	65	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.54	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	5/17/2006	NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	1.2	0.15	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	1/31/2007	65	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	8.4	11	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.10)
	4/14/2007	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.001	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/16/2007	58	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	15	27	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.20)
	1/25/2008	68	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	13	26	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.20)
	4/28/2008	64	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	11	21	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.20)
	10/23/2008	64	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	5	9.2	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.10)
	4/3/2009	61	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	8.7	16	ND(0.20)	ND(0.20)	0.42	ND(0.20)
	10/26/2009	62	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	4.4	7.2	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
	4/22/2010	64	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	13	25	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
	7/14/2010	64	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(0.20)J	---	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(0.20)J	9.2J	19J	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(0.20)J
	10/13/2010	61	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	---	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	8.7	21	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)
	4/5/2011	61.1	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	13	27D	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
	10/26/2011	64	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	11	25D	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
	4/5/2012	61	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(2.0)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	11	27	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)
	11/26/2012	64	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.35	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	4/15/2013	67	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	7.4J	17	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
AP-27-DO	7/22/2004	NA	ND(0.25)J	ND(0.25)J	ND(0.25)J	ND(0.25)J	---	ND(0.25)J	ND(0.50)J	ND(0.25)J	ND(0.50)J	ND(1.3)J	14J	32J	ND(0.25)J	ND(0.50)J	0.82J	ND(0.25)J
	12/28/2004	61	ND(0.0010)	0.0033	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/3/2005	62	ND(0.0010)	0.0015	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0032	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/3/2006	62	ND(0.0010)	0.0042	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0011	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/7/2006	59	ND(0.0010)	0.0029	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.002	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	62	ND(0.0025)	0.0055	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.26	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.010)	ND(0.0025)
	4/13/2007	62	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.022	0.073	ND(0.0010)	ND(0.0020)	0.0018	ND(0.0010)
	11/15/2007	60	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.021	0.042	ND(0.0010)	ND(0.0020)	0.0084	ND(0.0010)
	4/25/2008	61	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.46	3.4	ND(0.025)	ND(0.050)	0.071	ND(0.025)
	10/22/2008	61	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.72	4.4	ND(0.050)	ND(0.10)	0.093	ND(0.050)
	4/9/2009	60	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.003	0.019	ND(0.0010)	ND(0.0010)	0.0023	ND(0.0010)
	10/28/2009	57	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0017	0.022	ND(0.0010)	ND(0.0010)	0.001	ND(0.0010)
	4/21/2010	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0036	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/14/2010	57.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.009	1.2D	ND(0.0020)	ND(0.0020)	0.01	0.0049
	4/7/2011	57.2	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.010)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.0027J	0.027J	ND(0.0020)J	ND(0.0020)J	0.010J	ND(0.0020)J
	10/26/2011	61	ND(0.0020)	ND(0.0020)	0.0027	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.17	12D	ND(0.0020)	0.0031	0.08	0.037
	4/6/2012	57	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	13	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
11/27/2012	61	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
4/16/2013	59	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.016	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.023	0.0039	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
AP-28-DO	12/30/2004	44	0.0058	0.01	0.016	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.65	ND(0.0050)	ND(0.010)	0.16	ND(0.0050)
	4/29/2005	41	0.0088	0.011	0.016	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.66	ND(0.0050)	ND(0.010)	0.17	ND(0.0050)
	3/29/2006	41	0.016	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.22	0.84	ND(0.010)	ND(0.020)	0.2	ND(0.010)
	2/5/2007	45	ND(0.010)	ND(0.010)	0.013	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.24	0.91	ND(0.010)	ND(0.020)	0.21	ND(0.010)
	4/15/2007	45	0.012	ND(0.010)	0.013	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.28	0.98	ND(0.010)	ND(0.020)	0.26	ND(0.010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-29-DO	12/30/2004	44	ND(0.010)	ND(0.010)	0.014	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.22	0.85	ND(0.010)	ND(0.020)	0.21	ND(0.010)
	4/29/2005	44	0.013	0.011	0.017	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.25	0.94	ND(0.010)	ND(0.020)	0.24	ND(0.010)
	3/29/2006	43	0.02	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.29	1.1	ND(0.010)	ND(0.020)	0.29	ND(0.010)
	2/5/2007	45	0.012	0.013	0.016	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.31	1.2	ND(0.010)	ND(0.020)	0.33	ND(0.010)
	4/15/2007	45	0.014	ND(0.010)	0.013	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.37	1.2	ND(0.010)	ND(0.020)	0.34	ND(0.010)
	11/13/2007	43	0.018	0.011	0.015	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.43	1.5	ND(0.010)	ND(0.020)	0.47	ND(0.010)
	4/25/2008	44	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.49	1.8	ND(0.020)	ND(0.040)	0.48	ND(0.020)
	4/2/2009	42	ND(0.010)	ND(0.010)	0.011	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.36	1.2	ND(0.010)	ND(0.010)	0.31	ND(0.010)
AP-30-DO	2/12/2010	NA	ND(1.2)	ND(1.6)	ND(1.5)	ND(1.1)	ND(4.0)	ND(0.90)	ND(1.1)	ND(0.45)	ND(0.88)	ND(2.4)	82	330	---	ND(1.3)	ND(1.2)	ND(1.2)
	5/24/2010	NA	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	---	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	59	680D	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)
AP-30R-DO	4/7/2011	67	2.4J	ND(0.050)J	ND(0.050)J	ND(0.050)J	ND(0.25)J	6.4DJ	ND(0.050)J	5.5DJ	ND(0.050)J	ND(0.050)J	0.47J	0.082J	ND(0.050)J	ND(0.050)J	ND(0.050)J	ND(0.050)J
	11/7/2011	27	0.085	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	0.19D	ND(0.0020)	0.18	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/17/2012	88	0.22	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	0.7	ND(0.010)	0.27	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	11/27/2012	28	0.95	0.017	ND(0.010)	ND(0.010)	ND(0.050)	1.9D	ND(0.010)	3.5D	ND(0.010)	ND(0.010)	0.073	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	4/18/2013	50	0.72	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	1.1	ND(0.040)	2.3	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)
AP-31-DO	2/11/2010	NA	ND(1.2)	ND(1.6)	ND(1.5)	ND(1.1)	ND(4.0)	ND(0.90)	ND(1.1)	ND(0.45)	ND(0.88)	ND(2.4)	71	940D	---	ND(1.3)	ND(1.2)	ND(1.2)
	10/18/2010	89	1.3D	0.011	ND(0.0040)	ND(0.0040)	---	0.97D	ND(0.0040)	1.6D	ND(0.0040)	0.0062	0.053	0.015	0.0049	ND(0.0040)	ND(0.0040)	ND(0.0040)
	4/6/2011	30	1.6J	0.034J	ND(0.0020)J	ND(0.0020)J	0.062J	0.68DJ	0.0028J	2.1DJ	ND(0.0020)J	0.0070J	0.082J	0.0099J	0.0090J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J
	11/7/2011	38	1.8	0.041	ND(0.020)	ND(0.020)	ND(0.10)	0.52	ND(0.020)	1.9	ND(0.020)	ND(0.020)	0.043	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)
	4/17/2012	88	1.3	0.045	ND(0.040)	ND(0.040)	ND(0.20)	0.27	ND(0.040)	1.7	ND(0.040)	ND(0.040)	1.9	43D	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)
	11/27/2012	28	1.4	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	0.49	ND(0.020)	0.66	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)
	4/18/2013	50	1.2	ND(0.020)	0.022	ND(0.020)	ND(0.10)	0.28	ND(0.020)	2	ND(0.020)	ND(0.020)	2.1D	4.4D	ND(0.020)	ND(0.020)	0.046	ND(0.020)
	AP-32-DO	2/11/2010	NA	ND(1.2)	ND(1.6)	ND(1.5)	ND(1.1)	ND(4.0)	ND(0.90)	ND(1.1)	ND(0.45)	ND(0.88)	ND(2.4)	91	950D	---	ND(1.3)	ND(1.2)
10/18/2010		89	2.3	ND(0.10)	ND(0.10)	ND(0.10)	---	1.2	ND(0.10)	6.8	ND(0.10)	ND(0.10)	0.2	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
4/7/2011		60	2.1J	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.50)J	0.87J	ND(0.10)J	5.7J	ND(0.10)J	ND(0.10)J	6.2J	0.15J	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.10)J
11/7/2011		34	1.8	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	3.3	ND(1.0)	ND(1.0)	41	81D	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
4/17/2012		88	1.4	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	0.55	ND(0.10)	2.4	ND(0.10)	ND(0.10)	62D	140D	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
11/27/2012		25	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(10)	ND(2.0)	ND(2.0)	3	ND(2.0)	ND(2.0)	31	170	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
4/18/2013		50	2	ND(2.0)	ND(2.0)	ND(2.0)	ND(10)	ND(2.0)	ND(2.0)	3.5	ND(2.0)	ND(2.0)	56	370D	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)
APBIO-01		8/2/2005	NA	ND(0.0010)	0.0013	0.001	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.019	0.066	ND(0.0010)	ND(0.0020)	0.054
	1/6/2006	79	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.024	ND(0.010)	ND(0.020)	0.91	ND(0.010)
	4/7/2006	79	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.011	0.077	ND(0.010)	ND(0.020)	0.85	ND(0.010)
	4/12/2007	78	ND(0.0050)	0.0086	0.0085	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.068	0.39	ND(0.0050)	0.033	0.53	ND(0.0050)
	4/23/2008	77	ND(0.0020)	0.009	0.002	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0071	ND(0.0020)	0.093	0.16	0.0044
	4/6/2009	78	ND(0.0020)	0.007	0.003	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.027	ND(0.0020)	0.092	0.29	0.0022
	4/23/2010	78	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.045	ND(0.010)	0.12	0.77	ND(0.010)
	4/6/2011	77	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.023	ND(0.010)	0.16	0.8	ND(0.010)
B-2	4/6/2012	77	ND(0.0050)	0.0084	0.012	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.024	0.076	ND(0.0050)	0.065	1.1D	ND(0.0050)
	4/12/2013	77	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.021	ND(0.010)	0.22	0.54	ND(0.010)
	4/27/2005	14	0.013	0.013	0.0026	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.031	0.2	ND(0.0020)	0.0072	0.091	ND(0.0020)
	3/28/2006	12	ND(0.0050)	0.0079	0.006	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.014	0.42	ND(0.0050)	ND(0.010)	0.33	0.0057
	1/31/2007	17	ND(0.0050)	0.0054	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.013	0.43	ND(0.0050)	ND(0.010)	0.37	ND(0.0050)
	4/14/2007	13	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	2.4	1.2	ND(0.025)	ND(0.050)	0.18	ND(0.025)
	11/16/2007	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.019	ND(0.0010)	0.012	0.065	0.0016
	4/25/2008	12	ND(0.0025)	0.0051	0.0048	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.0078	0.24	ND(0.0025)	ND(0.0050)	0.3	0.0064
B-2	10/22/2008	12	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.16	ND(0.0050)	ND(0.010)	0.49	0.0054
	4/9/2009	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.019	ND(0.0010)	ND(0.0010)	0.022	ND(0.0010)
	10/26/2009	11	ND(0.0025)	ND(0.0025)	0.0026	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.091	ND(0.0025)	ND(0.0025)	0.32	0.0049

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
B-2 (cont.)	4/21/2010	12	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.29	ND(0.0050)	0.022	0.46	0.0056
	10/14/2010	12	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.011	ND(0.010)	0.03	1.2D	0.016
	4/6/2011	15.7	ND(0.0040)J	0.0044J	ND(0.0040)J	ND(0.0040)J	ND(0.020)J	ND(0.0040)J	ND(0.0040)J	ND(0.0040)J	ND(0.0040)J	ND(0.0040)J	ND(0.0040)J	0.092J	ND(0.0040)J	ND(0.0040)J	0.23J	0.0070J
	10/27/2011	11.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.017	ND(0.0020)	0.19	0.18	0.0053
	4/6/2012	11.5	ND(0.0020)	ND(0.0020)	0.0025	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0069	0.27D	ND(0.0020)	ND(0.0020)	0.26D	0.0038
	11/27/2012	12	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.0055	0.22	ND(0.0040)	ND(0.0040)	0.32	ND(0.0040)
B-3	4/16/2013	12	ND(0.0040)	ND(0.0040)	0.0052	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.015	0.56D	ND(0.0040)	ND(0.0040)	0.53D	0.0081
	6/3/2002	15	0.42D	0.002	0.016	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.055	0.017	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/29/2003	15	0.088	ND(0.0020)	0.002	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.041	0.008	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	15	0.14	0.002	0.003	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.02	0.015	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/16/2003	15	0.05	0.001	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.008	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/2/2004	15	0.16	ND(0.0020)	0.0044	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.04	0.017	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/27/2005	14	0.22	0.0021	0.0078	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.034	0.016	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	3/31/2006	13	0.24	ND(0.0020)	0.012	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.063	0.02	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/10/2007	15	0.11	0.0014	0.0036	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.027	0.021	ND(0.0010)	ND(0.0020)	0.001	ND(0.0010)
	4/21/2008	13	0.083J	0.0016J	0.0041J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.022J	0.014J	ND(0.0010)J	ND(0.0020)J	0.0020J	ND(0.0010)J
	10/22/2008	13	0.072	0.0017	0.0031	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.016	0.014	ND(0.0010)	ND(0.0020)	0.001	ND(0.0010)
	4/3/2009	12.5	0.09	0.0017	0.0023	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.02	0.015	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)
	10/26/2009	12.5	0.044	0.0016	0.0014	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.013	0.0095	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	14	0.056	0.001	0.0014	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0062	0.01	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/12/2010	12.5	0.049	0.0021	0.0028	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.016	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/4/2011	12.5	0.042	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.015	0.0068	ND(0.0020)	ND(0.0020)J	ND(0.0020)	ND(0.0020)
	10/26/2011	12	0.069	ND(0.0020)	0.0028	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.016	0.013	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/3/2012	12.5	0.065	ND(0.0020)	0.004	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.023	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/13/2012	14	0.043	ND(0.0020)	0.0027	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.018	0.0088	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	12.5	0.036	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.014J	0.0043	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
BR-1_ZONE1	5/16/2003	205	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.002	ND(0.010)	ND(0.010)	0.011	0.018	ND(0.0020)	ND(0.0020)	0.1	ND(0.0020)
	12/29/2003	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.057	0.092	ND(0.0010)	0.005	0.16DD	0.0011
	1/5/2005	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.001	ND(0.0020)	ND(0.0050)	0.032	0.046	ND(0.0010)	0.03	0.053	ND(0.0010)
	5/3/2005	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0014	ND(0.0020)	ND(0.0050)	0.0025	0.0036	ND(0.0010)	0.028	0.063	ND(0.0010)
	1/5/2006	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0013	ND(0.0010)	0.018	0.026	ND(0.0010)
	4/3/2006	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.001	ND(0.0010)	0.0037	0.014	ND(0.0010)
	4/12/2007	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0020)	0.0026	ND(0.0010)
	8/9/2007	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0029	ND(0.0010)
	11/15/2007	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0020)	0.0011	ND(0.0010)
	4/24/2008	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/6/2009	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0016	0.0016	ND(0.0010)
	10/29/2009	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.028	0.067	ND(0.0010)	0.083	0.20D	0.009
	4/22/2010	205	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/18/2010	205	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	0.042	ND(0.0020)	0.036	0.11	0.0033
	4/14/2011	205	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.10)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.056	ND(0.0020)	0.43	1.5	0.027
	10/24/2011	205	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.01	0.035	ND(0.0020)	0.041	0.19	0.0031
	4/2/2012	205	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/16/2013	205	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
BR-1_ZONE2	5/16/2003	152	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.04	0.30D	ND(0.0020)	ND(0.0020)	0.21	0.006
	12/29/2003	152	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.012	ND(0.0025)	ND(0.0050)	0.36	0.0053
	1/5/2005	152	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0020)	0.022	ND(0.0010)
	5/3/2005	152	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.027	ND(0.0010)
	1/5/2006	152	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0024	ND(0.0010)	0.0033	0.013D	0.0033

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
BR-3_ZONE2 (cont.)	4/28/2010	200	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/14/2011	200	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/2/2012	200	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
BR-3_ZONE3	4/16/2013	200	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/22/2003	167	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/4/2005	167	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/6/2006	167	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/16/2007	167	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/24/2008	167	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	167	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/28/2010	167	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/14/2011	167	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/2/2012	167	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/16/2013	167	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
BR-5_ZONE1	6/3/2002	209	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	ND(0.010)	0.01	ND(0.020)	0.72	0.1	ND(0.010)
	1/31/2003	209	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.083	ND(0.0040)	0.55	0.5	ND(0.0020)
	5/16/2003	209	ND(0.0020)J	0.010J	ND(0.0010)J	ND(0.0020)J	---	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.010)J	ND(0.010)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J
	12/19/2003	209	ND(0.0050)	ND(0.0050)	0.0082	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.2	ND(0.0050)	0.11	0.45	ND(0.0050)
	5/4/2004	209	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.19	ND(0.010)	0.38	1.1	ND(0.010)
	1/5/2005	209	ND(0.0010)	ND(0.0010)	0.0052	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0012	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.05	ND(0.0010)	0.035	0.058	ND(0.0010)
	5/3/2005	209	ND(0.0025)	ND(0.0025)	0.01	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.17	ND(0.0025)	0.13	0.33	ND(0.0025)
	1/5/2006	209	ND(0.0010)	ND(0.0010)	0.004	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.05	ND(0.0010)	0.041	0.092	ND(0.0010)
	4/3/2006	209	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.005	ND(0.0010)	0.0076	0.0088	ND(0.0010)
	4/16/2007	209	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0027	ND(0.0010)	ND(0.0020)	0.0062	ND(0.0010)
	11/14/2007	209	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0033	ND(0.0010)	ND(0.0020)	0.0051	ND(0.0010)
	4/24/2008	209	ND(0.0010)	0.0015	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0014	ND(0.0010)	ND(0.0020)	0.0015	ND(0.0010)
	4/7/2009	209	ND(0.0025)	ND(0.0025)	0.0069	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.055	ND(0.0025)	0.062	0.077	ND(0.0025)
	4/28/2010	209	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0014	ND(0.0010)
	4/14/2011	209	ND(0.0020)	ND(0.0020)	0.0055	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.047	ND(0.0020)	0.039	0.094	ND(0.0020)
	4/4/2012	209	ND(0.0050)	ND(0.0050)	0.021	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.21	ND(0.0050)	0.32	0.48D	ND(0.0050)
	4/16/2013	209	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0029	0.006	ND(0.0020)
BR-5_ZONE2	6/3/2002	172	ND(0.010)	0.01	0.02	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.05	0.34	ND(0.020)	2.2	2.1	0.01
	1/31/2003	172	ND(0.0020)	0.003	0.032	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.12	0.22	ND(0.0020)	0.60DD	0.80DD	0.004
	5/16/2003	172	ND(0.0050)	ND(0.0050)	0.016	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.010)	0.032	0.051	ND(0.010)	0.80D	1.1	ND(0.0050)
	12/19/2003	172	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.08	ND(0.010)	0.5	1	ND(0.010)
	5/4/2004	172	ND(0.010)	ND(0.010)	0.012	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.011	0.24	ND(0.010)	0.35	1.2	ND(0.010)
	1/5/2005	172	ND(0.0025)	ND(0.0025)	0.011	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.037	0.15	ND(0.0025)	0.16	0.33	0.0025
	5/3/2005	172	ND(0.010)	ND(0.010)	0.014	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.023	0.3	ND(0.010)	0.26	0.72	ND(0.010)
	1/5/2006	172	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.014	0.13	ND(0.0050)	0.13	0.35	ND(0.0050)
	4/3/2006	172	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.011	ND(0.0010)	0.018	0.048	ND(0.0010)
	4/16/2007	172	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0026	ND(0.0010)	ND(0.0020)	0.0054	ND(0.0010)
	11/14/2007	172	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0032	ND(0.0010)	ND(0.0020)	0.0043	ND(0.0010)
	4/24/2008	172	ND(0.0010)	0.0022	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.003	ND(0.0010)	0.0097	0.032	ND(0.0010)
	4/7/2009	172	ND(0.0050)	ND(0.0050)	0.0095	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.17	ND(0.0050)	0.18	0.43	ND(0.0050)
	4/28/2010	172	ND(0.0010)	0.0021	0.0045	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	0.078	ND(0.0010)	0.089	0.064D	0.0013
	4/14/2011	172	ND(0.0020)	0.0025	0.015	ND(0.0020)	0.044	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0047	0.21D	ND(0.0020)	0.21D	0.34D	0.002
	4/4/2012	172	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0025	ND(0.0020)	0.0062	0.012	ND(0.0020)
	4/16/2013	172	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0028	0.0052	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
BR-5_ZONE3	6/3/2002	133	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	0.32	0.76	ND(0.10)	2	1.6	ND(0.050)
	1/31/2003	133	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.004	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/16/2003	133	ND(0.0020)	ND(0.0020)	0.016	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.002	0.12	ND(0.0040)	0.30D	0.32	0.002
	12/19/2003	133	ND(0.0010)	0.0044	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0012	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/4/2004	133	ND(0.0010)	0.0036	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/3/2005	133	ND(0.0025)	0.0025	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.018	0.026	ND(0.0025)	0.066	0.19	ND(0.0025)
	1/5/2006	133	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.014	0.088	ND(0.010)	0.28	0.92	ND(0.010)
	4/3/2006	133	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0045	ND(0.0025)	0.007	0.19	ND(0.0025)
	4/16/2007	133	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0022	ND(0.0010)	ND(0.0020)	0.005	ND(0.0010)
	11/14/2007	133	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.0052	0.065	ND(0.0025)	0.13	0.51D	ND(0.0025)
	4/24/2008	133	ND(0.0020)	0.0024	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0024	0.029	ND(0.0020)	0.03	0.18	ND(0.0020)
	4/7/2009	133	ND(0.0025)	0.0028	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.0063	0.048	ND(0.0025)	0.029	0.18	ND(0.0025)
	4/14/2011	133	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.14	0.77	ND(0.010)	0.17	5.0D	0.013
	4/4/2012	133	ND(0.0020)	0.0061	0.0039	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.064	0.27D	ND(0.0020)	0.093	0.83D	0.0036
	4/16/2013	133	ND(0.0020)	0.0077	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0055	0.0052	ND(0.0020)	0.0054	0.074	ND(0.0020)
BR-6_ZONE1	12/19/2003	94	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.003	ND(0.0020)	0.14	0.13	ND(0.0020)
	1/5/2005	94	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.026	0.19	ND(0.0025)
	5/3/2005	94	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.0079	ND(0.0050)	0.017	0.36	ND(0.0050)
	1/5/2006	94	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0073	ND(0.0025)	0.024	0.29	ND(0.0025)
	4/3/2006	94	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0053	ND(0.0025)	0.035	0.28	ND(0.0025)
	4/13/2007	94	ND(0.0020)	0.0036	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0044	ND(0.0020)	0.079	0.27	0.0021
	11/14/2007	94	ND(0.0010)	0.0036	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	94	ND(0.0020)	0.0026	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0048	ND(0.0020)	0.054	0.15	ND(0.0020)
	10/23/2008	94	ND(0.0010)	0.0031	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0056	0.011	0.0015
	4/7/2009	94	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.058	0.22	ND(0.0025)
	11/2/2009	94	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.047	0.22	ND(0.0025)
	4/28/2010	94	ND(0.0010)	0.002	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0084	0.0075	0.0014
	10/18/2010	94	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.015	0.17	ND(0.0020)
	4/19/2011	94	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.024	0.26D	ND(0.0050)
	10/27/2011	94	ND(0.0020)	0.0023	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.024	0.20D	ND(0.0020)
	4/2/2012	94	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0035	ND(0.0020)
	4/16/2013	94	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0055	0.012	ND(0.0020)
BR-6_ZONE2	12/19/2003	62	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.012	ND(0.0050)	0.021	0.39	ND(0.0050)
	1/5/2005	62	ND(0.0025)	0.0026	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0077	ND(0.0025)	0.016	0.3	ND(0.0025)
	5/3/2005	62	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0062	ND(0.0025)	0.055	0.24	ND(0.0025)
	1/5/2006	62	ND(0.0025)	0.0026	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.012	ND(0.0025)	0.016	0.33	ND(0.0025)
	4/3/2006	62	ND(0.0025)	0.004	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0095	ND(0.0025)	0.038	0.37	ND(0.0025)
	4/13/2007	62	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.017	ND(0.0050)	0.018	0.46	ND(0.0050)
	11/14/2007	62	ND(0.0010)	0.004	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	0.0011
	4/25/2008	62	ND(0.0025)	0.003	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.009	ND(0.0025)	0.013	0.31	ND(0.0025)
	10/23/2008	62	ND(0.0010)	0.0032	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0046	0.011	0.0014
	4/7/2009	62	ND(0.0025)	0.0025	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.0052	ND(0.0025)	0.013	0.31	ND(0.0025)
	11/2/2009	62	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.04	0.21	ND(0.0025)
	4/28/2010	62	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.014	0.3	ND(0.0025)
	10/18/2010	62	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.046	0.31	ND(0.0050)
	4/19/2011	62	ND(0.013)	ND(0.013)	ND(0.013)	ND(0.013)	ND(0.050)	ND(0.013)	ND(0.013)	ND(0.013)	ND(0.013)	ND(0.013)	ND(0.013)	ND(0.013)	ND(0.013)	0.023	0.37	ND(0.013)
	10/27/2011	62	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.021	0.4	ND(0.0050)
	4/2/2012	62	ND(0.0020)	0.0022	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.11	0.19D	ND(0.0020)
	4/16/2013	62	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.024	0.34	ND(0.0040)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
BR-6_ZONE3	12/22/2003	42	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.014	ND(0.0025)	0.03	0.31	ND(0.0025)
	2/17/2005	42	ND(0.0010)	0.0025	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0011	ND(0.0010)	0.0042	0.045	ND(0.0010)
	5/3/2005	42	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0061	ND(0.0025)	0.039	0.21	ND(0.0025)
	1/5/2006	42	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0092	ND(0.0025)	0.023	0.29	ND(0.0025)
	4/3/2006	42	ND(0.0025)	0.003	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0049	ND(0.0025)	0.019	0.28	ND(0.0025)
	4/13/2007	42	ND(0.0010)	0.0026	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0036	ND(0.0010)	0.046	0.11	ND(0.0010)
	11/14/2007	42	ND(0.0010)	0.0031	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.028	0.031	0.001
	4/25/2008	42	ND(0.0020)	0.0024	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0025	ND(0.0020)	0.044	0.2	0.0022
	10/23/2008	42	ND(0.0025)	0.0029	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.028	0.26	0.0038
	4/7/2009	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.06	0.15	0.0026
	11/2/2009	42	ND(0.0010)	0.001	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0024	ND(0.0010)
	4/28/2010	42	ND(0.0010)	0.002	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.038	0.04	0.0012
	10/18/2010	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0035	0.0057	ND(0.0020)
	4/19/2011	42	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0076	ND(0.0050)
	10/27/2011	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.017	0.061	ND(0.0020)
	4/2/2012	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/16/2013	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.018	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
BR-7_ZONE1	12/22/2003	152	ND(0.0050)	0.016	0.01	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.0054	ND(0.0050)	0.22	0.59	ND(0.0050)
	1/14/2005	152	ND(0.0020)	0.0066	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.005	0.22	ND(0.0020)
	1/4/2006	152	ND(0.0010)	0.0055	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0011	ND(0.0010)	0.074	0.1	ND(0.0010)
	4/20/2007	152	ND(0.0010)	0.0067	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.014	0.076	0.0012
	5/8/2008	152	ND(0.0010)	0.0073	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.036	0.12	0.0013
	4/7/2009	152	ND(0.0010)	0.0069	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.11	0.085	ND(0.0010)
	4/28/2010	152	ND(0.0020)	0.0072	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.18	0.13	ND(0.0020)
	4/14/2011	152	ND(0.0020)	0.0034	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.051	0.012	ND(0.0020)
	4/4/2012	152	ND(0.0020)	0.0069	ND(0.0020)	ND(0.0020)	0.018	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.12	0.0048	ND(0.0020)
	4/16/2013	152	ND(0.0020)	0.0027	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.007	0.0037	ND(0.0020)
BR-7_ZONE2	12/22/2003	112	ND(0.0050)	0.013	0.0094	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.16	0.67	ND(0.0050)
	1/14/2005	112	ND(0.010)	0.01	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	0.028	0.91	ND(0.010)
	1/4/2006	112	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.020)	0.72	ND(0.010)
	4/20/2007	112	ND(0.0010)	0.013	0.0044	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.10DD	0.23DD	0.0012
	5/8/2008	112	ND(0.0010)	0.012	0.0036	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.28	0.26	ND(0.0010)
	4/7/2009	112	ND(0.0050)	0.0055	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.048	0.47	ND(0.0050)
	4/28/2010	112	ND(0.0050)	0.0054	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.039	0.5	ND(0.0050)
	4/14/2011	112	ND(0.0040)	0.0064	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.15	0.2	ND(0.0040)
	4/4/2012	112	ND(0.0040)	0.0069	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.2	0.0093	ND(0.0040)
	4/16/2013	112	ND(0.0020)	0.0085	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.16	0.0068	ND(0.0020)
BR-7_ZONE3	12/22/2003	69	ND(0.0020)	0.0098	0.0024	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.096	0.14	0.0032
	1/14/2005	69	ND(0.010)	0.015	0.02	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.017	ND(0.010)	0.027	1.1	ND(0.010)
	1/4/2006	69	ND(0.010)	0.011	0.011	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	0.032	0.95	ND(0.010)
	4/20/2007	69	ND(0.0025)	0.011	0.0037	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.13	0.3	0.0037
	5/8/2008	69	ND(0.0010)	0.016	0.021	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.011	ND(0.0010)	0.039	1.2D	0.019
	4/7/2009	69	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.029	0.84	ND(0.010)
	4/28/2010	69	ND(0.010)	ND(0.010)	0.012	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.021	1	ND(0.010)
	4/14/2011	69	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.036	1.1	ND(0.020)
	4/4/2012	69	ND(0.010)	ND(0.010)	0.01	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.069	0.74	ND(0.010)
	4/16/2013	69	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020				

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
	7/28/2008	14	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0020)J	0.0061J	0.0027J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	10/21/2008	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0023	0.0017	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/13/2009	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/2/2009	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	7/14/2009	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0025	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0036	0.002	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	1/28/2010	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.001	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/22/2010	14	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.013	0.0073	ND(0.0050)	0.13	0.44	ND(0.0050)
BW-02	1/30/2007	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.006	0.011	ND(0.0010)	ND(0.0020)	0.0052	ND(0.0010)
	4/10/2007	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0021	0.0014	ND(0.0010)	ND(0.0020)	0.0026	ND(0.0010)
	7/19/2007	14.5	0.013	0.012	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0074	ND(0.0020)	0.055	0.14	ND(0.0020)
	11/12/2007	13.3	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0077	0.01	ND(0.0010)	ND(0.0020)	0.0096	ND(0.0010)
	1/24/2008	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0048	0.0014	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/21/2008	13	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.0018J	ND(0.0010)J	ND(0.0010)J	ND(0.0020)J	0.0018J	ND(0.0010)J
	7/28/2008	14	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.0058J	0.0016J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	10/21/2008	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0028	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/13/2009	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.001	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/2/2009	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	7/14/2009	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0037	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0028	0.0014	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	1/28/2010	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0017	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/22/2010	14	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.12	0.4	ND(0.0050)
	1/30/2007	16.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0044	0.0021	ND(0.0010)	ND(0.0020)	0.0087	ND(0.0010)
	4/10/2007	16.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0022	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0029	ND(0.0010)
BW-03	7/19/2007	14.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.040)	ND(0.0020)	ND(0.040)	ND(0.10)	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.6	1.1	ND(0.0020)
	11/12/2007	13.4	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.011	0.014	ND(0.0010)	0.0022	0.021	ND(0.0010)
	1/24/2008	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.006	0.0028	ND(0.0010)	ND(0.0020)	0.002	ND(0.0010)
	4/21/2008	13	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	0.0012J	ND(0.0010)J	ND(0.0020)J	0.0040J	ND(0.0010)J
	7/28/2008	15.5	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.0066J	0.0019J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	10/21/2008	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0019	0.0019	ND(0.0010)	ND(0.0020)	0.0012	ND(0.0010)
	1/13/2009	15.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0017	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/2/2009	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	7/14/2009	15.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0026	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)
	10/27/2009	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.003	0.0018	ND(0.0010)	0.0037	0.0029	ND(0.0010)
	1/28/2010	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.002	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/22/2010	15.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0010)	0.04	0.11	ND(0.0010)
	8/21/2012	15.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	0.0087	0.0026	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0064	0.0039	ND(0.0020)
BW-04	1/30/2007	14	0.046	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.040)	ND(0.0020)	ND(0.040)	ND(0.10)	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.7	1.3	ND(0.0020)
	4/10/2007	14	0.23	0.006	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	0.0053	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.1	0.052	ND(0.0025)
	7/19/2007	13.2	0.088	0.01	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0018	ND(0.0020)	ND(0.0050)	0.0023	0.0038	0.001	0.0043	0.0037	ND(0.0010)
	11/12/2007	12.5	0.0038	0.0081	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0015	0.003	0.003	0.072	0.025	ND(0.0010)
	1/22/2008	12	0.077	0.0074	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0013	ND(0.0020)	ND(0.0050)	0.003	0.0012	ND(0.0010)	0.0043	0.014	ND(0.0010)
	4/21/2008	12	0.47J	0.044J	0.0097J	ND(0.0050)J	---	ND(0.0050)J	ND(0.010)J	ND(0.0050)J	ND(0.010)J	ND(0.025)J	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	0.24J	0.34J	ND(0.0050)J
	7/28/2008	18	0.015J	0.0029J	0.0011J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.024J	0.0074J	ND(0.0010)J	0.036J	0.11J	0.0010J

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
BW-04 (cont.)	10/21/2008	12	0.038	0.02	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0011	ND(0.0010)	0.0032	0.0041	ND(0.0010)
	1/13/2009	13	0.0011	0.0028	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)	0.095	0.065	ND(0.0010)
	4/2/2009	12	0.0054	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.54	0.48	ND(0.0050)
	7/14/2009	13	0.0051	0.005	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.59	0.15	ND(0.0050)
	10/27/2009	12	0.05	0.035	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.3	0.02	ND(0.0025)
	1/28/2010	12	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0010)	0.012	0.016	ND(0.0010)
	4/22/2010	13	0.022	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.74	0.51	ND(0.010)
	7/14/2010	13	ND(0.0010)J	0.0016J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	0.0014J	ND(0.0010)J	0.013J	0.0075J	ND(0.0010)J
	10/12/2010	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0027	0.0044	ND(0.0020)
	1/4/2011	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0024	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.016	0.0081	ND(0.0020)
	4/5/2011	12.5	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.16	0.069	ND(0.0020)
	7/28/2011	13	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.21	0.066	ND(0.0040)
	10/25/2011	12	0.095	0.032	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0023	ND(0.0020)	ND(0.0020)	0.098	0.0031	ND(0.0020)
	1/18/2012	12.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/3/2012	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	8/21/2012	12.3	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.40D	0.16D	ND(0.0020)
	11/28/2012	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.052	0.01	ND(0.0020)
	2/6/2013	12.35	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	0.0084	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/11/2013	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
BW-05	1/30/2007	16	0.14	0.035	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.013	ND(0.0050)	0.65	0.18	ND(0.0050)
	4/10/2007	16	0.56	0.017	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	0.0076	ND(0.010)	ND(0.025)	0.005	ND(0.0050)	ND(0.0050)	0.073	0.059	ND(0.0050)
	7/19/2007	13.3	0.24	0.034	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0026	ND(0.0020)	0.018	0.013	0.0026
	11/12/2007	12.5	0.0028	0.0039	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0012	0.0019	0.0015	ND(0.0020)	0.0015	ND(0.0010)
	1/22/2008	10	4.2	0.26	0.16	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	1.2	2.6	ND(0.050)
	4/21/2008	10	3.9J	0.58J	0.15J	ND(0.050)J	---	ND(0.050)J	ND(0.10)J	ND(0.050)J	ND(0.10)J	ND(0.25)J	ND(0.050)J	ND(0.050)J	ND(0.050)J	2.4J	6.9J	ND(0.050)J
	7/28/2008	15	0.68J	ND(0.050)J	0.12J	ND(0.050)J	---	ND(0.050)J	ND(0.10)J	ND(0.050)J	ND(0.10)J	ND(0.25)J	0.38J	0.32J	ND(0.050)J	2.9J	6.6J	ND(0.050)J
	10/21/2008	9	0.042	0.25	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0040)	0.0021	0.0034
	1/13/2009	15	0.16	0.099	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	5.3	2.8	ND(0.050)
	4/2/2009	9	0.019	0.018	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.004	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)	0.0045	0.021	0.015	ND(0.0010)
	7/14/2009	15	0.018	0.011	ND(0.0010)	0.0011	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0064	0.002	0.002	0.0013	ND(0.0010)	ND(0.0010)
	10/27/2009	9	0.0043	0.17	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0021	0.0025	ND(0.0020)	ND(0.0020)
	1/28/2010	9	ND(0.0010)	0.02	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)	0.0047	0.074	0.011	ND(0.0010)
	4/22/2010	15	0.33	0.02	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.014	ND(0.010)	ND(0.010)	0.73	0.67	ND(0.010)
	7/14/2010	15	ND(0.0010)J	0.0059J	ND(0.0010)J	0.0023J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	0.0010J	0.0050J	ND(0.0010)J	0.052J	0.066J	ND(0.0010)J
	10/12/2010	10	ND(0.0020)	0.0041	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/4/2011	15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0047	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2011	9.5	0.022	0.013	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.86	0.22	ND(0.010)
	7/28/2011	9	ND(0.0020)	0.0049	ND(0.0020)	ND(0.0020)	0.015	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/25/2011	9	1.5D	4.3D	0.02	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0047	ND(0.0020)	0.003	ND(0.0020)	ND(0.0020)	0.97D	0.064	ND(0.0020)
	1/18/2012	9.5	ND(0.0020)	0.021	ND(0.0020)	ND(0.0020)	0.018	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.024	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/3/2012	9	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.005	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	8/21/2012	9.4	0.0022	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	ND(0.0020)	0.019	ND(0.0020)	ND(0.0020)	0.0027	ND(0.0020)	ND(0.0020)	0.02	0.014	ND(0.0020)
	11/28/2012	15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.006	ND(0.0020)
	2/6/2013	9.4	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0025	ND(0.0020)
	4/11/2013	9	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0044	ND(0.0020)
BW-06	7/28/2011	13	0.024	0.038	ND(0.0020)	ND(0.0020)	0.016	ND(0.0020)	ND(0.0020)	0.005	ND(0.0020)	ND(0.0020)	0.0028	ND(0.0020)	ND(0.0020)	0.0059	ND(0.0020)	ND(0.0020)
	10/25/2011	13	3.5D	1.1D	0.06	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.017	ND(0.0020)	0.027	0.019	ND(0.0020)	0.92D	0.1	ND(0.0020)
	1/18/2012	13	0.0027	0.14	ND(0.0020)	0.0028	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.1D	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)
	4/3/2012	13	ND(0.0050)	0.012	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.38	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
BW-06 (cont.)	8/21/2012	13.3	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	0.0065	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0045	0.0027	ND(0.0020)
	11/28/2012	15	ND(0.0020)	0.0023	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0033	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	0.007	ND(0.0020)
	2/6/2013	13.1	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0021	0.002	ND(0.0020)
BW-08	4/11/2013	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0044	0.0023	ND(0.0020)
	4/10/2007	16	0.014	0.61	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.015	ND(0.0050)	ND(0.0050)
	7/19/2007	13.2	1.1	0.45	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.013	0.052	ND(0.010)	0.4	0.2	ND(0.010)
BW-09	11/12/2007	13.7	0.0059	0.076	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	0.0046	ND(0.0050)	ND(0.0010)	0.0021	ND(0.0020)	0.0012	ND(0.0010)	ND(0.0010)
	1/22/2008	14	ND(0.0010)	0.022	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/21/2008	14	3.2J	0.87J	0.14J	ND(0.025)J	---	ND(0.025)J	ND(0.050)J	ND(0.025)J	0.055J	ND(0.13)J	ND(0.025)J	0.034J	ND(0.025)J	0.80J	0.95J	ND(0.025)J
BW-08	7/28/2008	15	0.13J	2.0J	ND(0.025)J	ND(0.025)J	---	ND(0.025)J	ND(0.050)J	ND(0.025)J	0.14J	ND(0.13)J	ND(0.025)J	ND(0.025)J	ND(0.025)J	2.2J	0.90J	0.025J
	10/21/2008	14	ND(0.020)	1.8	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	1.4	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	1/13/2009	15	0.39	0.42	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	0.096	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.78	0.072	ND(0.010)
BW-08	4/2/2009	13	ND(0.0020)	0.02	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.25	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.005	ND(0.0020)	ND(0.0020)	ND(0.0020)
	7/14/2009	15	0.023	0.031	ND(0.0010)	0.0026	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.13J	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0088	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	13	ND(0.010)	0.046	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	1	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
BW-08	1/28/2010	13	0.0053	0.05	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.41	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0058	ND(0.0050)	ND(0.0050)	ND(0.0050)
	4/22/2010	15	2.4	0.12	0.13	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	0.047	ND(0.020)	0.075	0.098	ND(0.020)	1.8	2.2	ND(0.020)
	7/14/2010	15	0.59J	0.56J	ND(0.0050)J	ND(0.0050)J	---	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	0.090J	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	0.045J	0.024J	ND(0.0050)J
BW-08	10/12/2010	14	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.045	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/5/2011	15	ND(0.0020)	0.031	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.051	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2011	13.7	0.09	0.037	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	0.053	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.72	0.19	ND(0.010)
BW-08	7/28/2011	13	ND(0.0020)	0.13	ND(0.0020)	0.0031	0.014	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0023
	10/25/2011	13.5	0.12	0.73D	0.0031	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.24D	ND(0.0020)	0.0096	0.017	ND(0.0020)	0.30D	0.012	ND(0.0020)
	1/18/2012	13.5	ND(0.0020)	3.5D	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.95D	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
BW-08	4/3/2012	13	0.018	0.077	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	2.0D	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	8/21/2012	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	0.0054	0.018	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/28/2012	15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.016	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.044	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.003	ND(0.0020)
BW-08	2/6/2013	13.6	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.021	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/11/2013	17.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.015	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/10/2007	16	0.0036	0.18	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	0.0064	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
BW-09	8/9/2007	12	0.24	0.46	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	0.42	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.056	0.049	ND(0.0050)
	11/12/2007	11.8	0.014	0.22	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	0.065	ND(0.013)	ND(0.0025)	ND(0.0025)	0.0025	0.0053	0.0029	ND(0.0025)
	1/22/2008	12	0.0033	0.019	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
BW-09	4/21/2008	12	2.2J	0.51J	0.086J	ND(0.020)J	---	ND(0.020)J	ND(0.040)J	ND(0.020)J	0.093J	ND(0.10)J	0.027J	0.054J	ND(0.020)J	0.52J	0.58J	ND(0.020)J
	7/28/2008	15	0.27J	1.4J	ND(0.010)J	ND(0.010)J	---	ND(0.010)J	ND(0.020)J	ND(0.010)J	0.094J	ND(0.050)J	ND(0.010)J	0.031J	ND(0.010)J	0.77J	0.46J	ND(0.010)J
	10/21/2008	12	ND(0.020)	0.31	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	2	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
BW-09	1/13/2009	15	0.17	0.22	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.25	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.16	0.019	ND(0.0025)
	4/2/2009	11	0.0022	0.015	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.19	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0024	ND(0.0020)	ND(0.0020)	ND(0.0020)
	7/14/2009	15	0.0051	0.017	ND(0.0010)	0.0024	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.14J	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0087	ND(0.0010)	ND(0.0010)	0.0013
BW-09	10/27/2009	11	ND(0.0050)	0.017	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.62	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0072	ND(0.0050)	ND(0.0050)	ND(0.0050)
	1/28/2010	11	0.0062	0.07	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.46	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.018	ND(0.0050)	ND(0.0050)
	4/22/2010	15	0.33	0.16	0.026	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	0.059	ND(0.010)	ND(0.010)	0.022	ND(0.010)	1.2	1	ND(0.010)
BW-09	7/28/2011	12.5	ND(0.0040)	0.13	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.22	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	10/25/2011	12	0.0094	0.062	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.092	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/18/2012	12	0.012	1.1D	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	3.6D	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
BW-09	4/3/2012	12	0.0067	0.013	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.7D	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	8/21/2012	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	0.0046	0.11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/28/2012	15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.057	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
BW-09	2/6/2013	12.2	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.021	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/11/2013	12.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.025	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
CL02-BR	6/3/2002	60	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.08	1.3	ND(0.020)	ND(0.020)	0.04	ND(0.010)
	6/3/2002	83	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.11	1.3	ND(0.020)	ND(0.020)	0.22	ND(0.010)
	1/23/2003	83	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.010)	0.051	0.75	ND(0.010)	ND(0.010)	0.12	ND(0.0050)
	5/14/2003	83	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.010)	0.045	0.65	ND(0.010)	ND(0.010)	0.075	ND(0.0050)
	12/18/2003	83	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	0.58	ND(0.0050)
	5/2/2004	82	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.06	0.3	ND(0.0050)	ND(0.010)	0.4	ND(0.0050)
	12/29/2004	81	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.012	ND(0.0050)	0.045	0.47	ND(0.0050)
	4/29/2005	81	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.033	0.35	ND(0.0025)	ND(0.0050)	0.054	ND(0.0025)
	1/4/2006	83	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.0058	ND(0.0050)	0.013	0.37	ND(0.0050)
	3/31/2006	84	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.026	ND(0.0025)	0.015	0.28	ND(0.0025)
	2/1/2007	82	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.016	ND(0.0025)	0.05	0.21	ND(0.0025)
	4/11/2007	42	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/14/2007	54	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0073	ND(0.0020)	0.044	0.25	0.0024
	4/24/2008	43	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.026	0.2	ND(0.0020)	ND(0.0040)	0.17	ND(0.0020)
	10/23/2008	42	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.074	ND(0.0025)	0.017	0.27	ND(0.0025)
	4/27/2009	42	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	---	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.011J	0.086J	ND(0.0020)J	ND(0.0020)J	0.16J	ND(0.0020)J
	10/26/2009	75	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.039	0.2	ND(0.0020)
	4/21/2010	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.084	0.15	ND(0.0020)
	10/18/2010	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0038	0.0033	ND(0.0020)
	5/2/2011	80	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.017	ND(0.0050)	ND(0.0050)	0.018	ND(0.0050)
	10/24/2011	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0097	0.035	ND(0.0020)
	4/3/2012	41.5	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.011	ND(0.0040)	0.011	0.2	ND(0.0040)
	11/12/2012	42	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.17	ND(0.0040)	ND(0.0040)	0.29	ND(0.0040)
	5/2/2013	79.6	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.043	0.057	ND(0.0020)
CL03-BR	6/3/2002	95	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	2.5	21	ND(0.20)	ND(0.20)	8.8	ND(0.10)
	6/3/2002	111	ND(0.10)	ND(0.10)	0.1	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	3.3	32E	ND(0.20)	ND(0.20)	14	ND(0.10)
	1/29/2003	111	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.006	0.003	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	111	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/18/2003	111	ND(0.0010)	0.0055	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	111	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0059	0.0026	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/29/2006	111	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0054	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	111	ND(0.0010)	0.004	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.034	0.014	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
CL03-DO	4/24/2008	109	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.015	0.01	ND(0.0010)	ND(0.0020)	ND(0.0010)	0.0031
	6/3/2002	80	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	4.5	30	ND(0.20)	ND(0.20)	12	ND(0.10)
	1/29/2003	80	ND(0.0020)	0.016	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	80	ND(0.0020)	0.026	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/18/2003	80	ND(0.0010)	0.02	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	78	ND(0.0010)	0.034	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	77	ND(0.0010)	0.029	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/29/2006	80	ND(0.0010)	0.036	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	80	ND(0.025)	0.032	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.49	3.1	ND(0.025)	ND(0.050)	2.5	0.19
	11/14/2007	77	ND(0.0010)	0.036	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.008	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/24/2008	78	ND(0.0010)	0.037	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/20/2008	79	ND(0.0010)	0.035	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/2/2009	75	ND(0.0010)	0.033	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	75	ND(0.010)	0.057	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.43	0.23	ND(0.010)	ND(0.010)	0.072	ND(0.010)
	4/20/2010	79	ND(0.0010)	0.035	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.083	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/14/2010	76	ND(0.0020)	0.036	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.028	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
CL03-DO (cont.)	4/4/2011	75	ND(0.0020)	0.03	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.069	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/27/2011	79	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0089	ND(0.0020)	ND(0.0020)	0.0034	ND(0.0020)
	4/6/2012	76	ND(0.020)	0.035	0.024	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	6.0D	15D	ND(0.020)	0.29	6.9D	ND(0.020)
	4/12/2013	76	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	10J	30D	ND(0.20)	1.5J	13	ND(0.20)
CL03-S	6/3/2002	20	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/29/2003	20	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	20	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.005	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0017	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	19	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.004	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/29/2006	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0036	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0026	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/24/2008	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0025	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/20/2008	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.002	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/20/2010	19	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0022	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/4/2011	18	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0038	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2012	18	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0043	0.0075	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/12/2013	18	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0075	0.012	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL04-BR	6/3/2002	40	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.055	0.065	ND(0.0020)	ND(0.0020)	0.094	ND(0.0020)
	6/3/2002	55	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.023	0.04	ND(0.0020)	ND(0.0020)	0.089	ND(0.0020)
	5/14/2003	55	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.04	0.03	ND(0.0020)	ND(0.0020)	0.16	ND(0.0020)
	12/16/2003	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.018	0.022	ND(0.0010)	0.0036	0.13	ND(0.0010)
	4/26/2004	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.015	0.013	ND(0.0010)	ND(0.0020)	0.076	ND(0.0010)
	4/28/2005	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0035	0.0071	ND(0.0010)	ND(0.0020)	0.046	ND(0.0010)
	3/28/2006	57.8	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0011	0.01	ND(0.0010)	0.0032	0.043	ND(0.0010)
	4/11/2007	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.008	ND(0.0010)	ND(0.0020)	0.021	ND(0.0010)
	4/21/2008	54	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	0.0059J	ND(0.0010)J	ND(0.0020)J	0.016J	ND(0.0010)J
	4/3/2009	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0045	ND(0.0010)	ND(0.0010)	0.017	ND(0.0010)
	4/21/2010	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0048	ND(0.0010)	0.0014	0.023	ND(0.0010)
	4/6/2011	54	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.023	ND(0.0020)
	4/4/2012	54.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.036	0.0021
	4/15/2013	54	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.05	ND(0.0020)
CL04-DO	6/3/2002	28	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.005	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	28	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.012	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/16/2003	28	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0041	ND(0.0010)	ND(0.0020)	0.0034	ND(0.0010)
	4/26/2004	28	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.021	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	28	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.019	ND(0.0010)	ND(0.0020)	0.0011	ND(0.0010)
	3/28/2006	27.8	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0011	0.0063	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0072	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/21/2008	28	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.0018J	0.020J	ND(0.0010)J	ND(0.0020)J	0.0017J	ND(0.0010)J
	4/3/2009	27	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0015	0.019	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	28	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0014	0.0083	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/6/2011	27	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.015	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/4/2012	27.3	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0022	0.031	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	28	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.03	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL05-DOA	6/3/2002	40	3.4	0.7	0.5	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	64D	140D	ND(0.20)	ND(0.20)	3.7	ND(0.10)
	6/3/2002	55	4	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(2.0)	75	200	ND(2.0)	ND(2.0)	5	ND(1.0)
	1/29/2003	55	10	0.1	ND(0.10)	ND(0.10)	---	0.6	ND(0.10)	0.2	ND(0.50)	ND(0.20)	ND(0.10)	ND(0.10)	ND(0.20)	ND(0.20)	ND(0.10)	ND(0.10)
	5/13/2003	55	4.3	0.1	ND(0.020)	ND(0.020)	---	0.31	ND(0.020)	0.09	ND(0.10)	ND(0.040)	ND(0.020)	ND(0.020)	ND(0.040)	ND(0.040)	ND(0.020)	ND(0.020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
CL05-DOA (cont.)	12/15/2003	55	7.3	ND(0.050)	ND(0.050)	ND(0.050)	---	0.64	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.050)
	5/2/2004	51	1.5	ND(0.020)	ND(0.020)	ND(0.020)	---	0.14	ND(0.040)	0.036	ND(0.040)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	4/27/2005	51	0.068	0.011	ND(0.0010)	ND(0.0010)	---	0.0052	ND(0.0020)	0.0041	ND(0.0020)	ND(0.0050)	0.018	0.028	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	52	0.018	0.006	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0050)	0.053	0.087	ND(0.0010)	ND(0.0020)	0.015	ND(0.0010)
	4/13/2007	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/23/2008	42	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	49	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	42	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
CL06-BR	5/15/2003	60	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/29/2003	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)
	4/25/2008	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/2/2009	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/22/2010	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/4/2011	68	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/4/2012	68	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	61	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL06-DO	5/15/2003	34	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/29/2003	44	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)
	4/25/2008	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/2/2009	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/22/2010	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/4/2011	41	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/4/2012	41	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	42	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL08-BR_ZONE1	1/5/2005	159	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0011	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/4/2006	159	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/16/2007	159	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	159	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/7/2009	159	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/28/2010	159	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0028	0.0038	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/14/2011	159	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.35D	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/2/2012	159	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL08-BR_ZONE2	4/16/2013	159	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.08	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	1/5/2005	102	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/4/2006	102	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/16/2007	102	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	102	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/7/2009	102	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/28/2010	102	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/14/2011	102	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL08-BR_ZONE3	4/2/2012	102	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/16/2013	102	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/5/2005	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)
	1/4/2006	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/16/2007	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/7/2009	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/28/2010	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.001	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
CL08-DO	12/23/2003	76	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0047	ND(0.0010)	ND(0.0020)	0.0022	ND(0.0010)
	1/4/2005	53	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0020)	0.0014	ND(0.0010)
	1/4/2006	53	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0017	ND(0.0010)	ND(0.0020)	0.0016	ND(0.0010)
	4/15/2007	53	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0015	ND(0.0010)	ND(0.0020)	0.0014	ND(0.0010)
	4/25/2008	58	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0020)	0.0019	ND(0.0010)
	4/6/2009	51	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)
	4/22/2010	52	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)
	4/6/2011	51	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	51.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/12/2013	51.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL09-BR_ZONE1	5/16/2003	160	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	2.8	5.2	ND(0.10)	ND(0.10)	1.7	ND(0.050)
	12/19/2003	160	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.76	1.6	ND(0.020)	0.1	1.3	ND(0.020)
	5/3/2004	160	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	1	1.8	ND(0.025)	0.21	1.6	ND(0.025)
	1/4/2005	160	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.86	1.1	ND(0.020)	0.17	2.2	ND(0.020)
	5/3/2005	160	ND(0.020)	ND(0.020)	0.022	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.56	1	ND(0.020)	0.57	2.6	ND(0.020)
	1/5/2006	160	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.9	2.8	ND(0.020)	0.14	1.2	ND(0.020)
	4/3/2006	160	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.38	0.86	ND(0.025)	0.38	3.2	ND(0.025)
	4/12/2007	160	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.69	1.8	ND(0.050)	0.18	4.6	ND(0.050)
	11/15/2007	160	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	0.69	1.2	ND(0.10)	0.33	10	ND(0.10)
	2/6/2008	160	ND(0.025)J	ND(0.025)J	ND(0.025)J	ND(0.025)J	---	ND(0.025)J	ND(0.050)J	ND(0.025)J	ND(0.050)J	ND(0.13)J	0.59J	0.73J	ND(0.025)J	ND(0.050)J	2.4J	ND(0.025)J
	4/23/2008	160	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.8	2.6	ND(0.020)	ND(0.040)	0.51	ND(0.020)
	10/23/2008	160	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.66	1.3	ND(0.050)	0.18	5.7	ND(0.050)
	4/6/2009	160	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	1.3	2.2	ND(0.025)	ND(0.025)	0.4	ND(0.025)
	11/2/2009	160	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.58	1.1	ND(0.010)	0.069	1	ND(0.010)
	4/21/2010	160	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.7	1.7	ND(0.050)	ND(0.050)	5.7	ND(0.050)
	11/15/2010	160	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.62	1.1	ND(0.10)	0.13	11D	ND(0.10)
	4/14/2011	160	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.97	1.8	ND(0.020)	0.086	1.8	ND(0.020)
	10/24/2011	160	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.83	2.0D	ND(0.020)	ND(0.020)	1	ND(0.020)
	4/2/2012	160	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.66	1.4	ND(0.040)	0.11	6.4D	ND(0.040)
	5/2/2013	160	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.56	1.8	ND(0.10)	ND(0.10)	4.8	ND(0.10)
CL09-BR_ZONE2	6/3/2002	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	0.24	0.5	ND(0.10)	0.2	4.4	ND(0.050)
	5/16/2003	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	0.34	0.86	ND(0.10)	0.8	6.4	ND(0.050)
	12/19/2003	119	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.49	0.85	ND(0.025)	0.58	2.4	ND(0.025)
	5/3/2004	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.36	0.63	ND(0.050)	0.76	3.7	ND(0.050)
	1/4/2005	119	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	0.011	ND(0.020)	ND(0.050)	0.049	0.063	ND(0.010)	0.099	0.77	ND(0.010)
	5/3/2005	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.34	0.62	ND(0.050)	0.68	3.6	ND(0.050)
	1/5/2006	119	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.38	0.86	ND(0.025)	0.4	2.7	ND(0.025)
	4/3/2006	119	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.34	1	ND(0.025)	0.31	2.9	ND(0.025)
	4/12/2007	119	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1	2	ND(0.020)	0.29	2.6	ND(0.020)
	11/15/2007	119	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	0.62	1.2	ND(0.10)	0.34	11	ND(0.10)
	2/6/2008	119	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	---	ND(0.020)J	ND(0.040)J	ND(0.020)J	ND(0.040)J	ND(0.10)J	0.45J	0.76J	ND(0.020)J	0.19J	2.0J	ND(0.020)J
	4/23/2008	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.59	1.2	ND(0.050)	0.28	3.5	ND(0.050)
	10/23/2008	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.61	1.4	ND(0.050)	0.19	5.8	ND(0.050)
	4/6/2009	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.81	1.5	ND(0.050)	0.12	5.9	ND(0.050)
	11/2/2009	119	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	0.43	0.94	ND(0.025)	0.078	2.9	ND(0.025)
	4/21/2010	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.68	1.3	ND(0.050)	0.084	5.2	ND(0.050)
	11/15/2010	119	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.42	0.75	ND(0.10)	0.12	7.7	ND(0.10)
	4/14/2011	119	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.42	0.76	ND(0.10)	0.14	9.8	ND(0.10)
	10/24/2011	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.33	1	ND(0.050)	0.067	2.7	ND(0.050)
	4/2/2012	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.38	0.96	ND(0.050)	0.09	4.5	ND(0.050)
	5/2/2013	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.54	1.6	ND(0.050)	0.075	2.4	ND(0.050)
CL09-BR_ZONE3	6/3/2002	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	0.09	0.13	ND(0.10)	0.9	7.2	ND(0.050)
	5/16/2003	81	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.28	0.4	ND(0.020)	2.5D	0.77	ND(0.010)
	12/19/2003	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	1.2	5.4	ND(0.050)
CL09-BR_ZONE3	5/3/2004	81	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.079	0.16	ND(0.020)	0.91	2.4	ND(0.020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)	
(cont.)	1/4/2005	81	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.11	0.15	ND(0.020)	1.4	0.26	ND(0.020)	
	5/3/2005	81	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.039	0.076	ND(0.020)	1.6	1.1	ND(0.020)	
	1/5/2006	81	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.015	0.04	ND(0.0050)	0.65	0.41	ND(0.0050)	
	4/3/2006	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.15	0.46	ND(0.050)	0.76	6.2	ND(0.050)	
	4/12/2007	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.46	1.4	ND(0.050)	0.1	3.8	ND(0.050)	
	11/15/2007	81	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.20)	ND(0.50)	0.67	1.2	ND(0.10)	0.37	10	ND(0.10)
	2/6/2008	81	ND(0.013)J	ND(0.013)J	ND(0.013)J	ND(0.013)J	---	ND(0.013)J	ND(0.025)J	ND(0.013)J	ND(0.025)J	ND(0.063)J	0.21J	0.51J	ND(0.013)J	ND(0.025)J	1.4DJ	0.014J	
	4/23/2008	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.53	1	ND(0.050)	0.17	4	ND(0.050)	
	10/23/2008	81	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.20)	ND(0.50)	0.53	1	ND(0.10)	0.2	7.2	ND(0.10)
	4/6/2009	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.56	0.84	ND(0.050)	0.11	6.3	ND(0.050)	
	11/2/2009	81	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.21	0.29	ND(0.0050)	0.75	0.62	ND(0.0050)	
	4/21/2010	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.24	0.36	ND(0.050)	ND(0.050)	5.9	ND(0.050)	
	11/15/2010	81	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	---	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.22	0.33	ND(0.040)	0.75	4.1D	ND(0.040)	
	4/14/2011	81	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.048	0.036	ND(0.010)	0.063	0.98	0.016
	10/24/2011	81	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.05	0.09	ND(0.010)	1.2D	1.2D	0.014
	4/2/2012	81	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.12	0.31	ND(0.020)	0.3	2.6D	ND(0.020)
	5/2/2013	81	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.24	0.64	ND(0.050)	0.32	2.6	ND(0.050)
	CL09-DO	6/3/2002	36	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
		1/28/2003	36	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
		5/15/2003	36	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
12/17/2003		36	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.007	0.0079	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
5/1/2004		33	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0037	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
5/2/2005		33	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0020)J	ND(0.0050)J	0.0072J	0.016J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
4/7/2006		31	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0015	0.0044	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
4/12/2007		36	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0017	0.0057	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
4/24/2008		34	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.021	0.029	ND(0.0010)	ND(0.0020)	0.0057	ND(0.0010)	
4/2/2009		35	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.015	0.037	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0010)	
4/21/2010		35	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.024	0.061	ND(0.0010)	ND(0.0010)	0.0024	ND(0.0010)	
4/4/2011		32	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
4/2/2012		32.8	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.073	0.18	ND(0.0020)	ND(0.0020)	0.0061	ND(0.0020)
4/15/2013	32.8	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
CL09-S	6/3/2002	15	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)	0.006	ND(0.0020)	
	5/1/2004	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0013	ND(0.0010)	
	9/24/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
CL10-BR	6/3/2002	47	ND(0.010)	ND(0.010)	0.01	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.57	0.93	ND(0.020)	ND(0.020)	2.3	ND(0.010)	
	5/14/2003	47	ND(0.0020)	ND(0.0020)	0.003	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.16	0.25	ND(0.0040)	ND(0.0040)	0.50D	0.004	
	12/16/2003	47	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.051	ND(0.010)	ND(0.020)	0.73	ND(0.010)	
	4/26/2004	47	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.083	0.13	ND(0.0050)	ND(0.010)	0.5	ND(0.0050)	
	12/30/2004	46	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0064	ND(0.0025)	ND(0.0050)	0.34	ND(0.0025)	
	4/28/2005	46	0.0058	0.0055	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	3/28/2006	44.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	1/31/2007	47	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/10/2007	47	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	11/13/2007	46	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/21/2008	46	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	10/21/2008	46	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0014	0.0016	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/6/2009	44	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0011	0.0023	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
	10/27/2009	44	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
	4/20/2010	46	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
	10/14/2010	45	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	4/5/2011	44	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	10/25/2011	46	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0036	ND(0.0020)	ND(0.0020)	0.0027	ND(0.0020)	
	4/5/2012	44.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	CL10-BR (cont.)	11/12/2012	46	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
4/16/2013		45	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)J	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.						

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
CL10-BR2	4/27/2004	98	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0092	ND(0.0010)
	4/27/2004	115	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0028	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0084	ND(0.0010)
CL10-DO	6/3/2002	37	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	3	6.5	ND(0.10)	ND(0.10)	0.07	ND(0.050)
	5/14/2003	37	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	9.2	16	ND(0.20)	ND(0.20)	2.9	ND(0.10)
	12/16/2003	37	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.8	1.4	ND(0.020)	ND(0.040)	0.03	ND(0.020)
	4/26/2004	32	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	10	10	ND(0.10)	ND(0.20)	1.4	ND(0.10)
	12/30/2004	33	0.0033	0.0019	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	31	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0026	0.0039	ND(0.0010)	ND(0.0020)	0.098	ND(0.0010)
	3/28/2006	32.2	0.0059	0.0055	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	37	0.0034	0.0021	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/10/2007	37	0.004	0.004	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/13/2007	36	0.0031	0.0018	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	36	0.0054	0.0056	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.0022	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/21/2008	36	0.0024	0.002	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/6/2009	30	0.0026	0.0022	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	30	0.0021	0.0019	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	36	0.0045	0.0041	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/14/2010	31	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2011	30	ND(0.0020)	0.0027	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/27/2011	36	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2012	30.5	ND(0.0020)	0.0034	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/12/2012	36	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/16/2013	30	0.0023	0.0033	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)J	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL10-S	6/25/2002	16	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.65	0.21	ND(0.0020)	ND(0.0020)	0.034	ND(0.0020)
	5/14/2003	16	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.025)	0.70D	0.49	ND(0.010)	ND(0.010)	0.078	ND(0.0050)
	12/16/2003	16	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.086	0.0081	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	16	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	1.2	0.23	ND(0.010)	ND(0.020)	0.065	ND(0.010)
	12/30/2004	14	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.32	0.041	ND(0.0050)	ND(0.010)	0.017	ND(0.0050)
	4/28/2005	15	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	1.3	0.19	ND(0.010)	ND(0.020)	0.085	ND(0.010)
	3/28/2006	13.9	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	1.1	0.12	ND(0.010)	ND(0.020)	0.044	ND(0.010)
	10/19/2006	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.044	0.003	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	16	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.38	0.027	ND(0.0050)	ND(0.010)	0.0095	ND(0.0050)
	4/10/2007	16	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	1.3	0.12	ND(0.010)	ND(0.020)	0.056	ND(0.010)
	11/13/2007	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.023	0.0019	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/21/2008	15	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	---	ND(0.020)J	ND(0.040)J	ND(0.020)J	ND(0.040)J	ND(0.10)J	2.2J	0.24J	ND(0.020)J	ND(0.040)J	0.095J	ND(0.020)J
	10/21/2008	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.014	0.0066	ND(0.0010)	ND(0.0020)	0.0019	ND(0.0010)
	4/6/2009	13	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.4	0.12	ND(0.020)	ND(0.020)	0.048	ND(0.020)
	10/27/2009	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0064	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	15	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.64	0.041	ND(0.0050)	ND(0.0050)	0.024	ND(0.0050)
	10/14/2010	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2011	13	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.87	0.032	ND(0.010)	ND(0.010)	0.017	ND(0.010)
	10/25/2011	15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.045	0.0027	ND(0.0020)	ND(0.0020)	0.0096	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
CL10-S (cont.)	4/5/2012	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.13	0.0035	ND(0.0020)	ND(0.0020)	0.0032	ND(0.0020)
	11/12/2012	15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/16/2013	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.3D	0.15	ND(0.0020)	ND(0.0020)	0.033	0.0038
CL11-DO	4/11/2007	49	0.051	0.086	0.042	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.012	0.095	ND(0.0010)	ND(0.0020)	0.0028	ND(0.0010)
	4/23/2008	50	0.029	0.053	0.03	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.01	0.079	ND(0.0010)	ND(0.0020)	0.0025	ND(0.0010)
	4/3/2009	49	0.019	0.034	0.021	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0096	0.07	ND(0.0010)	ND(0.0010)	0.0016	ND(0.0010)
	4/20/2010	50	0.011	0.024	0.017	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0096	0.067	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)
	4/6/2011	49.5	0.0087J	0.021J	0.019J	ND(0.0020)J	0.012J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.0076J	0.067J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J
	4/6/2012	49.5	0.0043	0.0095	0.012	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0059	0.044	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	49	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0056	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/11/2007	23	0.014	0.0063	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0056	0.0046	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
CL11-S	4/23/2008	24	0.016	0.0071	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.013	0.0064	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	24	0.011	0.0029	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.011	0.005	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	24	0.01	0.0026	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.014	0.0061	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/6/2011	23.4	0.0057J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.011J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.0086J	0.0037J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J
	4/6/2012	23.5	0.0077	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	0.0063	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	22	0.0032	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011J	0.0079	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	25	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.003	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	2/26/2003	25	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
CL12-S1	5/15/2003	25	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.003	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0046	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	23	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0049	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	22	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0035	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0037	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/24/2008	23	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0013	0.0041	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/2/2009	22	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0031	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	12/22/2003	80	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/22/2003	105	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/30/2004	80	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/30/2004	101	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
CPI-SUMP	5/8/2006	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.011	0.0018	ND(0.0010)	ND(0.0010)	---	ND(0.0010)
	4/24/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.012	0.0012	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/9/2008	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0084	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/27/2010	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0027	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	5/23/2011	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	5/20/2013	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.011	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	5/15/2003	NA	ND(0.0020)	0.002	0.003	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.019	0.096	ND(0.0020)	ND(0.0020)	0.071	ND(0.0020)
CULVERT_OUTFALL	12/22/2003	NA	ND(0.0010)	0.0019	0.0019	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.02	0.091	ND(0.0010)	ND(0.0020)	0.063	ND(0.0010)
	1/4/2005	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0020)	0.0018	ND(0.0010)
	1/4/2006	NA	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.019	0.082	ND(0.0010)	ND(0.0020)	0.059	ND(0.0010)
	4/15/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0046	0.024	ND(0.0010)	ND(0.0020)	0.018	ND(0.0010)
	4/25/2008	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0088	0.04	ND(0.0010)	ND(0.0020)	0.034	ND(0.0010)
	4/3/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.016	0.077	ND(0.0010)	ND(0.0010)	0.064	ND(0.0010)
	4/28/2010	NA	ND(0.0010)	0.0011	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.016	0.075	ND(0.0010)	ND(0.0010)	0.074	ND(0.0010)
	4/6/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0020)	0.0032	ND(0.0020)
	4/6/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0020)	0.0029	ND(0.0020)
	4/15/2013	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0093	0.056	ND(0.0020)	ND(0.0020)	0.058	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
GZ-1	8/26/2002	NA	ND(0.0020)	0.002	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.004	0.024	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)
	9/18/2002	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.016	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)
	1/28/2003	15	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.017	ND(0.0020)	ND(0.0020)	0.004	ND(0.0020)
	5/14/2003	15	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.019	ND(0.0020)	ND(0.0020)	0.006	ND(0.0020)
	12/23/2003	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0056	ND(0.0010)	ND(0.0020)	0.0031	ND(0.0010)
	5/3/2004	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.002	0.014	ND(0.0010)	ND(0.0020)	0.0031	ND(0.0010)
	4/29/2005	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0016	0.013	ND(0.0010)	ND(0.0020)	0.004	ND(0.0010)
	4/7/2006	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0046	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/13/2007	45	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.001	0.016	ND(0.0010)	ND(0.0020)	0.008	ND(0.0010)
	4/25/2008	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0064	ND(0.0010)	ND(0.0020)	0.0029	ND(0.0010)
	4/3/2009	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.001	0.016	ND(0.0010)	ND(0.0010)	0.0024	ND(0.0010)
	4/20/2010	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.002	0.022	ND(0.0010)	ND(0.0010)	0.0062	ND(0.0010)
	4/5/2011	12	0.0031	0.0044	0.0074	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.17	1.6D	ND(0.0020)	0.0029	0.62D	0.0036
	4/5/2012	12.3	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.18	0.76D	ND(0.010)	ND(0.010)	0.35	ND(0.010)
	4/12/2013	12.4	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.19J	1.3	ND(0.020)	ND(0.020)	0.32	ND(0.020)
GZ-2R	8/26/2002	NA	ND(0.0020)	ND(0.0020)	0.002	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.036	0.30D	ND(0.0020)	ND(0.0020)	0.27	0.003
	9/18/2002	NA	ND(0.0020)	0.002	0.003	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.04	0.18	ND(0.0020)	ND(0.0020)	0.29	0.003
	1/29/2003	14	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.006	0.04	ND(0.0020)	ND(0.0020)	0.037	ND(0.0020)
	5/14/2003	15	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.015	0.091	ND(0.0020)	ND(0.0020)	0.044	ND(0.0020)
	12/22/2003	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.026	0.12	ND(0.0010)	ND(0.0020)	0.057	0.0014
	5/3/2004	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.026	0.1	ND(0.0010)	ND(0.0020)	0.037	ND(0.0010)
	4/29/2005	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0071	0.08	ND(0.0010)	ND(0.0020)	0.044	ND(0.0010)
	4/7/2006	11	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.015	0.37	ND(0.0050)	ND(0.010)	0.29	ND(0.0050)
	4/13/2007	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0042	0.1	ND(0.0010)	ND(0.0020)	0.07	ND(0.0010)
	4/25/2008	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.012	0.26	ND(0.0020)	ND(0.0040)	0.17	ND(0.0020)
	4/3/2009	10	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.0083	0.23	ND(0.0025)	ND(0.0025)	0.17	ND(0.0025)
GZ-4	8/26/2002	NA	0.002	0.006	0.006	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.075	0.30D	ND(0.0020)	0.008	0.13	ND(0.0020)
	5/3/2004	15	0.0012	0.0022	0.001	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.016	0.08	ND(0.0010)	0.0035	0.052	ND(0.0010)
	10/19/2006	NA	0.0037	0.0054	0.0016	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.016	0.094	ND(0.0010)	0.0038	0.087	ND(0.0010)
	4/13/2007	15	0.0021	0.0031	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0086	0.065	ND(0.0010)	ND(0.0020)	0.056	ND(0.0010)
	10/20/2008	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0013	0.019	ND(0.0010)	ND(0.0020)	0.012	ND(0.0010)
	10/26/2009	14	ND(0.0010)	0.003	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0039	0.029	ND(0.0010)	0.0016	0.045	ND(0.0010)
	4/20/2010	14	ND(0.0010)	0.0015	0.0015	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0028	0.044	ND(0.0010)	0.0037	0.069	ND(0.0010)
	10/14/2010	14	ND(0.0020)	0.0046	0.0045	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.047	0.24D	ND(0.0020)	0.0028	0.43D	0.0028
	4/5/2011	14	ND(0.0050)	0.0056	0.0072	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.097	0.78D	ND(0.0050)	0.006	0.55D	ND(0.0050)
	10/25/2011	14	ND(0.0020)	0.0027	0.002	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0037	0.003	ND(0.0020)	0.11	0.36D	0.0021
	4/5/2012	14	ND(0.010)	ND(0.010)	0.01	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.14	0.84	ND(0.010)	ND(0.010)	0.6	ND(0.010)
	11/12/2012	14	ND(0.0020)	0.0049	0.0036	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.2	0.54D	0.0034
	4/11/2013	12	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.11	0.71	ND(0.010)	ND(0.010)	0.7	ND(0.010)
MW-001	1/31/2007	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/13/2007	17	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	17	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/23/2008	17	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
MW-001DO	4/3/2009	17	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	5/5/2004	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/13/2007	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/23/2008	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

[illegible]

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
	4/11/2013	17.2	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0061	0.019	ND(0.0020)	ND(0.0020)	0.0064	ND(0.0020)
MW-006R	5/2/2004	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0015	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
MW-007R	6/3/2002	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.006	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/23/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/2/2004	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	28	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/24/2008	28	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/2/2009	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/28/2010	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
MW-008	6/3/2002	20	0.11	0.01	0.02	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.42	1.2	ND(0.020)	0.2	2	0.04
	1/29/2003	20	2.8	0.04	0.08	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.040)	0.98	0.72	ND(0.040)	0.14	2.7	ND(0.020)
	5/12/2003	20	1.9	0.03	0.05	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.040)	1.1	3.3	ND(0.040)	0.06	4.3	ND(0.020)
	12/17/2003	20	0.092	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	0.31	2.2	ND(0.020)
	4/23/2004	17	2.5	0.082	0.046	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.4	1.2	ND(0.020)	0.13	2.4	0.039
	4/27/2005	18	6.1	0.089	0.051	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.098	0.26	ND(0.050)	ND(0.10)	0.92	ND(0.050)
	3/27/2006	17.1	1.7	0.055	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.039	0.086	ND(0.020)	0.076	1.1	ND(0.020)
	4/23/2008	19	2.8	0.18	0.096	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	ND(0.020)	0.05	ND(0.020)	0.18	0.24	ND(0.020)
	4/3/2009	17	1.3	1.3	0.066	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	0.18	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	5.1	1.5	ND(0.050)
	4/20/2010	19	3	0.38	0.15	ND(0.025)	---	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	0.07	0.087	ND(0.025)	2.1	2.5	ND(0.025)
	4/6/2011	16.9	0.92J	0.21J	0.055J	ND(0.020)J	ND(0.10)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	0.023J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	1.3J	0.50J	ND(0.020)J
	4/4/2012	17	0.1	0.9	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	0.64	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	8/21/2012	16.8	0.034	0.24	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.41	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
	11/28/2012	19	ND(0.0040)	0.084	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.21	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	2/6/2013	16.8	0.45	0.4	0.014	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.17	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.19	0.054	ND(0.0050)
	4/11/2013	17.9	0.42	1.1D	0.029J	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.32	ND(0.0050)	0.044	0.029	ND(0.0050)	0.93D	0.19	ND(0.0050)
MW-009	6/13/2002	20	ND(0.010)	ND(0.010)	0.01	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	5.8D	2.2	ND(0.020)	0.03	0.62	ND(0.010)
	1/23/2003	20	0.02	0.01	0.03	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	3.8D	13D	ND(0.020)	0.06	1.3	ND(0.010)
	5/12/2003	20	0.04	0.03	0.05	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	10D	29D	ND(0.020)	0.1	2.3	ND(0.010)
	12/15/2003	20	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	1.8	6	ND(0.050)	ND(0.10)	1.9	ND(0.050)
	4/23/2004	18	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	---	ND(0.25)	ND(0.50)	ND(0.25)	ND(0.50)	ND(1.3)	9.2	22N	ND(0.25)	ND(0.50)	1.9	ND(0.25)
	4/27/2005	20	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	---	ND(0.25)	ND(0.50)	ND(0.25)	ND(0.50)	ND(1.3)	18	29	ND(0.25)	ND(0.50)	1.9	ND(0.25)
	3/27/2006	20.3	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	14	19	ND(0.20)	ND(0.40)	1.7	ND(0.20)
	1/30/2007	20	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	0.16	0.76	ND(0.10)	ND(0.20)	9.6	0.1
	4/10/2007	20	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	---	ND(0.25)	ND(0.50)	ND(0.25)	ND(0.50)	ND(1.3)	ND(0.25)	ND(0.25)	ND(0.25)	1.3	26	0.27
	7/19/2007	21.2	0.03	0.01	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.001	0.0016	0.0016	0.016	0.021	0.019
	11/12/2007	20	0.0035	0.0018	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.017	ND(0.0020)	ND(0.0050)	0.0028	0.0078	ND(0.0010)	0.057	0.11	0.0024
	1/23/2008	20	0.001	0.0051	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.01	0.011	0.0087
	4/21/2008	20	0.0068J	0.011J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	0.0077J	0.014J	0.0061J
	7/28/2008	19	ND(0.0010)J	0.070J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	0.0026J	0.0087J	0.0091J	0.0023J
	10/21/2008	20	0.0018	0.041	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	0.0092	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.0016	0.022	0.0072	ND(0.0010)
	1/14/2009	19	ND(0.0010)	0.0025	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.014	ND(0.0010)	ND(0.0010)	0.0015	ND(0.0010)	0.007	0.0061	ND(0.0010)
	4/2/2009	20	ND(0.0010)	0.003	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0099	ND(0.0010)	ND(0.0010)	0.0015	ND(0.0010)	0.0036	0.0053	ND(0.0010)
	7/14/2009	19	0.0018	0.011	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0065	0.047	0.0018	0.026	0.043	0.0018
	10/27/2009	20	ND(0.0010)	0.0028	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0056	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.005	0.0059	0.0014
	1/28/2010	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0020							

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)	
	10/25/2011	20	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0096	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.016	0.02	ND(0.0020)	
	1/17/2012	20	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.006	ND(0.0020)	ND(0.0020)	0.0034	ND(0.0020)	0.0093	0.039	ND(0.0020)	
	4/3/2012	20	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0029	ND(0.0020)	ND(0.0020)	0.0061	ND(0.0020)	0.012	0.027	ND(0.0020)	
	8/21/2012	19.7	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0020)	0.003	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0027	ND(0.0020)	0.0058	0.016	ND(0.0020)	
	11/28/2012	19	ND(0.0020)	0.003	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0048	ND(0.0020)	0.0045	0.019	ND(0.0020)	0.11	0.13D	0.0032	
	2/6/2013	20	ND(0.0020)	0.0083	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0052	ND(0.0020)	0.0058	0.023	ND(0.0020)	0.45D	0.60D	0.0029	
	4/11/2013	19	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.022	ND(0.010)	0.63	0.74	ND(0.010)	
	6/13/2002	10	ND(0.0020)	ND(0.0020)	0.002	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.2	0.067	ND(0.0020)	0.011	0.13	ND(0.0020)	
	1/23/2003	10	0.026	0.008	0.032	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.003	ND(0.010)	ND(0.010)	1.0D	1.6D	ND(0.0020)	0.093	2.6D	0.01	
MW-009A	5/12/2003	10	0.004	ND(0.0020)	0.014	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.3	0.41D	ND(0.0020)	0.070D	0.90D	0.006	
	12/15/2003	10	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0024	0.003	ND(0.0010)	ND(0.0020)	0.003	ND(0.0010)	
	4/23/2004	9	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.15	0.28	ND(0.0025)	ND(0.0050)	0.14	ND(0.0025)	
	4/27/2005	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.016	0.014	ND(0.0010)	ND(0.0020)	0.01	ND(0.0010)	
	3/27/2006	13.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.062	0.084	ND(0.0010)	ND(0.0020)	0.1	ND(0.0010)	
	4/10/2007	10	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0018	0.0021	ND(0.0010)	ND(0.0020)	0.0021	ND(0.0010)	
	4/21/2008	13	0.034J	0.0011J	0.0022J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.094J	0.11J	ND(0.0010)J	ND(0.0020)J	0.020J	ND(0.0010)J	
	10/22/2008	13	0.0013	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.011	0.015	ND(0.0010)	0.0046	0.014	ND(0.0010)	
	4/3/2009	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
	10/26/2009	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
	4/20/2010	9	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.01	0.0084	ND(0.0010)	ND(0.0010)	0.016	ND(0.0010)	
	10/12/2010	9	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	4/4/2011	13.4	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0041	0.0049	ND(0.0020)	0.0033	0.062	ND(0.0020)	
	10/26/2011	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0049	0.012	ND(0.0020)	0.097	0.13	ND(0.0020)	
	4/3/2012	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0033	ND(0.0020)	
	11/13/2012	9	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	4/15/2013	13.3	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	MW-010	5/13/2003	40	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
		5/13/2003	50	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
		12/23/2003	40	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
12/23/2003		50	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
MW-013	6/3/2002	20	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	3.7	9	ND(0.20)	ND(0.20)	0.3	ND(0.10)	
	6/3/2002	35	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	1.8	1.1	ND(0.020)	ND(0.020)	0.18	ND(0.010)	
	6/3/2002	55	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.040)	3.7	3.4	ND(0.040)	ND(0.040)	0.6	ND(0.020)	
	1/27/2003	55	1.8	0.02	ND(0.020)	ND(0.020)	---	4.7	0.02	3.5	ND(0.10)	0.14	0.42	ND(0.020)	ND(0.040)	ND(0.040)	ND(0.020)	ND(0.020)	
	5/13/2003	55	0.71	0.02	ND(0.010)	ND(0.010)	---	2.2	0.01	1.6	ND(0.050)	0.05	0.07	ND(0.010)	ND(0.020)	ND(0.020)	ND(0.010)	ND(0.010)	
	12/16/2003	55	0.44	ND(0.010)	ND(0.010)	ND(0.010)	---	0.76	ND(0.020)	0.7	ND(0.020)	ND(0.050)	1.2	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)	
	5/1/2004	40	0.26	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.47	ND(0.010)	0.26	ND(0.010)	ND(0.025)	0.022	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)	
	4/28/2005	55	0.03	0.0014	ND(0.0010)	ND(0.0010)	---	0.043	ND(0.0020)	0.042	ND(0.0020)	ND(0.0050)	0.072	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	3/31/2006	39	0.025	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	0.047	ND(0.0050)	0.025	ND(0.0050)	ND(0.013)	0.26	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)	
	4/10/2007	55	0.026	ND(0.025)	ND(0.025)	ND(0.025)	---	0.033	ND(0.050)	0.036	ND(0.050)	ND(0.13)	2.7	2.2	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.025)	
	11/13/2007	39	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	9.9	5.9	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.10)	
	4/22/2008	54	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	0.026	ND(0.040)	ND(0.10)	2.3	1.4	ND(0.020)	ND(0.040)	0.12	ND(0.020)	
	4/3/2009	42	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	21	12	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	
	4/21/2010	54	1.2	ND(0.020)	ND(0.020)	ND(0.020)	---	2.2	ND(0.020)	0.24	ND(0.020)	ND(0.020)	0.074	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	
	10/14/2010	54	0.77D	0.0072	ND(0.0020)	ND(0.0020)	---	2.7D	0.014	0.30D	ND(0.0020)	0.0061	0.0037	ND(0.0020)	0.003	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	4/14/2011	44	0.25D	0.0041	ND(0.0020)	ND(0.0020)	0.024	0.73D	0.0076	0.17	ND(0.0020)	0.0022	0.062	0.0075	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	10/27/2011	41	0.25	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	0.42	0.0053	0.24	ND(0.0050)	ND(0.0050)	0.0066	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	
	4/5/2012	53	0.27	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	0.38	0.0051	0.31	ND(0.0050)	ND(0.0050)							

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
	4/28/2005	60	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0034	0.1	ND(0.0010)	ND(0.0020)	0.12	ND(0.0010)
	3/31/2006	59	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0039	0.066	ND(0.0010)	ND(0.0020)	0.028	ND(0.0010)
	4/11/2007	61	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.005	0.24	ND(0.0020)	ND(0.0040)	0.04	ND(0.0020)
	4/22/2008	60	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.009	0.49	ND(0.0050)	ND(0.010)	0.057	ND(0.0050)
	4/3/2009	60	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.42	ND(0.0050)	ND(0.0050)	0.054	ND(0.0050)
	4/20/2010	60	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.007	0.44	ND(0.0050)	ND(0.0050)	0.054	ND(0.0050)
	4/4/2011	59	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.005	0.38D	ND(0.0020)	ND(0.0020)	0.065	ND(0.0020)
	4/5/2012	59	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0027	0.16D	ND(0.0020)	0.0023	0.06	ND(0.0020)
	4/17/2013	58.8	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.41	ND(0.0050)	ND(0.0050)	0.087	ND(0.0050)
	5/2/2004	19	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
MW-030	1/4/2005	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2005	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/29/2005	21	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/7/2006	19	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	2/1/2007	21	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	21	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/16/2007	19	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/22/2008	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/9/2009	20	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
MW-032	6/25/2002	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.005	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/15/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.019	0.0025	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	23	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.015	0.0014	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.015	0.0014	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.013	0.0012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
MW-033B	4/11/2007	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.005	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	6/13/2002	25	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	25	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2004	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	26	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/23/2008	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/9/2009	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/5/2011	24.8	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2012	24.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	19	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
MW-034	1/14/2005	NA	ND(0.010)	0.014	0.017	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	0.092	1.2	0.019
	1/4/2006	65	ND(0.010)	0.011	0.016	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.012	0.27	ND(0.010)	ND(0.020)	1.1	ND(0.010)
	4/20/2007	65	ND(0.010)	0.01	0.017	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.01	0.19	ND(0.010)	ND(0.020)	1.1	ND(0.010)
	4/24/2008	64	ND(0.010)	0.013	0.02	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.015	0.22	ND(0.010)	0.024	1	ND(0.010)
	4/9/2009	NA	ND(0.010)	ND(0.010)	0.014	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.013	0.21	ND(0.010)	0.013	1.1	ND(0.010)
	4/28/2010	64	ND(0.010)	ND(0.010)	0.013	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.11	ND(0.010)	0.014	1.1	ND(0.010)
	4/7/2011	64	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.10)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	0.14J	ND(0.020)J	0.020J	1.2J	ND(0.020)J
	4/4/2012	63	ND(0.020)	ND(0.020)	0.021	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.16	ND(0.020)	0.022	1.3	ND(0.020)
	4/16/2013	63	ND(0.020)	ND(0.020)	0.02	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.089	ND(0.020)	0.026	1.6	ND(0.020)
MW-035	12/22/2003	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/4/2005	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/4/2006	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/15/2007	57.6	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/24/2008	56.6	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/1/2009	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
MW-036	6/3/2002	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	56	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.006	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/24/2003	56	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.007	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/15/2003	56	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.005	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.001	0.0051	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	53	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0014	0.0063	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	53	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0013	0.0048	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	53	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.001	0.0036	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.001	0.0053	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0042	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/2/2009	51	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0039	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	55	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.25	0.59	ND(0.0050)	ND(0.0050)	0.22	ND(0.0050)
	4/4/2011	51	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.54	1.2D	ND(0.010)	0.017	0.42	ND(0.010)
	4/6/2012	51.8	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.75	1.8	ND(0.020)	0.061	0.8	ND(0.020)
	4/12/2013	51.7	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.2J	2.3D	ND(0.020)	0.14J	1.2	ND(0.020)
MW-104R	6/3/2002	10	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.006	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	27	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.01	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
MW-1_32-TOZER	2/24/2011	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.010)	0.013	0.62D	ND(0.0050)	ND(0.0050)	0.046	ND(0.0050)
	4/6/2012	18	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0067	0.41	ND(0.0050)	ND(0.0050)	0.098	ND(0.0050)
	4/16/2013	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)J	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.11	ND(0.0020)
MW-2_32-TOZER	2/24/2011	NA	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(2.5)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.50)	ND(0.50)	11	1.8	ND(0.25)	ND(0.25)	3.4	ND(0.25)
	11/8/2011	NA	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(2.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.40)	ND(0.40)	10	1.5	ND(0.20)	ND(0.20)	3.7	ND(0.20)
	4/6/2012	17.3	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	12	1.8	ND(0.20)	ND(0.20)	3.3	ND(0.20)
	11/28/2012	19	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	16	4.3	ND(0.20)	ND(0.20)	4.6	ND(0.20)
MW-3_32-TOZER	4/16/2013	17	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)J	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	6.7	3.8	ND(0.10)	ND(0.10)	4.6	ND(0.10)
	2/24/2011	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020)	0.039	0.012	ND(0.0010)	ND(0.0010)	0.013	ND(0.0010)
	4/6/2012	18.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
MW-4_32-TOZER	11/8/2011	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020)	0.0044	0.0025	ND(0.0010)	ND(0.0010)	0.066	ND(0.0010)
	11/12/2012	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/16/2013	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)J	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
MW-5_32-TOZER	11/8/2011	NA	ND(0.0010)	0.0026	ND(0.0010)	ND(0.0010)	0.028	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0020)	0.0051	0.019	ND(0.0010)	ND(0.0010)	0.0038	ND(0.0010)
	11/12/2012	14	ND(0.0020)	0.0														

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
	3/28/2006	79	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	90	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	89	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/1/2009	89	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	89	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/4/2011	77	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/3/2012	88	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/12/2013	77.3	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
OB-04-DO	6/3/2002	55	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.005	0.016	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	70	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/24/2003	70	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.007	ND(0.0020)	ND(0.0020)	0.016	ND(0.0020)
	5/14/2003	55	ND(0.0020)L	ND(0.0020)L	ND(0.0010)L	ND(0.0020)L	---	ND(0.0020)L	ND(0.0020)L	ND(0.0020)L	ND(0.010)L	ND(0.010)L	ND(0.0020)L	0.0070L	ND(0.0020)L	ND(0.0020)L	0.0040L	ND(0.0020)L
	5/14/2003	70	ND(0.0020)L	ND(0.0020)L	ND(0.0010)L	ND(0.0020)L	---	ND(0.0020)L	ND(0.0020)L	ND(0.0020)L	ND(0.010)L	ND(0.010)L	0.0040L	0.0090L	ND(0.0020)L	ND(0.0020)L	0.031L	ND(0.0020)L
	12/16/2003	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0023	0.0074	ND(0.0010)	ND(0.0020)	0.012	ND(0.0010)
	12/16/2003	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0043	0.011	ND(0.0010)	ND(0.0020)	0.016	ND(0.0010)
	4/27/2004	68	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.016	0.033	ND(0.0010)	ND(0.0020)	0.0086	ND(0.0010)
	4/29/2005	68	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.025	0.05	ND(0.0010)	ND(0.0020)	0.007	ND(0.0010)
	3/28/2006	68	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.024	0.057	ND(0.0010)	ND(0.0020)	0.0074	ND(0.0010)
	4/12/2007	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.032	0.062	ND(0.0010)	ND(0.0020)	0.014	ND(0.0010)
	4/22/2008	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0014	0.0044	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/1/2009	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.035	0.07	ND(0.0010)	ND(0.0010)	0.038	ND(0.0010)
	4/20/2010	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.054	0.1	ND(0.0010)	ND(0.0010)	0.027	ND(0.0010)
	4/4/2011	67	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.04	0.094	ND(0.0020)	ND(0.0020)	0.043	ND(0.0020)
	4/3/2012	67	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.059	0.14	ND(0.0020)	0.011	0.091	ND(0.0020)
	4/12/2013	67	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.075	0.16	ND(0.0020)	0.013	0.086	ND(0.0020)
OB-04-S	6/3/2002	25	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.003	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/24/2003	25	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	25	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/16/2003	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.006	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2004	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0042	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	23	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0011	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/1/2009	23	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	9/24/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0022	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	24	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/4/2011	23	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/3/2012	23.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
OB-05-BR	4/12/2013	23.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	95	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	0.3	3.3	ND(0.20)	ND(0.20)	9	ND(0.10)
	6/3/2002	110	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	0.3	3.2	ND(0.20)	ND(0.20)	9.1	ND(0.10)
	1/24/2003	110	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	0.08	0.14	ND(0.10)	ND(0.10)	5.2	ND(0.050)
	5/14/2003	110	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.040)	ND(0.020)	0.05	ND(0.040)	ND(0.040)	4.3	ND(0.020)
	12/16/2003	110	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	ND(0.025)	ND(0.025)	ND(0.025)	0.11	2.5	ND(0.025)
	4/27/2004	105	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.029	0.19	ND(0.020)	0.23	2.4	ND(0.020)
	12/30/2004	95	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.49	0.48	ND(0.0050)
	4/29/2005	105	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	1.3	0.049	ND(0.010)
	1/4/2006	110	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	0.77	0.079	ND(0.010)
	3/29/2006	107	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.43	0.059	ND(0.0050)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-05-BR (cont.)	2/1/2007	105	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	1.3	1	ND(0.020)
	4/12/2007	110	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.72	0.39	ND(0.0050)
	11/14/2007	100	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.43	0.12	ND(0.0050)
	4/22/2008	109	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.12	0.064	ND(0.0010)
	4/1/2009	106	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.084	0.036	ND(0.0010)
	10/26/2009	104	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.067	0.026	ND(0.0010)
	4/20/2010	109	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.24	1.2	ND(0.010)
	10/12/2010	109	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.41	0.48	ND(0.0050)
	4/4/2011	104	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.004	ND(0.0040)	0.22	0.032	ND(0.0040)
	10/24/2011	109	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0042	ND(0.0020)	0.086	0.013	ND(0.0020)
	4/3/2012	104	ND(0.0020)	0.0022	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.11	0.0069	ND(0.0020)
	4/12/2013	104	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	0.0085	ND(0.0020)
OB-05-DO	6/3/2002	75	ND(0.010)	0.01	0.01	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.13	1.9	ND(0.020)	ND(0.020)	0.88	ND(0.010)
	6/3/2002	86	ND(0.010)	0.01	0.01	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.29	2.1	ND(0.020)	ND(0.020)	0.64	ND(0.010)
	1/24/2003	86	ND(0.0050)	ND(0.0050)	0.006	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.010)	0.052	0.44	ND(0.010)	ND(0.010)	0.83	ND(0.0050)
	5/14/2003	86	ND(0.0020)	0.007	0.007	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.043	0.51	ND(0.0040)	ND(0.0040)	0.29	ND(0.0020)
	12/16/2003	86	ND(0.0025)	0.0046	0.0039	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.047	0.27	ND(0.0025)	ND(0.0050)	0.13	ND(0.0025)
	4/27/2004	83	ND(0.0025)	0.0047	0.004	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.089	0.33	ND(0.0025)	ND(0.0050)	0.12	ND(0.0025)
	12/30/2004	70	ND(0.0025)	0.0048	0.0045	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.074	0.35	ND(0.0025)	ND(0.0050)	0.094	ND(0.0025)
	4/29/2005	85	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.11	0.44	ND(0.0050)	ND(0.010)	0.096	ND(0.0050)
	1/4/2006	86	ND(0.0025)	0.0032	0.0029	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.083	0.29	ND(0.0025)	ND(0.0050)	0.073	ND(0.0025)
	3/29/2006	83	ND(0.0025)	0.0042	0.0031	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.08	0.32	ND(0.0025)	ND(0.0050)	0.077	ND(0.0025)
	2/1/2007	82	ND(0.0050)	0.01	0.011	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.1	0.41	ND(0.0050)	ND(0.010)	0.098	ND(0.0050)
	4/12/2007	86	ND(0.0050)	0.012	0.014	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.12	0.43	ND(0.0050)	ND(0.010)	0.098	ND(0.0050)
	11/14/2007	82	ND(0.0025)	0.008	0.0087	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.074	0.28	ND(0.0025)	ND(0.0050)	0.086	ND(0.0025)
	4/22/2008	85	ND(0.0050)	0.014	0.016	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.12	0.44	ND(0.0050)	ND(0.010)	0.13	ND(0.0050)
	4/1/2009	81	ND(0.0050)	0.014	0.014	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.13	0.47	ND(0.0050)	ND(0.0050)	0.11	ND(0.0050)
	10/26/2009	81	ND(0.0050)	0.011	0.0096	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.16	0.69	ND(0.0050)	ND(0.0050)	0.23	ND(0.0050)
	4/20/2010	85	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.52	1.4	ND(0.010)	ND(0.010)	0.4	ND(0.010)
	10/12/2010	81.5	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	---	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.47	1.9	ND(0.040)	ND(0.040)	0.48	ND(0.040)
	4/4/2011	81	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.87	3.0D	ND(0.020)	ND(0.020)J	0.76	ND(0.020)
	10/24/2011	81	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.99	2.7D	ND(0.010)	0.026	1.0D	ND(0.010)
	4/3/2012	81.3	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.6	1.8	ND(0.020)	ND(0.020)	0.44	ND(0.020)
	4/12/2013	81.5	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.85	3	ND(0.040)	ND(0.040)	0.72	ND(0.040)
OB-05-S	6/3/2002	30	ND(0.0020)	0.004	0.003	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.005	0.031	ND(0.0020)	ND(0.0020)	0.007	ND(0.0020)
	9/18/2002	NA	ND(0.0020)	0.005	0.004	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	2/20/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.005	0.023	ND(0.0020)	ND(0.0020)	0.004	ND(0.0020)
	5/14/2003	30	ND(0.0020)	ND(0.0020)	0.002	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.01	0.056	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)
	12/16/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0016	0.0056	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2004	27	ND(0.0010)	0.002	0.0019	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.011	0.043	ND(0.0010)	ND(0.0020)	0.0063	ND(0.0010)
	4/29/2005	26	ND(0.0010)	0.0037	0.0033	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.018	0.073	ND(0.0010)	ND(0.0020)	0.011	ND(0.0010)
	3/29/2006	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.006	0.025	ND(0.0010)	ND(0.0020)	0.0033	ND(0.0010)
	4/11/2007	15	ND(0.0020)	0.0024	0.003	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.07	0.26	ND(0.0020)	ND(0.0040)	0.088	ND(0.0020)
	4/12/2007	30	ND(0.0010)	0.0012	0.001	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0023	ND(0.0020)	ND(0.0050)	0.0053	0.02	ND(0.0010)	ND(0.0020)	0.0033	ND(0.0010)
	4/22/2008	29	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0068	ND(0.0020)	ND(0.0050)	0.015	0.051	ND(0.0010)	ND(0.0020)	0.011	ND(0.0010)
	10/20/2008	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0011	0.0028	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/1/2009	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.002	0.0068	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/26/2009	25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0043	0.014	ND(0.0010)	ND(0.0010)	0.0028	ND(0.0010)
	10/12/2010	25	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0043	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/4/2011	25	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0022	0.0036	ND(0.0020)	ND(0.0020)J	ND(0.0020)	ND(0.0020)
	10/24/2011	27	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0034	0.0053	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/3/2012	25	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0024	0.0024	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-06-BR	6/3/2002	95	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	1.4	1.8	ND(0.020)	ND(0.020)	0.1	ND(0.010)
	6/3/2002	102	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	1.2	1.2	ND(0.020)	ND(0.020)	0.07	ND(0.010)
	1/29/2003	102	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.79	1.7	ND(0.020)	ND(0.020)	0.23	ND(0.010)
	5/15/2003	102	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.88	1.9	ND(0.020)	ND(0.020)	0.49	ND(0.010)
	12/17/2003	102	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.76	1.1	ND(0.010)	ND(0.020)	0.35	ND(0.010)
	5/1/2004	100	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.73	1.1	ND(0.010)	ND(0.020)	0.34	ND(0.010)
	12/30/2004	100	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.6	0.96	ND(0.010)	ND(0.020)	0.14	ND(0.010)
	5/2/2005	101	ND(0.010)J	ND(0.010)J	ND(0.010)J	ND(0.010)J	---	ND(0.010)J	ND(0.020)J	ND(0.010)J	ND(0.020)J	ND(0.050)J	0.60J	1.0J	ND(0.010)J	ND(0.020)J	0.12J	ND(0.010)J
	1/4/2006	102	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.73	0.93	ND(0.010)	ND(0.020)	0.11	ND(0.010)
	4/7/2006	102	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.23	0.49	ND(0.0050)	ND(0.010)	0.097	ND(0.0050)
	2/1/2007	102	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.02	ND(0.0010)
	4/13/2007	102	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.44	1.2	ND(0.010)	ND(0.020)	0.48	ND(0.010)
	11/14/2007	100	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.46	ND(0.0050)	ND(0.010)	0.16	0.0062
	4/23/2008	99	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0038	ND(0.0010)
	4/2/2009	99	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.22	0.46	ND(0.0050)	ND(0.0050)	0.15	ND(0.0050)
	10/26/2009	99	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.12	0.22	ND(0.0025)	ND(0.0025)	0.07	ND(0.0025)
	4/22/2010	101	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.12	0.22	ND(0.0025)	ND(0.0025)	0.04	ND(0.0025)
	10/12/2010	101	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.061	0.19	ND(0.0020)	ND(0.0020)	0.023	ND(0.0020)
	4/5/2011	99	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0028	0.0025	ND(0.0020)	0.029	0.074	ND(0.0020)
	10/24/2011	101	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.07	0.14	ND(0.0020)	ND(0.0020)	0.019	ND(0.0020)
	4/3/2012	89	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.049	0.14	ND(0.0020)	ND(0.0020)	0.023	ND(0.0020)
	4/12/2013	100	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.069	0.11	ND(0.0020)	ND(0.0020)	0.038	ND(0.0020)
OB-06-DO	6/3/2002	65	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.023	ND(0.010)	ND(0.010)	0.036	0.15	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)
	6/3/2002	76	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	0.01	ND(0.050)	ND(0.020)	0.02	0.69	ND(0.020)	ND(0.020)	0.03	ND(0.010)
	1/29/2003	76	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.019	ND(0.0020)
	5/15/2003	76	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.07	ND(0.0020)
	12/17/2003	76	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.011	0.011	ND(0.0050)	ND(0.010)	0.44	ND(0.0050)
	5/1/2004	66	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0033	ND(0.0010)	ND(0.0020)	0.021	ND(0.0010)
	12/30/2004	74	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0043	0.014	ND(0.0010)	0.0023	0.051	ND(0.0010)
	5/2/2005	66	ND(0.0025)J	ND(0.0025)J	ND(0.0025)J	ND(0.0025)J	---	ND(0.0025)J	ND(0.0050)J	ND(0.0025)J	ND(0.0050)J	ND(0.013)J	0.026J	0.063J	ND(0.0025)J	0.0073J	0.28J	ND(0.0025)J
	1/4/2006	76	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0034	ND(0.0010)	ND(0.0020)	0.055	ND(0.0010)
	4/7/2006	65	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.013	0.079	ND(0.0050)	0.014	0.62	ND(0.0050)
	2/1/2007	76	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0011	ND(0.0010)	0.0022	0.034	ND(0.0010)
	4/13/2007	76	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0037	ND(0.0010)	0.005	0.066	ND(0.0010)
	11/14/2007	65	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.012	ND(0.010)	0.045	1.1	ND(0.010)
	4/23/2008	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.024	0.041	ND(0.0010)
	10/20/2008	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0021	0.0037	ND(0.0010)	0.041	0.14	ND(0.0010)
	4/2/2009	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0039	0.015	ND(0.0010)	0.0099	0.076	ND(0.0010)
	10/26/2009	65	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.044	0.1	ND(0.020)	0.031	1.5	ND(0.020)
	4/22/2010	75	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.18	0.35	ND(0.010)	0.013	0.97	ND(0.010)
	10/12/2010	65.5	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.045	0.096	ND(0.020)	0.075	1.8	ND(0.020)
	4/5/2011	65	ND(0.0020)	ND(0.0020)	0.0034	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.110	0.310	ND(0.0020)	0.027	1.20	0.0044
	10/24/2011	75	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.25	0.49	ND(0.010)	0.014	0.77	ND(0.010)
	4/3/2012	65.6	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.013	0.033	ND(0.010)	0.15	0.59	ND(0.010)
	4/12/2013	63.6	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.16	0.25	ND(0.010)	0.012	0.57	ND(0.010)
OB-07-DO	8/26/2002	NA	0.002	0.012	0.013	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.14	0.400	ND(0.0020)	ND(0.0020)	0.13	ND(0.0020)
	5/14/2003	40	ND(0.0050)	0.009	0.012	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.010)	0.2	0.77	ND(0.010)	ND(0.010)	0.16	ND(0.0050)
	12/19/2003	40	ND(0.0050)	0.0054	0.0063	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.16	0.43	ND(0.0050)	ND(0.010)	0.1	ND(0.0050)
	5/3/2004	38	ND(0.0050)	0.0074	0.0089	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.22	0.61	ND(0.0050)	ND(0.010)	0.15	ND(0.0050)
	12/30/2004	38	ND(0.0050)	0.0077	0.0093	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.16	0.5	ND(0.0050)	ND(0.010)	0.13	ND(0.0050)
	4/29/2005	38	ND(0.0050)	0.0087	0.0093	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.53	ND(0.0050)	ND(0.010)	0.15	ND(0.0050)
	3/29/2006	37	ND(0.0050)	0.0063	0.0057	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.14	0.45	ND(0.0050)	ND(0.010)	0.16	ND(0.0050)
	2/1/2007	40	ND(0.0050)	0.0093	0.0088	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.13	0.48	ND(0.0050)	ND(0.010)	0.18	ND(0.0050)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-07-DO (cont.)	4/11/2007	40	ND(0.0050)	0.01	0.012	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.17	0.54	ND(0.0050)	ND(0.010)	0.17	ND(0.0050)
	11/13/2007	36	0.0052	0.011	0.013	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.61	ND(0.0050)	ND(0.010)	0.21	ND(0.0050)
	4/22/2008	39	ND(0.0050)	0.0095	0.013	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.17	0.54	ND(0.0050)	ND(0.010)	0.2	ND(0.0050)
OB-08-DO	4/2/2009	36	ND(0.0050)	0.0075	0.0092	ND(0.0050)	---	ND(0.0050)	ND(0.050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.16	0.54	ND(0.0050)	ND(0.0050)	0.2	ND(0.0050)
	8/26/2002	NA	ND(0.0020)	0.038	0.036	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.50D	2.1D	ND(0.0020)	0.018	0.60D	0.004
	5/15/2003	80	ND(0.010)	0.05	0.08	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.44	3.1	ND(0.020)	0.03	0.96	ND(0.010)
	12/18/2003	80	ND(0.025)	ND(0.025)	0.029	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.41	2.1	ND(0.025)	ND(0.050)	0.84	ND(0.025)
	5/3/2004	79	ND(0.020)	ND(0.020)	0.031	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.28	1.9	ND(0.020)	ND(0.040)	0.91	ND(0.020)
	1/4/2005	79	ND(0.025)	ND(0.025)	0.027	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.57	2.7	ND(0.025)	ND(0.050)	0.95	ND(0.025)
	4/29/2005	79	ND(0.020)	0.02	0.029	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.41	2	ND(0.020)	ND(0.040)	0.79	ND(0.020)
	1/4/2006	80	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.49	2.2NN	ND(0.020)	ND(0.040)	0.92	ND(0.020)
	4/7/2006	79	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.41	2	ND(0.020)	ND(0.040)	1	ND(0.020)
	2/1/2007	80	ND(0.025)	ND(0.025)	0.028	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.41	2.3	ND(0.025)	ND(0.050)	1.2	ND(0.025)
	4/11/2007	80	ND(0.025)	ND(0.025)	0.033	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.39	2.2	ND(0.025)	ND(0.050)	1.2	ND(0.025)
	11/13/2007	78	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.5	2.4	ND(0.025)	ND(0.050)	1.2	ND(0.025)
	4/21/2008	79	ND(0.020)J	ND(0.020)J	0.027J	ND(0.020)J	---	ND(0.020)J	ND(0.040)J	ND(0.020)J	ND(0.040)J	ND(0.10)J	0.57J	2.6J	ND(0.020)J	ND(0.040)J	1.1J	ND(0.020)J
	4/3/2009	79	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.51	2.6	ND(0.020)	ND(0.020)	1.4	ND(0.020)
	10/27/2009	78	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.46	2.2	ND(0.020)	ND(0.020)	1.5	ND(0.020)
	4/28/2010	79	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.46	2.3	ND(0.020)	ND(0.020)	1.1	ND(0.020)
	10/18/2010	78	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.42	2.5D	ND(0.020)	ND(0.020)	1.2	ND(0.020)
	11/15/2010	77	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	---	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.38	2.4	ND(0.040)	ND(0.040)	1.1	ND(0.040)
	4/5/2011	77	ND(0.0020)	0.013	0.02	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.26D	1.9D	ND(0.0020)	0.0084	2.2D	0.0089
	10/25/2011	79	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.34	2.2	ND(0.040)	ND(0.040)	1.1	ND(0.040)
	4/3/2012	77	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.37	2.5	ND(0.040)	ND(0.040)	1.2	ND(0.040)
	4/11/2013	78	ND(0.0050)	0.0061	0.015	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.43	3.3D	ND(0.0050)	0.0052	1.5D	0.0062
OB-08-S	8/26/2002	NA	ND(0.0020)	0.002	0.002	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.045	0.20D	ND(0.0020)	ND(0.0020)	0.086	0.002
	5/3/2004	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.041	0.16	ND(0.0020)	ND(0.0040)	0.048	ND(0.0020)
	10/19/2006	NA	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.054	0.26	ND(0.0025)	ND(0.0050)	0.1	ND(0.0025)
	11/13/2007	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.010)	ND(0.010)	0.028	0.14	ND(0.0020)	ND(0.0040)	0.063	ND(0.0020)
	4/21/2008	14	ND(0.0025)J	0.0026J	0.0034J	ND(0.0025)J	---	ND(0.0025)J	ND(0.0050)J	ND(0.0025)J	ND(0.0050)J	ND(0.013)J	0.079J	0.28J	ND(0.0025)J	ND(0.0050)J	0.10J	ND(0.0025)J
	10/20/2008	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.056	0.26	ND(0.0020)	ND(0.0040)	0.092	ND(0.0020)
	4/3/2009	12	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.075	0.31	ND(0.0025)	ND(0.0025)	0.11	ND(0.0025)
	10/27/2009	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.029	0.15	ND(0.0020)	ND(0.0020)	0.062	ND(0.0020)
	4/28/2010	14	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.044	0.21	ND(0.0025)	ND(0.0025)	0.066	ND(0.0025)
	10/18/2010	12	ND(0.0020)	0.0028	0.0028	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.09	0.45D	ND(0.0020)	ND(0.0020)	0.23D	ND(0.0020)
	11/15/2010	12	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.069	0.38	ND(0.0050)	ND(0.0050)	0.16	ND(0.0050)
	4/5/2011	12	ND(0.0020)	0.0022	0.0028	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.081	0.39D	ND(0.0020)	ND(0.0020)	0.12	ND(0.0020)
	10/25/2011	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.038	0.15	ND(0.0020)	ND(0.0020)	0.042	ND(0.0020)
	4/2/2012	12	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.056	0.28	ND(0.0050)	ND(0.0050)	0.1	ND(0.0050)
	11/12/2012	14	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.058	0.27	ND(0.0050)	ND(0.0050)	0.12	ND(0.0050)
	4/11/2013	12	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.074	0.36	ND(0.0050)	ND(0.0050)	0.082	ND(0.0050)
OB-09-BR	6/3/2002	110	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	4.6	9.6	ND(0.20)	ND(0.20)	0.7	ND(0.10)
	6/3/2002	122	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	3.9	9.2	ND(0.20)	ND(0.20)	1.6	ND(0.10)
	1/23/2003	122	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	ND(0.050)	0.1	ND(0.10)	0.4	7.1	ND(0.050)
	5/12/2003	122	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	1	1.6	ND(0.10)	ND(0.10)	10	ND(0.050)
	12/15/2003	122	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	0.66	5.7	ND(0.050)
	4/23/2004	120	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.99	1.2	ND(0.050)	0.13	5.9	ND(0.050)
	12/29/2004	119	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.27	0.35	ND(0.050)	0.17	3.8	ND(0.050)
	4/27/2005	120	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.72	1.3	ND(0.025)	0.13	2.7	ND(0.025)
	12/30/2005	122	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	0.34	2.8	ND(0.020)
	3/27/2006	104.7	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.054	0.073	ND(0.0050)	ND(0.010)	0.43	0.0066
	1/31/2007	122	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	0.29	4.8	ND(0.050)
	4/10/2007	122	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	ND(0.025)	ND(0.025)	ND(0.025)	1.8	2.3	ND(0.025)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-09-BR (cont.)	7/19/2007	116	0.0013	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.048	0.082	ND(0.0010)	0.0028	0.06	0.014
	8/9/2007	116	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	0.32	4.6	ND(0.050)
	11/12/2007	105.6	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.001	ND(0.0010)	0.038	0.032	ND(0.0010)
	1/22/2008	119	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.018	0.015	ND(0.0010)
	4/21/2008	118	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	---	ND(0.0020)J	ND(0.0040)J	ND(0.0020)J	ND(0.0040)J	ND(0.010)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.12J	0.24J	ND(0.0020)J
	7/29/2008	121	ND(0.0025)J	ND(0.0025)J	ND(0.0025)J	ND(0.0025)J	---	ND(0.0025)J	ND(0.0050)J	ND(0.0025)J	ND(0.0050)J	ND(0.013)J	ND(0.0025)J	ND(0.0025)J	ND(0.0025)J	0.17J	0.36J	ND(0.0025)J
	10/22/2008	118	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	0.21	1.2	ND(0.010)
	1/14/2009	121	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.23	0.91	ND(0.010)
	4/9/2009	118	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	0.016	ND(0.0020)	ND(0.0020)	0.23	0.01
	7/14/2009	121	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	0.068	0.069	ND(0.025)	0.24	3.6	ND(0.025)
	10/28/2009	121	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.45	0.66	ND(0.050)	0.1	5.3	ND(0.050)
	1/28/2010	118	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.011	0.018	ND(0.0050)	0.0081	0.4	0.015
	4/22/2010	121	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.35	0.66	ND(0.050)	0.14	5.5	ND(0.050)
	7/14/2010	121	ND(0.025)J	ND(0.025)J	0.031J	ND(0.025)J	---	ND(0.025)J	ND(0.025)J	ND(0.025)J	ND(0.025)J	ND(0.025)J	0.049J	0.054J	ND(0.025)J	0.23J	4.9J	0.031J
	10/12/2010	117	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.18	0.27	ND(0.10)	0.1	7.9	ND(0.10)
	1/5/2011	121	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.22	6.5	ND(0.10)
	4/6/2011	117.7	ND(0.010)	ND(0.010)	0.021	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.025	0.01	ND(0.010)	0.28	5.5D	ND(0.010)
	7/28/2011	117	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.55	1.2	ND(0.10)	0.15	6.5	ND(0.10)
	10/25/2011	121	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	1.6	1.1	ND(0.040)
	1/18/2012	121	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.046	1.4	0.033
	4/3/2012	117	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	1.9	3.2	ND(0.040)	ND(0.040)	2.5	ND(0.040)
	8/21/2012	100	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	1.6	2.1	ND(0.040)	0.041	7.7D	ND(0.040)
	11/28/2012	121	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	2.6	3.1	ND(0.050)	ND(0.050)	2.9	ND(0.050)
	2/6/2013	101	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	2.1	3.1	ND(0.10)	ND(0.10)	4.7	ND(0.10)
	4/11/2013	120	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	2.4	3.1	ND(0.050)	ND(0.050)	2.7	ND(0.050)
OB-09-DO	6/3/2002	85	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	4.1	4.7	ND(0.050)	ND(0.10)	3.3	ND(0.050)
	6/3/2002	96	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	4.7	5.7	ND(0.10)	ND(0.10)	3.2	ND(0.050)
	1/23/2003	96	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	0.27	0.9	ND(0.10)	ND(0.10)	9.7	ND(0.050)
	5/12/2003	96	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	ND(0.010)	ND(0.010)	ND(0.020)	0.46	2.3	ND(0.010)
	12/15/2003	96	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.064	0.23	ND(0.025)	ND(0.050)	1.9	ND(0.025)
	4/23/2004	94	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.072	0.074	ND(0.010)	ND(0.020)	0.89	ND(0.010)
	12/29/2004	94	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.029	ND(0.010)	0.043	1.4	ND(0.010)
	4/27/2005	64	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	0.0051	ND(0.010)	ND(0.025)	0.051	0.073	ND(0.0050)	ND(0.010)	0.4	ND(0.0050)
	12/30/2005	96	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.28	0.84	ND(0.020)	0.089	1.9	ND(0.020)
	3/27/2006	94.25	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.8	2.1	ND(0.020)	0.062	1.5	ND(0.020)
	1/31/2007	96	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.23	0.58	ND(0.050)	0.24	7.1	ND(0.050)
	4/10/2007	96	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.18J	0.50J	ND(0.0050)
	7/19/2007	95	0.0047	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0026	ND(0.0010)	0.12	0.068	ND(0.0010)
	11/12/2007	93.9	ND(0.0010)	0.0014	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0025	0.0027	ND(0.0010)
	1/22/2008	93	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0027	ND(0.0010)	0.01	0.0049	ND(0.0010)
	4/21/2008	93	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	0.0034J	ND(0.0010)J	ND(0.0020)J	0.0059J	ND(0.0010)J
	7/29/2008	95	ND(0.0010)J	ND(0.0010)J	0.0017J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	0.0042J	ND(0.0010)J	0.089J	0.14J	ND(0.0010)J
	10/22/2008	93	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.1	0.017	ND(0.0010)
	1/13/2009	95	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.59	0.12	ND(0.0050)
	4/9/2009	92	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0025	0.014	ND(0.0010)	ND(0.0010)	0.007	ND(0.0010)
	7/14/2009	95	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.97	0.11	ND(0.010)
	10/28/2009	95	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.87	0.06	ND(0.010)
	1/28/2010	92	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0022	0.0043	ND(0.0010)
	4/22/2010	95	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.3	0.21	ND(0.0025)
	7/14/2010	95	ND(0.0010)J	0.0033J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	0.033J	0.0059J	ND(0.0010)J
	10/12/2010	93	ND(0.0050)	0.0071	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.42	0.064	ND(0.0050)
	1/5/2011	95	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.3	0.35	ND(0.020)
	4/6/2011	92.3	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	1.4D	0.45	ND(0.010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-09-DO (cont.)	7/28/2011	92	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	2	0.57	ND(0.040)
	10/25/2011	92	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.41	1	ND(0.040)	0.15	5.1D	ND(0.040)
	1/18/2012	92	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	1.9	1.6	ND(0.040)
	4/3/2012	92	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	1.9	2	ND(0.040)
	8/21/2012	92	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.8D	1.4	ND(0.020)
	11/28/2012	95	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.1	0.27	ND(0.020)
	2/6/2013	87.2	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.5	1.4	ND(0.020)
	4/11/2013	94	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.5	1.8	ND(0.020)
OB-09-S	6/3/2002	30	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	4.9	41D	ND(0.20)	ND(0.20)	3	ND(0.10)
	1/23/2003	30	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	5.3	44D	ND(0.20)	0.3	4.5	ND(0.10)
	5/12/2003	30	ND(0.10)	ND(0.10)	0.1	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	8.4	46D	ND(0.20)	0.4	7	ND(0.10)
	12/15/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.072	0.1	ND(0.0010)	ND(0.0020)	0.0073	ND(0.0010)
	4/23/2004	30	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	21	46	ND(0.50)	ND(1.0)	4.1	ND(0.50)
	12/29/2004	30	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	18	45	ND(0.50)	ND(1.0)	4.4	ND(0.50)
	4/27/2005	30	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	25	48	ND(0.50)	ND(1.0)	4	ND(0.50)
	12/30/2005	30	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	30	53	ND(0.50)	ND(1.0)	4.2	ND(0.50)
	3/27/2006	28.5	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	28	50	ND(0.50)	ND(1.0)	4.6	ND(0.50)
	1/30/2007	30	0.041	0.013	0.0021	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	0.019	ND(0.010)	0.002	0.0074	ND(0.0020)	0.071	0.17	ND(0.0020)
	4/10/2007	30	0.027	0.07	0.025	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.18	2.8	ND(0.020)	0.48	1	ND(0.020)
	7/19/2007	29.1	0.48	0.67	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	2.4	0.64	ND(0.020)
	11/12/2007	27.9	0.0019	0.031	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.017	ND(0.0020)	ND(0.0050)	0.019	0.064	ND(0.0010)	0.062	0.059	0.0021
	1/24/2008	29	ND(0.0050)	0.053	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.016	0.068	ND(0.0050)	0.55	0.54	0.021
	4/21/2008	28	ND(0.050)J	0.087J	ND(0.050)J	ND(0.050)J	---	ND(0.050)J	ND(0.10)J	ND(0.050)J	ND(0.10)J	ND(0.25)J	ND(0.050)J	ND(0.050)J	ND(0.050)J	5.4J	7.0J	0.068J
	7/29/2008	29	0.030J	0.36J	ND(0.010)J	ND(0.010)J	---	ND(0.010)J	ND(0.020)J	ND(0.010)J	0.035J	ND(0.050)J	ND(0.010)J	ND(0.010)J	ND(0.010)J	1.2J	0.28J	0.043J
	10/22/2008	28	0.36	0.59	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	0.2	ND(0.025)	0.014	0.071	ND(0.0050)	0.13	0.063	0.017
	1/13/2009	29	0.039	0.38	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	0.13	ND(0.010)	0.012	0.062	ND(0.010)	1.2	0.43	0.02
	4/9/2009	27.5	0.055	0.023	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	0.024J	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.9	1.4	ND(0.020)
	7/14/2009	29	0.002	0.049	ND(0.0010)	0.0011	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.046J	ND(0.0010)	0.0045	0.035	0.0049	0.073	0.025	0.0037
	10/28/2009	29	ND(0.0050)	0.078	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.046	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.63	0.24	0.0056
	1/28/2010	27.5	ND(0.0050)	0.097	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.042	ND(0.0050)	ND(0.0050)	0.009	ND(0.0050)	0.49	0.15	0.0098
	4/22/2010	29	0.014	0.046	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0036	0.029	ND(0.0010)	0.0019	0.029	ND(0.0010)	0.14	0.048	0.0047
	7/14/2010	29	0.019J	0.25DJ	ND(0.0010)J	0.0024J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	0.087J	ND(0.0010)J	0.0018J	0.0035J	ND(0.0010)J	0.020J	0.020J	0.0024J
	10/12/2010	27	0.0045	0.053	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.023	0.061	0.0021
	1/5/2011	29	ND(0.0020)	0.0089	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.04	ND(0.0020)	ND(0.0020)	0.0074	ND(0.0020)	0.0054	0.0065	ND(0.0020)
	4/5/2011	26.5	0.018	0.039	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.047	ND(0.0020)	ND(0.0020)	0.003	ND(0.0020)	0.076	0.081	0.0028
	7/28/2011	26	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0025	0.019	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.044	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0031	0.0063	ND(0.0020)
	10/25/2011	23	0.14	0.89D	0.0042	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.45D	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.095	0.018	ND(0.0020)
	1/18/2012	23.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.56D	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0037	ND(0.0020)
	4/3/2012	23	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.27	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	8/21/2012	23	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0059	ND(0.0020)	ND(0.0020)	0.0048	ND(0.0020)	ND(0.0020)	0.0027	ND(0.0020)
	11/28/2012	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0082	ND(0.0020)	0.0077	0.033	ND(0.0020)	0.0037	0.017	ND(0.0020)
	2/6/2013	23.1	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0056	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.019	ND(0.0020)
	4/11/2013	23	ND(0.0020)	0.0024	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	0.003	ND(0.0020)	0.035	0.023	ND(0.0020)
OB-10-BR	6/3/2002	65	ND(0.010)	0.03	0.03	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.03	0.57	ND(0.020)	ND(0.020)	1	ND(0.010)
	6/3/2002	76	ND(0.010)	0.04	0.04	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.03	0.52	ND(0.020)	0.03	1.4	ND(0.010)
	1/23/2003	76	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.027	ND(0.0020)	ND(0.0020)	0.006	ND(0.0020)
	5/13/2003	76	ND(0.0020)	ND(0.0020)	0.002	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.011	0.11	ND(0.0020)	0.002	0.61D	ND(0.0020)
	12/15/2003	76	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	ND(0.025)	0.1	ND(0.025)	ND(0.050)	2	ND(0.025)
	4/23/2004	76	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.024	0.069	ND(0.020)	ND(0.040)	2.1	ND(0.020)
	4/27/2005	75	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.072	0.73	ND(0.010)	0.048	1.4	ND(0.010)
	3/27/2006	77	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.76	3	ND(0.025)	ND(0.050)	0.74	ND(0.025)
	4/14/2007	76	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.82	3.1	ND(0.025)	ND(0.050)	1.4	ND(0.025)
	1/24/2008	74	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.52	2.2	ND(0.020)	ND(0.040)	1.7	ND(0.020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)	
OB-10-BR (cont.)	4/23/2008	75	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.19	1.1	ND(0.010)	0.082	1.3	ND(0.010)	
	4/3/2009	74	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.31	1.7	ND(0.020)	0.034	1.6	ND(0.020)	
	4/21/2010	75	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.079	0.51	ND(0.020)	0.04	2.9	ND(0.020)	
	4/5/2011	73.4	ND(0.0020)	0.0032	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0043	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	4/6/2012	73	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.25	1.6	ND(0.020)	ND(0.020)	0.3	ND(0.020)	
	4/12/2013	71	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	2.00J	4.8D	ND(0.020)	ND(0.020)	0.51	ND(0.020)	
OB-10-DO	6/3/2002	35	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.029	0.71D	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	
	6/3/2002	50	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.015	0.63D	ND(0.0020)	ND(0.0020)	0.015	ND(0.0020)	
	1/23/2003	50	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.006	0.54D	ND(0.0020)	ND(0.0020)	0.018	ND(0.0020)	
	5/13/2003	50	ND(0.0020)	ND(0.0020)	0.001	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.004	0.55D	ND(0.0020)	ND(0.0020)	0.079	ND(0.0020)	
	12/15/2003	50	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.38	ND(0.0050)	ND(0.010)	0.28	ND(0.0050)	
	4/23/2004	48	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0069	0.61	ND(0.0050)	ND(0.010)	0.021	ND(0.0050)	
	4/27/2005	48	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.018	0.64	ND(0.0050)	ND(0.010)	0.03	ND(0.0050)	
	3/27/2006	47	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.026	0.66	ND(0.0050)	ND(0.010)	0.029	ND(0.0050)	
	4/16/2007	49	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.028	0.8	ND(0.010)	ND(0.020)	0.047	ND(0.010)	
	8/9/2007	48	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.026	0.78	ND(0.010)	ND(0.020)	0.062	ND(0.010)	
	11/13/2007	47	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.024	0.38	ND(0.0050)	ND(0.010)	0.55	ND(0.0050)	
	1/24/2008	46	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.034	0.9	ND(0.010)	ND(0.020)	0.092	ND(0.010)	
	4/23/2008	49	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.024	0.81	ND(0.010)	ND(0.020)	0.11	ND(0.010)	
	7/29/2008	49	ND(0.010)J	ND(0.010)J	ND(0.010)J	ND(0.010)J	---	ND(0.010)J	ND(0.020)J	ND(0.010)J	ND(0.020)J	ND(0.050)J	0.030J	0.91J	ND(0.010)J	ND(0.020)J	0.12J	ND(0.010)J	
	10/22/2008	48	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.01	0.35	ND(0.0050)	ND(0.010)	0.48	ND(0.0050)	
	1/13/2009	49	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.017	0.39	ND(0.0050)	ND(0.0050)	0.4	ND(0.0050)	
	4/1/2009	46	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.034	1.1	ND(0.010)	ND(0.010)	0.66	ND(0.010)	
	7/14/2010	48.5	ND(0.010)J	ND(0.010)J	ND(0.010)J	ND(0.010)J	---	ND(0.010)J	ND(0.010)J	ND(0.010)J	ND(0.010)J	ND(0.010)J	0.020J	1.2J	ND(0.010)J	ND(0.010)J	0.16J	0.014J	
	10/13/2010	46	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	1.1D	0.014	
	1/5/2011	48.5	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.37	ND(0.010)	ND(0.010)	0.69	0.014	
	4/6/2011	46	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.17	ND(0.010)	ND(0.010)	0.76	0.013	
	7/28/2011	46	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.013	0.87	ND(0.010)	ND(0.010)	0.4	0.017
	10/26/2011	48.5	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.25	ND(0.010)	ND(0.010)	0.81	0.019	
	1/18/2012	46	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.013	0.92	ND(0.010)	ND(0.010)	0.38	0.023
	4/4/2012	46	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.3	ND(0.010)	ND(0.010)	0.74	0.021
	OB-10-S	6/3/2002	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.005	0.013	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
		1/23/2003	30	ND(0.0020)	0.007	0.008	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.03	0.18	ND(0.0020)	0.032	1.2D	ND(0.0020)
		5/13/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.006	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
		12/15/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0014	0.029	ND(0.0010)	ND(0.0020)	0.0054	ND(0.0010)
		4/23/2004	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0014	0.0069	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
		4/27/2005	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0025	0.0098	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
		3/27/2006	29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
4/16/2007		29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
8/9/2007		29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
11/13/2007		27	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
1/25/2008		31	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
4/25/2008		NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
7/29/2008		29	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J	
10/22/2008		27	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
1/13/2009		29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
4/1/2009		29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
7/14/2009		29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
10/27/2009		29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
1/28/2010		29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
4/22/2010		29	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
7/14/2010		29	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	
10/13/2010		29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-10-S (cont.)	1/5/2011	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2011	31	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	7/28/2011	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/26/2011	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/18/2012	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/4/2012	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0081	0.02	ND(0.0020)	ND(0.0020)	ND(0.0020)
	8/21/2012	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	0.004	ND(0.0020)
	11/28/2012	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0038	0.03	ND(0.0020)	ND(0.0020)	0.0092
	2/6/2013	29.1	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0023	0.024	ND(0.0020)	ND(0.0020)	0.0079
	5/2/2013	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0051	0.032	ND(0.0020)	ND(0.0020)	0.0093
OB-11-BR	6/3/2002	70	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.038	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	87	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.041	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/27/2003	87	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.008	ND(0.0020)	ND(0.0020)	0.034	ND(0.0020)
	5/12/2003	87	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.007	ND(0.0020)	ND(0.0020)	0.045	ND(0.0020)
	12/16/2003	87	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0028	ND(0.0010)	ND(0.0020)	0.035	ND(0.0010)
	5/1/2004	87	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.013	ND(0.0010)
	4/28/2005	86	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0085	ND(0.0010)	ND(0.0020)	0.05	ND(0.0010)
	3/27/2006	87	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.011	ND(0.0010)	ND(0.0020)	0.065	ND(0.0010)
	4/11/2007	86	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0034	ND(0.0010)	0.0048	0.034	ND(0.0010)
	4/22/2008	85	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.004	ND(0.0010)	0.0092	0.035	0.002
	4/3/2009	85	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0031	ND(0.0010)	0.004	0.022	0.0021
	4/6/2011	86.1	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.010)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.0064J	ND(0.0020)J	0.0027J	0.036J	0.0045J
	4/5/2012	86	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0032	ND(0.0020)	ND(0.0020)	0.045	0.0051
	4/17/2013	82	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0037	ND(0.0020)	ND(0.0020)	0.047	0.0058
OB-11-DO	6/3/2002	50	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	62	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.088	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/27/2003	62	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.02	ND(0.0020)	ND(0.0020)	0.057	ND(0.0020)
	5/12/2003	62	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.037	ND(0.0020)	ND(0.0020)	0.041	ND(0.0020)
	12/16/2003	62	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.04	ND(0.0010)	ND(0.0020)	0.052	ND(0.0010)
	5/1/2004	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.032	ND(0.0010)	ND(0.0020)	0.045	ND(0.0010)
	4/28/2005	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.065	ND(0.0010)	ND(0.0020)	0.023	ND(0.0010)
	3/27/2006	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.098	ND(0.0010)	ND(0.0020)	0.04	ND(0.0010)
	4/11/2007	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.076	ND(0.0010)	ND(0.0020)	0.031	ND(0.0010)
	4/22/2008	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.073	ND(0.0010)	ND(0.0020)	0.023	ND(0.0010)
	4/3/2009	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.065	ND(0.0010)	ND(0.0010)	0.023	ND(0.0010)
	4/6/2011	59.8	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.010)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.075J	ND(0.0020)J	ND(0.0020)J	0.021J	ND(0.0020)J
	4/5/2012	59	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.083	ND(0.0020)	ND(0.0020)	0.021	ND(0.0020)
	4/17/2013	60	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.084	ND(0.0020)	ND(0.0020)	0.027	ND(0.0020)
OB-11-S	6/3/2002	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/27/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/12/2003	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/16/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0011	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/27/2006	28	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	29	ND(0.0010)	ND(0														

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-12-BR (cont.)	5/13/2004	86	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/3/2006	87	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0022	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	88	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0012	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/16/2007	87	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	8/9/2007	82	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/13/2007	89	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/24/2008	84	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	87	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0026	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	7/29/2008	87	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	0.0011J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	10/22/2008	87	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0011	0.0022	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/13/2009	87	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0016	0.023	ND(0.0010)	0.0013	0.037	ND(0.0010)
	4/1/2009	84	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0021	0.051	ND(0.0010)	0.002	0.084	ND(0.0010)
OB-12-DO	6/3/2002	45	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(2.0)	3	140	ND(2.0)	ND(2.0)	3	ND(1.0)
	6/3/2002	59	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(2.0)	2	120	ND(2.0)	ND(2.0)	4	ND(1.0)
	1/27/2003	59	ND(0.10)	ND(0.10)	0.2	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	0.4	33D	ND(0.20)	ND(0.20)	91D	ND(0.10)
	5/13/2003	59	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(2.0)	ND(1.0)	19	ND(2.0)	ND(2.0)	100	ND(1.0)
	12/16/2003	59	ND(0.0010)	0.0062	ND(0.0010)	0.0033	---	ND(0.0010)	ND(0.0020)	0.0014	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	55	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	1.6	94	ND(1.0)	ND(2.0)	11	ND(1.0)
	4/28/2005	60	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	2.3	63	ND(0.50)	ND(1.0)	22	ND(0.50)
	4/3/2006	53	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	1.8	35	ND(0.50)	ND(1.0)	17	ND(0.50)
	1/31/2007	60	ND(0.0010)	0.0094	ND(0.0010)	0.004	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/16/2007	59	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	1.8	7.8	ND(0.10)	ND(0.20)	1.3	ND(0.10)
	8/9/2007	48	ND(0.0010)	0.0068	ND(0.0010)	0.0025	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/13/2007	59	ND(0.0010)	0.0074	ND(0.0010)	0.003	---	ND(0.0010)	ND(0.0020)	0.0032	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/25/2008	49	ND(0.0010)	0.0084	ND(0.0010)	0.0035	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	59	ND(0.0010)	0.0081	ND(0.0010)	0.0034	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.013	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	7/29/2008	59	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(0.20)J	---	ND(0.20)J	ND(0.40)J	ND(0.20)J	ND(0.40)J	ND(1.0)J	1.8J	17J	ND(0.20)J	ND(0.40)J	4.6J	ND(0.20)J
	10/22/2008	59	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	1.8	36	ND(0.50)	ND(1.0)	15	ND(0.50)
	1/13/2009	59	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	---	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	2.3	39	ND(0.40)	ND(0.40)	18	ND(0.40)
	4/1/2009	50	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	2.1	43	ND(0.50)	ND(0.50)	20	ND(0.50)
	10/27/2009	50	ND(0.0010)	0.0078	ND(0.0010)	0.0027	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	5/7/2010	57	ND(0.0010)	0.0075	ND(0.0010)	0.0026	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.088	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	7/14/2010	59	ND(0.0010)J	0.0084J	ND(0.0010)J	0.0034J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	0.27DJ	0.0038J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J
	10/13/2010	46	ND(0.0020)	0.0076	0.024	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.4D	21D	ND(0.0020)	ND(0.0020)	8.7D	0.014
	1/5/2011	59	ND(0.0050)	0.0075	0.053	ND(0.0050)	0.015J	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	2.2D	45D	ND(0.0050)	0.0066	24D	0.018
	4/6/2011	49.1	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(2.5)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	2.1	33	ND(0.50)	ND(0.50)	17	ND(0.50)
	7/28/2011	59	ND(0.0020)	0.0068	ND(0.0020)	0.0022	0.02	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/26/2011	48	ND(0.0020)	0.0069	ND(0.0020)	0.0022	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0034	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/17/2012	48.5	ND(0.0020)	0.008	0.018	0.0021	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.8D	15D	ND(0.0020)	ND(0.0020)	5.5D	0.013
	4/4/2012	48	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(2.0)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	2.5	37	ND(0.40)	ND(0.40)	19	ND(0.40)
	11/26/2012	59	ND(0.0020)	0.0068	ND(0.0020)	0.0024	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/17/2013	56	ND(0.0020)	0.0076	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.086	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
OB-12-S	6/3/2002	30	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.72	1.4	ND(0.020)	ND(0.020)	0.01	ND(0.010)
	1/27/2003	30	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.69	1.7	ND(0.020)	ND(0.020)	0.02	ND(0.010)
	5/13/2003	30	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.61	1.3	ND(0.020)	ND(0.020)	0.01	ND(0.010)
	12/16/2003	30	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0064	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/13/2004	30	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/28/2005	30	0.0039	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2006	28	0.0067	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.45	0.45	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	1/31/2007	30	0.0052	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	0.0032	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.28	0.28	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	4/16/2007	26	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.36	0.33	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	8/9/2007	26	0.0041	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.26	0.19	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	11/13/2007	26	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.0065	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.41	0.4	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-12-S (cont.)	1/25/2008	27	0.0036	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	0.0032	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.23	0.18	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/22/2008	29	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.16	0.12	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	7/29/2008	29	0.0028J	ND(0.0025)J	ND(0.0025)J	ND(0.0025)J	---	0.0033J	ND(0.0050)J	ND(0.0025)J	ND(0.0050)J	ND(0.013)J	0.28J	0.15J	ND(0.0025)J	ND(0.0050)J	ND(0.0025)J	ND(0.0025)J
	10/22/2008	29	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	0.0039	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.28	0.19	ND(0.0020)	ND(0.0040)	0.0022	ND(0.0020)
	1/13/2009	29	0.0041	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	0.0051	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.25	0.18	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)
	4/1/2009	26	0.0021	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.17	0.11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	7/14/2009	29	0.0048	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	0.0061	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.26	0.19	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)
	10/27/2009	26	0.0012	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.0017	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.088	0.022	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	1/28/2010	26	0.0022	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.002	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.072	0.015	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/22/2010	29	0.0023	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.0017	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.089	0.055	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	7/14/2010	29	0.0043J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	0.0039J	ND(0.0010)J	0.0025J	ND(0.0010)J	ND(0.0010)J	0.22DJ	0.14J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J
	10/13/2010	26	0.005	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.0091J	0.0052	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.22	0.15	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	1/5/2011	29	0.0038	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	0.0034	ND(0.0020)	0.0026	ND(0.0020)	ND(0.0020)	0.17	0.098	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2011	27.7	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0053J	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.15	0.071	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	7/28/2011	26	0.0033	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.015	0.0025	ND(0.0020)	0.0023	ND(0.0020)	ND(0.0020)	0.19	0.12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/26/2011	26	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.058	0.021	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/17/2012	26.5	0.0041	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	0.0037	ND(0.0020)	0.0033	ND(0.0020)	ND(0.0020)	0.19	0.14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/4/2012	26	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.2	0.11	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	8/21/2012	27.7	0.0042	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	0.0043	ND(0.0040)	ND(0.0040)	0.19	0.13	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	11/28/2012	29	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	2/6/2013	27.4	0.0061	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	0.007	ND(0.0040)	ND(0.0040)	0.26	0.16	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	4/12/2013	27	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	0.0028	ND(0.0020)	0.0038	ND(0.0020)	ND(0.0020)	0.18D	0.12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
OB-14-DO	6/3/2002	45	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.1	1.4	ND(0.020)	ND(0.020)	0.3	ND(0.010)
	6/3/2002	60	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.07	1.4	ND(0.020)	ND(0.020)	0.35	ND(0.010)
	1/23/2003	60	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	ND(0.010)	1	ND(0.020)	ND(0.020)	0.05	ND(0.010)
	5/13/2003	60	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.06	0.76	ND(0.020)	ND(0.020)	0.98	ND(0.010)
	12/17/2003	60	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.23	1.2	ND(0.010)	ND(0.020)	0.41	ND(0.010)
	5/1/2004	58	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.14	1.1	ND(0.010)	ND(0.020)	0.25	ND(0.010)
	4/28/2005	58	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.11	0.97	ND(0.010)	ND(0.020)	0.28	ND(0.010)
	3/27/2006	56	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.091	0.83	ND(0.010)	ND(0.020)	0.23	ND(0.010)
	4/11/2007	55	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.12	1.1	ND(0.010)	ND(0.020)	0.31	ND(0.010)
	4/22/2008	59	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.096	0.81	ND(0.010)	ND(0.020)	0.24	ND(0.010)
	4/3/2009	55	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.086	0.84	ND(0.010)	ND(0.010)	0.21	ND(0.010)
	4/6/2011	55.4	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.10)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	0.096J	1.0J	ND(0.020)J	ND(0.020)J	0.17J	ND(0.020)J
	4/5/2012	55	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.095	1.2	ND(0.020)	ND(0.020)	0.13	ND(0.020)
	4/18/2013	56	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.094	1.1	ND(0.020)	ND(0.020)	0.15	ND(0.020)
OB-15-S	6/3/2002	20	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	1.9	1.1	ND(0.020)	ND(0.020)	0.53	ND(0.010)
	1/23/2003	20	0.05	ND(0.010)	0.02	ND(0.010)	---	ND(0.010)	ND(0.010)	0.04	ND(0.050)	ND(0.020)	2	3.8D	ND(0.020)	0.04	3.9D	0.09
	5/12/2003	20	0.043	0.005	0.015	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.004	ND(0.010)	ND(0.010)	0.50D	2.1D	ND(0.0020)	0.052	2.5D	0.011
	12/16/2003	20	0.086	0.014	ND(0.0050)	ND(0.0050)	---	0.0088	ND(0.010)	0.0058	ND(0.010)	ND(0.025)	0.4	0.041	ND(0.0050)	ND(0.010)	0.078	ND(0.0050)
	4/23/2004	20	0.11	0.0045	ND(0.0010)	ND(0.0010)	---	0.075	ND(0.0020)	0.024	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0022	ND(0.0020)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/27/2005	20	0.28	0.0047	ND(0.0025)	ND(0.0025)	---	0.065	ND(0.0050)	0.034	ND(0.0050)	ND(0.013)	0.13	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	4/3/2006	19	0.071	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	1.3	0.16	ND(0.010)	ND(0.020)	0.064	ND(0.010)
	4/10/2007	20	0.18	0.0022	ND(0.0020)	ND(0.0020)	---	0.033	ND(0.0040)	0.016	ND(0.0040)	ND(0.010)	0.0047	ND(0.0020)	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/25/2008	NA	0.24	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.6	0.76	ND(0.020)	ND(0.040)	0.38	ND(0.020)
	7/29/2008	19	3.0J	ND(0.050)J	0.11J	ND(0.050)J	---	ND(0.050)J	ND(0.10)J	ND(0.050)J	ND(0.10)J	ND(0.25)J	3.0J	3.7J	ND(0.050)J	ND(0.10)J	0.13J	ND(0.050)J
	10/21/2008	19	1.2	ND(0.025)	0.042	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	2.9	2.8	ND(0.025)	ND(0.050)	0.86	ND(0.025)
	1/13/2009	19	0.5	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	6.1	4.3	ND(0.050)	ND(0.050)	0.76	ND(0.050)
	4/1/2009	18	0.25	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	4.4	4.4	ND(0.10)	ND(0.10)	7.6	ND(0.10)
	7/14/2009	19	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.21	ND(0.10)	0.78	9.5	ND(0.10)
	10/27/2009	18	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.092	ND(0.050)	1.3	4.4	ND(0.050)
	1/28/2010	18	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.13	0.27	ND(0.050)	1.4	5.6	ND(0.050)
	4/22/2010	19	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	1.2	3.7	ND(0.050)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)	
OB-15-S (cont.)	7/14/2010	19	0.0044J	0.0054J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	0.0011J	ND(0.0010)J	0.0060J	0.0044J	0.0021J	
	10/12/2010	19	0.0026	0.0085	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	0.014	ND(0.0020)	
	1/4/2011	19	ND(0.0020)	0.0022	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0065	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.1	0.11	0.0022	
	4/6/2011	18.7	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.05	ND(0.010)	0.53	1.2D	ND(0.010)	
	7/28/2011	19	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.017	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0028	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)	0.04	0.026	ND(0.0020)	
	10/25/2011	18.5	ND(0.0020)	0.0051	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0054	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.18	0.15	ND(0.0020)	
	1/17/2012	18.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0043	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0052	0.0045	ND(0.0020)	
	4/3/2012	18.75	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.64	1.4	ND(0.020)	
	8/21/2012	18.6	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	ND(0.0020)	0.02	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0088	0.024	ND(0.0020)	
	11/28/2012	19	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	0.0056	0.0031	ND(0.0020)	0.0074	0.01	ND(0.0020)	0.067	0.055	ND(0.0020)	
	2/6/2013	18.8	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0025	ND(0.0020)	ND(0.0020)	0.004	ND(0.0020)	0.032	0.035	ND(0.0020)	
	4/11/2013	19	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0035	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.15	0.024	ND(0.0020)	
OB-16-BR	6/3/2002	33	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.013	0.041	ND(0.0020)	ND(0.0020)	0.006	ND(0.0020)	
	5/14/2003	33	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.011	ND(0.0020)	ND(0.0020)	0.003	ND(0.0020)	
	12/16/2003	33	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0031	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/27/2004	33	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0017	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/28/2005	33	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	3/28/2006	32.1	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/10/2007	33	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0014	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/21/2008	32	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	0.0024J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J	
	4/3/2009	32	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0055	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
	4/20/2010	32	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
	4/5/2011	32	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	4/5/2012	32	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	4/16/2013	34	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)J	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	OB-16-S	6/25/2002	17.5	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.021	0.015	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
5/14/2003		17.5	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.006	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
12/16/2003		17.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
4/27/2004		17.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0015	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
4/28/2005		17	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0015	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
3/28/2006		15.7	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.002	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
4/10/2007		18	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
4/21/2008		17	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	0.0021J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J	
4/3/2009		15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
4/20/2010		17	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0017	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
4/6/2011		15	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
4/5/2012		15.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
4/16/2013		16	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)J	ND(0.0020)	0.048	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
OB-17-BR		6/3/2002	55	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.32	0.71	ND(0.020)	ND(0.020)	0.03	ND(0.010)
	6/3/2002	70	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.41	0.71	ND(0.020)	ND(0.020)	0.04	ND(0.010)	
	6/3/2002	98	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.46	0.71	ND(0.020)	ND(0.020)	0.04	ND(0.010)	
	5/15/2003	98	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.19	0.54	ND(0.0040)	ND(0.0040)	0.052	ND(0.0020)	
	12/18/2003	98	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.23	0.42	ND(0.0050)	ND(0.010)	0.057	ND(0.0050)	
	5/2/2004	98	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.21	0.46	ND(0.0050)	ND(0.010)	0.058	ND(0.0050)	
	5/19/2005	87	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	0.41	ND(0.0050)	
	4/7/2006	98	ND(0.0050)	ND(0															

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-17-DO	6/3/2002	30	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.027	0.038	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	6/3/2002	43	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.032	0.046	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/15/2003	43	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.037	0.052	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/18/2003	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.005	ND(0.0020)	ND(0.0050)	0.027	0.033	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/2/2004	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0016	ND(0.0020)	ND(0.0050)	0.031	0.035	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/2/2005	42	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.026J	0.030J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	4/7/2006	41	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.021	0.025	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	43	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.016	0.017	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	42	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.02	0.022	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/1/2009	41	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.017	0.019	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	42	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.016	0.018	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/4/2011	41	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.014	0.015	ND(0.0020)	ND(0.0020)J	ND(0.0020)	ND(0.0020)
	4/2/2012	41.24	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	0.015	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/12/2013	41.4	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0094J	0.0096	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	OB-18-DO	8/26/2002	NA	ND(0.0020)	0.003	0.004	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.048	0.500	ND(0.0020)	0.004	0.15
5/14/2003		30	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.030)	ND(0.010)	0.03	0.7	ND(0.010)	ND(0.010)	0.33	ND(0.0050)
12/23/2003		30	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.03	0.39	ND(0.0050)	ND(0.010)	0.12	ND(0.0050)
5/3/2004		25	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.09	0.47	ND(0.0050)	ND(0.010)	0.15	ND(0.0050)
4/29/2005		25	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.002	0.018	ND(0.0010)	ND(0.0020)	0.0073	ND(0.0010)
4/7/2006		24	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.04	0.47	ND(0.0050)	ND(0.010)	0.15	ND(0.0050)
4/13/2007		30	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.02	0.21	ND(0.0025)	ND(0.0050)	0.12	ND(0.0025)
11/14/2007		23	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.0096	0.12	ND(0.0025)	ND(0.0050)	0.31	0.0026
4/22/2008		29	ND(0.0010)	ND(0.0010)	0.001	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0064	0.12	ND(0.0010)	0.0045	0.12	ND(0.0010)
4/2/2009		23	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0051	0.088	ND(0.0010)	0.0016	0.056	ND(0.0010)
10/26/2009		23	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	0.012	0.11	ND(0.0010)	ND(0.0010)	0.048	ND(0.0010)
4/20/2010		25	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.071	0.7	ND(0.010)	0.013	0.47	ND(0.010)
10/14/2010		24	ND(0.0020)	0.0023	0.0038	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.035	0.360	ND(0.0020)	0.016	0.460	0.0032
4/5/2011		23	ND(0.0020)	0.0027	0.0048	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.076	0.630	ND(0.0020)	0.051	0.660	ND(0.0020)
10/25/2011		23	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.027	0.16	ND(0.0020)	0.007	0.099	ND(0.0020)
4/5/2012	23.8	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.018	0.23	ND(0.0050)	0.024	0.37	ND(0.0050)	
4/12/2013	23.8	ND(0.0050)	ND(0.0050)	0.0057	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.039J	0.37	ND(0.0050)	0.063J	0.43	ND(0.0050)	
OB-18-S	8/26/2002	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.022	ND(0.0020)	0.002	0.017	ND(0.0020)
	9/18/2002	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.015	ND(0.0020)	0.003	0.011	ND(0.0020)
OB-18-S	1/28/2003	15	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.056	ND(0.0020)	ND(0.0020)	0.026	ND(0.0020)
	5/14/2003	15	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.002	0.077	ND(0.0020)	0.002	0.048	ND(0.0020)
	12/23/2003	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/3/2004	13	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0098	ND(0.0010)	ND(0.0020)	0.0032	ND(0.0010)
	4/29/2005	12	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.041	0.47	ND(0.0050)	ND(0.010)	0.13	ND(0.0050)
	4/7/2006	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.007	ND(0.0010)	ND(0.0020)	0.0022	ND(0.0010)
	2/1/2007	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.01	ND(0.0010)	ND(0.0020)	0.004	ND(0.0010)
	4/13/2007	15	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0071	ND(0.0010)	ND(0.0020)	0.002	ND(0.0010)
	11/14/2007	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.001	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/20/2008	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.013	ND(0.0010)	ND(0.0020)	0.0048	ND(0.0010)
	4/2/2009	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/26/2009	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	14	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)
	10/14/2010	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0026	0.0082	ND(0.0020)	0.019	0.07	0.0082
	4/5/2011	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/25/2011	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	11.2	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0049	ND(0.0020)	ND(0.0020)	0.0026	ND(0.0020)
	11/12/2012	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/12/2013	11.2	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-19-BR	6/3/2002	80	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	7.3	29	ND(0.20)	ND(0.20)	7.4	ND(0.10)
	6/3/2002	92	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	11	44D	ND(0.20)	ND(0.20)	9.6	ND(0.10)
	1/28/2003	92	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	12	70D	ND(0.20)	0.3	3.2	0.1
	5/13/2003	92	ND(0.0020)	0.018	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	92	ND(0.0010)	0.0047	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0044	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	92	ND(0.0010)	0.0073	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0016	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/28/2004	91	ND(0.0010)	0.011	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0092	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	92	ND(0.0010)	0.015	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0044	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/3/2006	92	ND(0.0010)	0.015	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0019	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	82	ND(0.0010)	0.013	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0014	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	92	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.83	2.8	ND(0.020)	ND(0.040)	1.2	ND(0.020)
	4/16/2007	82	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0067	0.0082	ND(0.0050)	ND(0.010)	0.59	ND(0.0050)
	8/9/2007	80	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.027	0.17	ND(0.020)	ND(0.040)	2.3	ND(0.020)
	11/15/2007	82	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.27	2	ND(0.025)	ND(0.050)	2.9	ND(0.025)
	4/24/2008	83	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.17	2.2	ND(0.020)	ND(0.040)	2.9	0.02
	4/22/2008	91	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.16	2.3	ND(0.020)	ND(0.040)	2.9	0.024
	7/29/2008	91	ND(0.050)J	ND(0.050)J	ND(0.050)J	ND(0.050)J	---	ND(0.050)J	ND(0.10)J	ND(0.050)J	ND(0.10)J	ND(0.25)J	0.61J	3.2J	ND(0.050)J	ND(0.10)J	3.6J	ND(0.050)J
	10/21/2008	91	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.34	4.3	ND(0.050)	ND(0.10)	3.2	ND(0.050)
	1/13/2009	91	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.85	9.4	ND(0.10)	ND(0.10)	4.7	ND(0.10)
	4/9/2009	82	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	1	12	ND(0.10)	ND(0.10)	6	ND(0.10)
	7/14/2010	91	ND(0.050)J	ND(0.050)J	ND(0.050)J	ND(0.050)J	---	ND(0.050)J	ND(0.050)J	ND(0.050)J	ND(0.050)J	ND(0.050)J	0.39J	6.3J	ND(0.050)J	0.13J	5.8J	0.053J
OB-19-DO	6/3/2002	50	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(2.0)	47	160	ND(2.0)	ND(2.0)	2	ND(1.0)
	6/3/2002	65	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	28	210D	ND(0.20)	0.7	1.8	0.2
	1/28/2003	65	ND(0.0020)	0.005	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.004	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	65	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	11	55	ND(0.20)	0.6	18	0.1
	12/17/2003	65	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	11	53	ND(0.50)	ND(1.0)	2.9	ND(0.50)
	4/26/2004	59	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	11	46	ND(0.50)	ND(1.0)	17	ND(0.50)
	12/28/2004	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0029	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/28/2005	65	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.1	1.6	ND(0.020)	ND(0.040)	0.45	ND(0.020)
	1/19/2006	65	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.2	0.9	ND(0.010)	ND(0.020)	0.6	ND(0.010)
	3/31/2006	55	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.14	0.87	ND(0.010)	0.09	0.71	0.03
	1/31/2007	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0088	0.11	ND(0.0010)	0.013	0.052	0.012
	4/11/2007	65	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.13	0.97	ND(0.010)	0.14	0.83	0.076
	11/15/2007	54	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.11	0.8	ND(0.010)	0.09	0.69	0.072
	4/22/2008	64	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.14	0.85	ND(0.010)	0.12	0.78	0.07
	7/29/2008	64	ND(0.010)J	ND(0.010)J	ND(0.010)J	ND(0.010)J	---	ND(0.010)J	ND(0.020)J	ND(0.010)J	ND(0.020)J	ND(0.050)J	0.17J	0.92J	ND(0.010)J	0.11J	0.71J	0.065J
	10/21/2008	64	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.33	1.8	ND(0.020)	0.092	1.1	0.054
	1/13/2009	64	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	8.7	17	ND(0.20)	ND(0.20)	2.3	ND(0.20)
	4/9/2009	57	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	8.1	17	ND(0.20)	ND(0.20)	2.1	ND(0.20)
	7/14/2010	64	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	---	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	0.52J	2.6J	ND(0.020)J	0.10J	1.4J	0.075J
	10/13/2010	57	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.25	0.94	ND(0.020)	0.085	1.9D	0.058
	1/5/2011	64	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	---	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.87	3.2	ND(0.040)	0.1	1.5	0.064
	4/4/2011	57	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.46	1.8	ND(0.020)	0.066J	1.4	0.051
	7/28/2011	57	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.74	2.8	ND(0.040)	0.11	1.7	0.061
	10/26/2011	64	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.72	3.2D	ND(0.020)	0.079	1.3	0.053
	1/17/2012	56.5	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.82	3.1	ND(0.040)	0.094	1.5	0.066
	4/4/2012	57	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.8	3.1	ND(0.040)	0.1	1.5	0.066
	11/26/2012	64	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	12D	24D	ND(0.040)	0.086	4.1	0.07
	4/15/2013	57	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.83J	3.8	ND(0.050)	0.097	1.3	0.063
OB-19-S	6/3/2002	35	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.003	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/28/2003	35	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	35	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	35	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0016	0.0044	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-19-S (cont.)	4/26/2004	34	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0015	0.0029	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	34	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	33	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	33	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/22/2008	34	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/21/2008	34	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	34	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/20/2010	34	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/5/2011	32.7	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	32	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
4/15/2013	32	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
OB-20-BR	9/3/2004	NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.3	ND(0.010)	ND(0.020)	0.99	0.013
	1/3/2005	98	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	ND(0.010)	0.3	ND(0.010)	ND(0.020)	1.1	ND(0.010)
	5/2/2005	97	ND(0.010)J	ND(0.010)J	ND(0.010)J	ND(0.010)J	---	ND(0.010)J	ND(0.020)J	ND(0.010)J	ND(0.020)J	ND(0.050)J	ND(0.010)J	0.24J	ND(0.010)J	ND(0.020)J	0.88J	ND(0.010)J
	1/6/2006	101	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/30/2006	96	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	2/1/2007	101	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	100	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/14/2007	99	ND(0.0010)	0.0014	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/23/2008	96	ND(0.0010)	0.0014	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/6/2009	95	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	95	ND(0.0010)	0.0014	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/28/2010	100	ND(0.0010)	0.0014	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/13/2010	96	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0027	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)
	4/6/2011	95	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.056	ND(0.0020)	ND(0.0020)	0.29D	ND(0.0020)
	10/26/2011	97	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.031	ND(0.0020)	0.0024	0.47D	0.002
OB-20-BR	4/6/2012	94.75	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.024	ND(0.0040)	ND(0.0040)	0.19	ND(0.0040)
	4/15/2013	93.5	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.11	ND(0.0040)	0.0058	0.89D	0.011
OB-20-DO	9/3/2004	NA	ND(0.0010)	0.0011	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0041	ND(0.0020)	ND(0.0050)	0.017	0.089	ND(0.0010)	ND(0.0020)	0.05	0.0019
	1/3/2005	78	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/2/2005	78	ND(0.0025)J	ND(0.0025)J	0.0035J	ND(0.0025)J	---	ND(0.0025)J	ND(0.0050)J	ND(0.0025)J	ND(0.0050)J	ND(0.013)J	0.011J	0.050J	ND(0.0025)J	0.0071J	0.34J	0.0031J
	1/6/2006	78	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0013	ND(0.0020)	ND(0.0050)	0.0036	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0034	ND(0.0010)
	3/30/2006	77	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.001	ND(0.0020)	ND(0.0050)	0.0014	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	2/1/2007	78	ND(0.0010)	0.0022	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0015	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	76	ND(0.0050)	ND(0.0050)	0.0051	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0092	0.045	ND(0.0050)	0.011	0.49	ND(0.0050)
	11/14/2007	75	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0084	0.042	ND(0.0050)	ND(0.010)	0.46	ND(0.0050)
	4/23/2008	77	ND(0.0050)	ND(0.0050)	0.0058	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0086	0.043	ND(0.0050)	0.016	0.47	ND(0.0050)
	4/6/2009	75	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.031	ND(0.0050)	0.0075	0.42	ND(0.0050)
	10/27/2009	75	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.0058	0.076	ND(0.0025)	ND(0.0025)	0.25	ND(0.0025)
	4/23/2010	77	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.012	ND(0.0050)	ND(0.0050)	0.34	ND(0.0050)
	10/13/2010	75	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	---	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.014	ND(0.0040)	0.005	0.45D	ND(0.0040)
	4/6/2011	75	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0036	0.023	ND(0.0020)	ND(0.0020)	0.19	ND(0.0020)
	10/26/2011	75	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.012	ND(0.0050)	0.027	0.47	ND(0.0050)
4/6/2012	74.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
4/15/2013	73	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0079	ND(0.0020)	0.013	0.30D	ND(0.0020)	
OB-20-S	9/2/2004	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.								

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-20-S (cont.)	4/23/2008	16	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/23/2008	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0018	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/6/2009	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/23/2010	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/13/2010	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2011	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/26/2011	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2012	10.9	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/12/2012	12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
OB-21-BR	9/2/2004	NA	ND(0.0050)	0.012	0.013	ND(0.0050)	---	ND(0.0050)	ND(0.010)	0.0092	ND(0.010)	ND(0.025)	0.11	0.52	ND(0.0050)	0.013	0.47	0.0061
	1/3/2005	97	ND(0.010)	0.018	0.022	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.11	0.79	ND(0.010)	0.021	0.74	ND(0.010)
	5/2/2005	100	ND(0.010)J	0.018J	0.024J	ND(0.010)J	---	ND(0.010)J	ND(0.020)J	ND(0.010)J	ND(0.020)J	ND(0.050)J	0.096J	0.79J	ND(0.010)J	0.023J	0.80J	ND(0.010)J
	1/6/2006	104	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.033	0.28	ND(0.020)	ND(0.040)	1.4	ND(0.020)
	3/30/2006	101	ND(0.010)	0.021	0.023	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.04	0.44	ND(0.010)	0.033	1.4	0.01
	2/1/2007	98	ND(0.0050)	0.015	0.019	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.042	0.16	ND(0.0050)	0.019	0.68D	0.0071
	4/12/2007	102	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	ND(0.020)	0.036	ND(0.020)	ND(0.040)	1.6	ND(0.020)
	11/14/2007	99	ND(0.010)	0.012	0.013	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.031	0.19	ND(0.010)	ND(0.020)	1	ND(0.010)
	4/23/2008	98	ND(0.010)	0.014	0.02	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.018	0.15	ND(0.010)	0.026	1.2	ND(0.010)
	4/6/2009	97	ND(0.0050)	0.008	0.0087	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.037	0.16	ND(0.0050)	0.012	0.74	ND(0.0050)
	10/27/2009	97	ND(0.010)	ND(0.010)	0.012	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.043	0.12	ND(0.010)	0.014	1	ND(0.010)
	4/28/2010	97	ND(0.010)	ND(0.010)	0.013	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.063	0.45	ND(0.010)	0.014	1.1	ND(0.010)
	10/13/2010	97	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.13	ND(0.020)	0.03	1.6	ND(0.020)
	4/6/2011	98.2	ND(0.0040)	0.0092	0.011	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.013	0.14	ND(0.0040)	0.017	1.5D	0.0043
	10/26/2011	97	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.033	0.061	ND(0.020)	0.022	1.5	ND(0.020)
	4/6/2012	99.5	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.49	ND(0.010)
	4/15/2013	96	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.024	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.31	ND(0.0050)
OB-21-DO	9/2/2004	NA	ND(0.0010)	0.0014	0.0011	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0011	ND(0.0020)	ND(0.0050)	0.025	0.081	ND(0.0010)	ND(0.0020)	0.031	ND(0.0010)
	1/3/2005	82	ND(0.0050)	0.0088	0.011	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.099	0.28	ND(0.0050)	ND(0.010)	0.55	ND(0.0050)
	5/2/2005	82	ND(0.0050)J	0.0087J	0.011J	ND(0.0050)J	---	ND(0.0050)J	ND(0.010)J	ND(0.0050)J	ND(0.010)J	ND(0.025)J	0.18J	0.50J	ND(0.0050)J	ND(0.010)J	0.34J	ND(0.0050)J
	1/6/2006	86	ND(0.0050)	0.0068	0.0083	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.22	0.66	ND(0.0050)	ND(0.010)	0.22	ND(0.0050)
	3/30/2006	81	ND(0.0050)	0.01	0.012	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.23	0.64	ND(0.0050)	ND(0.010)	0.21	ND(0.0050)
	2/1/2007	NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.23	0.76	ND(0.010)	ND(0.020)	0.25	ND(0.010)
	4/12/2007	81	ND(0.010)	0.013	0.016	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.35	1.1	ND(0.010)	ND(0.020)	0.32	ND(0.010)
	11/14/2007	79	ND(0.010)	ND(0.010)	0.011	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.29	0.91	ND(0.010)	ND(0.020)	0.35	ND(0.010)
	4/23/2008	79	ND(0.010)	0.01	0.012	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.26	0.81	ND(0.010)	ND(0.020)	0.28	ND(0.010)
	4/6/2009	79	ND(0.0050)	0.0069	0.0074	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.21	0.71	ND(0.0050)	ND(0.0050)	0.27	ND(0.0050)
	10/27/2009	79	ND(0.0050)	0.0097	0.01	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.17	0.61	ND(0.0050)	ND(0.0050)	0.42	ND(0.0050)
	4/28/2010	79	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.32	1.1	ND(0.010)	ND(0.010)	0.49	ND(0.010)
	10/13/2010	79	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.32	1.4	ND(0.020)	ND(0.020)	0.47	ND(0.020)
	4/6/2011	79	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.34	1.3	ND(0.020)	ND(0.020)	0.41	ND(0.020)
	10/26/2011	79	ND(0.010)	ND(0.010)	0.011	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.28	1.4D	ND(0.010)	ND(0.010)	0.51	ND(0.010)
	4/6/2012	78.5	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.22	1	ND(0.020)	ND(0.020)	0.39	ND(0.020)
	4/15/2013	78.6	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.31	1.1	ND(0.020)	ND(0.020)	0.33	ND(0.020)
OB-22-DO	9/3/2004	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.015	ND(0.0020)	ND(0.0050)	0.011	0.025	ND(0.0010)	ND(0.0020)	0.014	ND(0.0010)
	1/4/2005	59	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	0.0053	ND(0.010)	ND(0.025)	0.0072	0.005	ND(0.0050)	ND(0.010)	0.4	ND(0.0050)
	5/2/2005	58	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	---	ND(0.0050)J	ND(0.010)J	ND(0.0050)J	ND(0.010)J	ND(0.025)J	0.039J	0.040J	ND(0.0050)J	ND(0.010)J	0.70J	ND(0.0050)J
	1/4/2006	59	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.15	0.23	ND(0.0050)	ND(0.010)	0.62	ND(0.0050)
	4/7/2006	57	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.064	0.13	ND(0.0050)	ND(0.010)	0.63	ND(0.0050)
	2/1/2007	59	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.35	0.57	ND(0.0050)	ND(0.010)	0.38	ND(0.0050)
	4/15/2007	59	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.22	0.35	ND(0.0050)	ND(0.010)	0.41	ND(0.0050)
	11/16/2007	58	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.22	0.39	ND(0.0050)	ND(0.010)	0.24	ND(0.0050)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-22-DO (cont.)	4/23/2008	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.055	0.054	ND(0.0010)	ND(0.0020)	0.013	ND(0.0010)
	4/6/2009	56	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.38	0.58	ND(0.0050)	ND(0.0050)	0.15	ND(0.0050)
	10/27/2009	57	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.066	0.25	ND(0.0025)	0.0039	0.28	ND(0.0025)
	10/12/2010	56	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	---	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.023	0.054	ND(0.0040)	0.032	0.40D	ND(0.0040)
	10/25/2011	55	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0069	ND(0.0020)	ND(0.0020)	0.031	ND(0.0020)
OB-23-BR	6/13/2002	55	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.014	0.023	ND(0.0020)	ND(0.0020)	0.006	ND(0.0020)
	6/13/2002	70	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.019	0.063	ND(0.0020)	ND(0.0020)	0.009	ND(0.0020)
	6/13/2002	98	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.016	0.069	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)
	5/1/2004	85	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.1	ND(0.0010)
	4/7/2006	83	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0027	ND(0.0010)	ND(0.0020)	0.052	ND(0.0010)
	4/1/2009	95	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.01
	4/21/2010	97	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.001	ND(0.0010)	0.071	0.065	ND(0.0010)
	4/4/2011	83	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.062J	0.013	ND(0.0020)
	4/5/2012	83.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.1	0.07	ND(0.0020)
	4/12/2013	83	0.0069	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	0.0047J	ND(0.0020)	0.0064	ND(0.0020)	ND(0.0020)	0.26DJ	0.077	ND(0.0020)	0.038J	0.0076	ND(0.0020)
OB-24-S	6/3/2002	3	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	3	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/18/2003	3	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2004	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0038	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0018	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/21/2010	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/5/2011	2	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/18/2013	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	OB-25-BR	6/18/2003	NA	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	6.9	20	ND(0.20)	ND(0.20)	7.1
12/17/2003		100	ND(0.0010)	0.011	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
4/26/2004		98	ND(0.0010)	0.023	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
4/28/2005		97	ND(0.0010)	0.024	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0021	ND(0.0020)	ND(0.0050)	0.0019	0.022	ND(0.0010)	ND(0.0020)	0.0056	ND(0.0010)
3/31/2006		97	ND(0.0010)	0.019	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0052	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
4/11/2007		96	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	0.22	1.9	ND(0.020)	ND(0.040)	1.2	ND(0.020)
4/22/2008		99	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.4	4.9	ND(0.050)	ND(0.10)	2.2	ND(0.050)
4/3/2009		95	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	1.5	ND(0.50)	18	64	ND(0.50)
4/20/2010		99	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	0.51	3.8	ND(0.50)	21	56	ND(0.50)
7/14/2010		99.5	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	---	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	2.9J	ND(0.50)J	20J	65J	ND(0.50)J
10/13/2010		97	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	2.7	ND(0.50)	21	67D	ND(0.50)
4/14/2011		101	ND(0.0020)	0.023	ND(0.0020)	ND(0.0020)	0.018	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
10/26/2011		99.5	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(2.0)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	1.9	8.8	ND(0.40)	4	22	ND(0.40)
4/5/2012		90	ND(0.0020)	0.037	0.11	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.69D	7.8D	ND(0.0020)	6.8D	30D	0.14
11/26/2012		99	ND(0.0020)	0.0026	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
4/15/2013	95	ND(0.0020)	0.019	ND(0.0020)	ND(0.0020)	0.015	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
OB-25-DO	6/26/2003	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.002	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/17/2003	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	69	0.01	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-26-BR (cont.)	4/28/2005	95	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	94	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	0.086	3.4	ND(0.050)	ND(0.10)	0.71	ND(0.050)
	4/11/2007	93	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	0.06	2.2	ND(0.025)	ND(0.050)	0.86	ND(0.025)
	4/22/2008	95	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0052	0.11	ND(0.0010)	ND(0.0020)	0.045	ND(0.0010)
	4/3/2009	93	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.019	0.48	ND(0.0050)	ND(0.0050)	0.19	ND(0.0050)
	4/20/2010	95	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0016	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/4/2011	93.1	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/17/2012	95	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0039	0.031	ND(0.0020)	0.011	0.28D	ND(0.0020)
	4/15/2013	90	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0082	ND(0.0020)	ND(0.0020)	0.021	ND(0.0020)
	7/2/2003	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(2.0)	24	210	ND(2.0)	ND(2.0)	ND(1.0)	ND(1.0)
OB-26-DO	12/17/2003	66	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	66	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0014	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	63	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	66	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	1.8	8.1	ND(0.10)	ND(0.20)	0.4	ND(0.10)
OB-26-DO	4/14/2007	66	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	1.8	8.1	ND(0.10)	ND(0.20)	0.4	ND(0.10)
OB-27-BR	6/27/2003	NA	ND(0.0050)	0.008	0.009	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	0.027	ND(0.030)	ND(0.010)	1.8D	6.5D	ND(0.010)	ND(0.010)	1	ND(0.0050)
	12/18/2003	87	ND(0.20)Z	ND(0.20)Z	ND(0.20)Z	ND(0.20)Z	---	ND(0.20)Z	ND(0.40)Z	ND(0.20)Z	ND(0.40)Z	ND(1.0)Z	3.8	15	ND(0.20)Z	ND(0.40)Z	5	ND(0.20)Z
	4/27/2004	86	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	---	ND(0.25)	ND(0.50)	ND(0.25)	ND(0.50)	ND(1.3)	5.8	18	ND(0.25)	ND(0.50)	5.5	ND(0.25)
	7/12/2004	85.5	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	0.3	ND(0.40)	ND(1.0)	4.2	17	ND(0.20)	ND(0.40)	5.6	ND(0.20)
	12/28/2004	87	0.0082	0.043	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0011	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	87	ND(0.010)	0.094	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.82	0.19	ND(0.010)	ND(0.020)	0.029	ND(0.010)
	1/3/2006	87	ND(0.0010)	0.041	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	86	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	3.2	9.1N	ND(0.10)	ND(0.20)	3.2	ND(0.10)
	1/31/2007	87	ND(0.0010)	0.028	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	87	ND(0.0010)	0.034	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/15/2007	86	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	5.5	9.4	ND(0.10)	ND(0.20)	3	ND(0.10)
	4/28/2008	86	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	5.6	13	ND(0.10)	ND(0.20)	4.4	ND(0.10)
	10/22/2008	86	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	7	15	ND(0.20)	ND(0.40)	3.8	ND(0.20)
	4/3/2009	86	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	10	26	ND(0.20)	ND(0.20)	7.7	ND(0.20)
	10/27/2009	78.5	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	10	24	ND(0.20)	ND(0.20)	7.6	ND(0.20)
	4/22/2010	86	ND(0.0025)	0.028	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.19	0.048	ND(0.0025)	ND(0.0025)	0.005	ND(0.0025)
	10/14/2010	86	ND(0.0020)	0.045	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/14/2011	81	ND(0.0020)	0.017	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0020)	0.0056	ND(0.0020)	ND(0.0020)	0.0026	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	10/28/2011	86	ND(0.0050)	0.036	0.05	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	7.4D	22D	ND(0.0050)	0.03	4.9D	0.012
	4/6/2012	85	ND(0.0020)	0.033	0.054	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	3.2D	20D	ND(0.0020)	0.026	4.7D	0.028
	11/26/2012	86	ND(0.0020)	0.037	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	85	ND(0.0020)	0.047	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.071J	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
OB-27-DO	6/30/2003	NA	ND(0.0020)	0.004	0.006	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.012	ND(0.010)	ND(0.010)	ND(0.0020)	0.007	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/18/2003	63	ND(0.0010)Z	0.0044	0.0085	ND(0.0010)Z	---	ND(0.0010)Z	ND(0.0020)Z	ND(0.0010)Z	ND(0.0020)Z	ND(0.0050)Z	ND(0.0010)Z	0.0041	ND(0.0010)Z	ND(0.0020)Z	ND(0.0010)Z	ND(0.0010)Z
	4/27/2004	61	ND(0.0010)	0.005	0.01	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0047	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	7/12/2004	61	ND(0.0010)	0.0038	0.0075	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0048	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/28/2004	61	ND(0.0010)	0.0031	0.0065	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0035	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	61	ND(0.0010)	0.0036	0.0072	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0042	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/3/2006	63	ND(0.0010)	0.0021	0.0042	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0043	ND(0.0010)	ND(0.0020)	0.001	ND(0.0010)
	3/28/2006	61	ND(0.0010)	0.0018	0.0035	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0033	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	63	ND(0.0010)	0.0018	0.0039	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0033	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/10/2007	63	ND(0.0010)	0.0017	0.0034	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0026	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/15/2007	60	ND(0.0010)	0.0015	0.0033	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0033	ND(0.0010)	ND(0.0020)	0.0015	ND(0.0010)
	4/23/2008	61	ND(0.0010)	0.0018	0.0038	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0032	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/22/2008	61	ND(0.0010)	0.0013	0.0029	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0034	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/3/2009	61	ND(0.0010)	0.0013	0.0029	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0028	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-28-BR	6/18/2003	NA	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	0.8	24	ND(0.20)	ND(0.20)	0.4	ND(0.10)
	12/17/2003	92	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	92	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	94	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0045	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	93	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/11/2007	90	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	ND(0.025)	2.2	ND(0.025)	ND(0.050)	0.2	ND(0.025)
	4/6/2009	93	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.024	ND(0.0010)	ND(0.0010)	0.0011	ND(0.0010)
	4/20/2010	93	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	5/27/2011	122	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.022	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	89	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	84	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.082	ND(0.0020)	ND(0.0020)	0.0059	ND(0.0020)
OB-28-DO	7/2/2003	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(2.0)	4	51	ND(2.0)	ND(2.0)	ND(1.0)	ND(1.0)
	12/17/2003	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0018	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/26/2004	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	61	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	65	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.081	ND(0.0010)	0.0076	0.029	0.028
OB-29-DO	8/13/2003	NA	0.004	0.011	0.015	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.12	0.48	ND(0.0040)	ND(0.0040)	0.11	ND(0.0020)
	12/29/2003	40	ND(0.010)	ND(0.010)	0.013	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.24	0.72	ND(0.010)	ND(0.020)	0.15	ND(0.010)
	5/3/2004	35	ND(0.0050)	0.0081	0.011	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.2	0.64	ND(0.0050)	ND(0.010)	0.16	ND(0.0050)
	12/30/2004	37	ND(0.0050)	0.0066	0.0078	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.16	0.5	ND(0.0050)	ND(0.010)	0.13	ND(0.0050)
	4/29/2005	35	ND(0.0050)	0.007	0.0064	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.19	0.54N	ND(0.0050)	ND(0.010)	0.16	ND(0.0050)
	3/29/2006	30	ND(0.0050)	0.0054	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.074	0.28	ND(0.0050)	ND(0.010)	0.36	ND(0.0050)
	2/2/2004	69	ND(0.0050)	0.16	0.18	ND(0.0050)	ND(0.020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0054	0.19	ND(0.0050)	ND(0.0020)	0.034	0.18
	5/5/2004	69	0.0058	0.24	0.28	0.0037	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0038	0.21	ND(0.0020)	ND(0.0040)	0.0071	ND(0.0020)
OB-30-DO	12/29/2004	68	0.003	0.14	0.14	0.0022	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0031	0.14	ND(0.0020)	ND(0.0040)	0.0036	ND(0.0020)
	4/28/2005	69	0.012	0.21	0.23	0.0034	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0046	0.21	ND(0.0020)	ND(0.0040)	0.007	ND(0.0020)
	1/3/2006	69	0.0026	0.13	0.16	0.002	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.004	0.16	ND(0.0020)	ND(0.0040)	0.0057	ND(0.0020)
	3/28/2006	69	0.004	0.12	0.14	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0026	0.15	ND(0.0020)	ND(0.0040)	0.005	ND(0.0020)
	1/31/2007	69	ND(0.0020)	0.11	0.14	0.002	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0032	0.14	ND(0.0020)	ND(0.0040)	0.0062	ND(0.0020)
	4/11/2007	69	ND(0.0020)	0.15	0.19	0.0025	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0035	0.16	ND(0.0020)	ND(0.0040)	0.0072	ND(0.0020)
	11/15/2007	67	ND(0.0010)	0.1	0.14	0.002	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0033	0.13	ND(0.0010)	ND(0.0020)	0.0088	ND(0.0010)
	4/23/2008	68	ND(0.0020)	0.16	0.18	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0032	0.16	ND(0.0020)	ND(0.0040)	0.0093	ND(0.0020)
	10/21/2008	68	0.0032	0.16	0.19	0.0024	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0046	0.16	ND(0.0020)	ND(0.0040)	0.0088	ND(0.0020)
	4/6/2009	68	ND(0.0020)	0.18	0.18	0.0025	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0025	0.18	ND(0.0020)	ND(0.0020)	0.0089	ND(0.0020)
OB-31-DO	2/2/2004	64	ND(0.0050)	0.005	ND(0.0010)	ND(0.0050)	ND(0.020)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)
	5/2/2004	64	ND(0.0010)	0.0053	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0053	ND(0.0010)	ND(0.0020)	0.0019	ND(0.0010)
OB-32-DO	2/2/2004	61	ND(10)	ND(10)	ND(2.0)	ND(10)	ND(40)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	76	850D	ND(10)	ND(4.0)	ND(10)	ND(10)
	5/5/2004	58	ND(10)	ND(10)	ND(10)	ND(10)	---	ND(10)	ND(20)	ND(10)	ND(20)	ND(50)	68	710	ND(10)	ND(20)	ND(10)	ND(10)
	12/29/2004	58	0.059	ND(0.010)	ND(0.010)	0.019	---	0.056	ND(0.020)	0.81	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	5/2/2005	61	0.34J	ND(0.0050)J	ND(0.0050)J	0.0084J	---	0.24J	ND(0.010)J	0.63J	ND(0.010)J	ND(0.025)J	0.0058J	ND(0.0050)J	ND(0.0050)J	ND(0.010)J	ND(0.0050)J	ND(0.0050)J
	1/3/2006	61	0.45	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.32	ND(0.010)	0.38	ND(0.010)	ND(0.025)	0.016	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/3/2006	54	0.29	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	0.17	ND(0.0050)	0.29	ND(0.0050)	ND(0.013)	0.0048	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	1/31/2007	61	1.2	ND(0.010)	ND(0.010)	ND(0.010)	---	0.91	ND(0.020)	1.3	ND(0.020)	ND(0.050)	0.03	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	4/11/2007	61	0.6	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.55	ND(0.010)	0.35	ND(0.010)	ND(0.025)	0.005	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	11/15/2007	60	1.3	ND(0.010)	ND(0.010)	ND(0.010)	---	1.3	ND(0.020)	1	ND(0.020)	ND(0.050)	0.011	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	4/25/2008	60	1	ND(0.010)	ND(0.010)	ND(0.010)	---	0.88	ND(0.020)	0.57	ND(0.020)	ND(0.050)	0.014	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	10/22/2008	60	2.1D	0.0026	ND(0.0020)	ND(0.0020)	---	1.7D	ND(0.0040)	0.87D	ND(0.0040)	ND(0.010)	0.093	0.0075	0.002	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/3/2009	60	2.4	ND(0.020)	ND(0.020)	ND(0.020)	---	2	ND(0.020)	0.85	ND(0.020)	ND(0.020)	0.16	0.03	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)
	10/27/2009	60	1.5	ND(0.010)	ND(0.010)	ND(0.010)	---	1.4	ND(0.010)	0.53	ND(0.010)	ND(0.010)	0.059	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	11/23/2009	60	2	ND(0.020)	ND(0.020)	ND(0.020)	---	1.7	ND(0.020)	0.51	ND(0.020)	ND(0.020)	0.3	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)
	4/20/2010	60	1.5	ND(0.010)	ND(0.010)	ND(0.010)	---	1.3	ND(0.010)	0.36	ND(0.010)	ND(0.010)	0.046	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	10/14/2010	60	1.4D	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	1.2D	ND(0.0020)	0.28D	ND(0.0020)	0.0025	0.0021	ND(0.0020)	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-32-DO (cont.)	4/14/2011	52	0.57D	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	0.50D	ND(0.0040)	0.1	ND(0.0040)	ND(0.0040)	0.079	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)
	10/28/2011	60	0.43	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	0.45	ND(0.0050)	0.079	ND(0.0050)	ND(0.0050)	0.0068	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
	4/5/2012	48	0.19	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	0.19	ND(0.0020)	0.041	ND(0.0020)	ND(0.0020)	0.042	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/18/2012	60	0.097	ND(0.00020)	ND(0.00057)	ND(0.00036)	0.012	0.12	ND(0.00029)	0.026	ND(0.00024)	ND(0.00021)	ND(0.00030)	ND(0.00022)	ND(0.00020)	ND(0.00032)	ND(0.00030)	ND(0.00033)
	4/18/2013	60	0.062	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	0.067	ND(0.0020)	0.019	ND(0.0020)	ND(0.0020)	0.014	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
OB-32-DO(PURGE)	2/2/2004	NA	ND(10)	ND(10)	ND(2.0)	ND(10)	ND(40)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	36	580D	ND(10)	ND(4.0)	ND(10)	ND(10)
OB-33-DO	2/2/2004	56	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.020)	ND(0.0050)	ND(0.0050)	0.0064	ND(0.0050)	ND(0.0050)	0.054	0.99D	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)
	5/5/2004	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.022	0.072	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/29/2004	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/28/2005	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/29/2005	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0015	ND(0.0010)
	4/14/2007	56	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/13/2007	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.001	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/21/2008	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/21/2008	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/6/2009	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
OB-34-DO	2/2/2004	64	ND(0.050)	ND(0.050)	ND(0.010)	ND(0.050)	ND(0.20)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.22	6.5D	ND(0.050)	ND(0.020)	ND(0.050)	ND(0.050)
	5/5/2004	64	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	0.29	13N	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.10)
	12/29/2004	63	0.0069	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.03	ND(0.010)	0.043	ND(0.010)	ND(0.025)	0.49	0.013	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	5/2/2005	64	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	1.4J	3.5J	ND(0.025)	ND(0.050)	0.093J	ND(0.025)
	1/3/2006	64	0.017	0.0038	ND(0.0010)	ND(0.0010)	---	0.12	ND(0.0020)	0.1	ND(0.0020)	ND(0.0050)	0.058	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	62	0.0098	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	0.045	ND(0.0040)	0.069	ND(0.0040)	ND(0.010)	0.14	ND(0.0020)	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	1/31/2007	64	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	2.7	18	ND(0.20)	ND(0.40)	0.74	ND(0.20)
	4/14/2007	64	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	2.8	17	ND(0.20)	ND(0.40)	0.81	ND(0.20)
	11/15/2007	63	0.0048	0.0031	ND(0.0010)	ND(0.0010)	---	0.017	ND(0.0020)	0.047	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	63	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	0.025	ND(0.020)	ND(0.050)	0.75	0.062	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	10/22/2008	63	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	0.023	ND(0.0040)	ND(0.010)	0.86D	2.4D	ND(0.0020)	ND(0.0040)	0.2	ND(0.0020)
	4/6/2009	63	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	0.0027	ND(0.0010)	ND(0.0010)	0.059	0.0022	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	62	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	1.6	8.6	ND(0.10)	ND(0.10)	0.65	ND(0.10)
	4/20/2010	63	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	1.6	10	ND(0.10)	ND(0.10)	1.1	ND(0.10)
	10/14/2010	63	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	0.0093	ND(0.0050)	ND(0.0050)	0.3	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
	4/14/2011	61	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.9	0.37	ND(0.010)	ND(0.010)	0.011	ND(0.010)
	10/28/2011	63	ND(0.0050)	ND(0.0050)	0.006	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	0.0058	ND(0.0050)	ND(0.0050)	1.3D	11D	ND(0.0050)	ND(0.0050)	0.95D	ND(0.0050)
	4/5/2012	62	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	1.2	8.5	ND(0.10)	ND(0.10)	0.77	ND(0.10)
	11/27/2012	63	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	1.5	9.5D	ND(0.10)	ND(0.10)	0.83	ND(0.10)
	4/17/2013	58.2	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	1.2	7.6	ND(0.10)	ND(0.10)	0.58	ND(0.10)
OB-35-DO	2/2/2004	62	ND(2.5)	ND(2.5)	ND(0.50)	ND(2.5)	ND(10)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	77	ND(2.5)	ND(1.0)	ND(2.5)	ND(2.5)
	5/4/2004	62	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	---	ND(2.0)	ND(4.0)	ND(2.0)	ND(4.0)	ND(10)	3	170	ND(2.0)	ND(4.0)	ND(2.0)	ND(2.0)
	12/28/2004	61	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	---	ND(2.5)	ND(5.0)	ND(2.5)	ND(5.0)	ND(13)	9.8	330	ND(2.5)	ND(5.0)	ND(2.5)	ND(2.5)
	5/3/2005	61	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	---	ND(5.0)	ND(10)	ND(5.0)	ND(10)	ND(25)	11	440	ND(5.0)	ND(10)	ND(5.0)	ND(5.0)
	1/3/2006	63	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.8	ND(0.020)	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	4/7/2006	59	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	23	18	ND(0.20)	ND(0.40)	1.9	ND(0.20)
	2/5/2007	63	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.40)	ND(0.20)	ND(0.40)	ND(1.0)	14	6.4	ND(0.20)	ND(0.40)	0.77	ND(0.20)
	4/13/2007	63	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	5.7	0.088	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.050)
	11/15/2007	62	ND(0.0010)	0.025	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.01	ND(0.0010)	0.0021	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/25/2008	62	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	---	ND(0.25)	ND(0.50)	ND(0.25)	ND(0.50)	ND(1.3)	20	8.2	ND(0.25)	ND(0.50)	1.9	ND(0.25)
	10/23/2008	62	ND(0.0010)	0.021	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	0.0022	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/9/2009	57	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	19	6.2	ND(0.20)	ND(0.20)	1.7	ND(0.20)
	10/28/2009	57	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	22	6.9	ND(0.20)	ND(0.20)	1.6	ND(0.20)
	4/22/2010	62	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	22	7.5	ND(0.20)	ND(0.20)	1.6	ND(0.20)
	10/14/2010	49	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	---	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	34	7.7	ND(0.40)	ND(0.40)	1.6	ND(0.40)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-35-DO (cont.)	4/7/2011	48.7	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(2.5)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	ND(0.50)J	32J	7.7J	ND(0.50)J	ND(0.50)J	1.6J	ND(0.50)J
	10/27/2011	62	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(2.0)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	29	5	ND(0.40)	ND(0.40)	0.95	ND(0.40)
	4/6/2012	48	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	19	5.4	ND(0.20)	ND(0.20)	0.79	ND(0.20)
	11/27/2012	62	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	32D	4.8	ND(0.20)	ND(0.20)	0.78	ND(0.20)
	4/15/2013	61	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(2.0)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	47D	8.6	ND(0.40)	0.41	1.4	ND(0.40)
OB-35-DO(PURGE)	2/2/2004	NA	ND(1.0)	ND(1.0)	ND(0.20)	ND(1.0)	ND(4.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	1.9	68D	ND(1.0)	ND(0.40)	ND(1.0)	ND(1.0)
OB-36-DO	2/2/2004	62	ND(0.25)	ND(0.25)	ND(0.050)	ND(0.25)	ND(1.0)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	11D	8.8	ND(0.25)	ND(0.10)	ND(0.25)	ND(0.25)
	5/4/2004	59	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	8.2	7.2	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.10)
	12/28/2004	60	0.048	ND(0.020)	ND(0.020)	0.037	---	1.4	ND(0.040)	1.4	ND(0.040)	ND(0.10)	0.022	0.028	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	5/3/2005	59	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	34	110	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	1/3/2006	62	0.0027	ND(0.0010)	ND(0.0010)	0.0026	---	0.01	ND(0.0020)	0.014	ND(0.0020)	ND(0.0050)	0.0023	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/7/2006	59	0.0095	0.0051	ND(0.0010)	0.012	---	0.058	ND(0.0020)	0.13	ND(0.0020)	ND(0.0050)	0.0057	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	2/5/2007	62	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	0.032	ND(0.050)	0.14	ND(0.050)	ND(0.13)	2.4	0.038	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.025)
	4/13/2007	62	0.017	0.017	ND(0.0025)	0.025	---	0.079	ND(0.0050)	0.3	ND(0.0050)	ND(0.013)	0.1	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	11/15/2007	57	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	22	46	ND(0.50)	ND(1.0)	ND(0.50)	ND(0.50)
	1/25/2008	64	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	14	62	ND(0.50)	ND(1.0)	ND(0.50)	ND(0.50)
	4/25/2008	61	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	3.2	7.9	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.10)
	7/29/2008	62	ND(0.10)J	ND(0.10)J	ND(0.10)J	ND(0.10)J	---	ND(0.10)J	ND(0.20)J	ND(0.10)J	ND(0.20)J	ND(0.50)J	4.0J	8.3J	ND(0.10)J	ND(0.20)J	ND(0.10)J	ND(0.10)J
	10/22/2008	61	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	3.2	6.1	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.050)
	1/14/2009	62	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	4	8.2	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
	4/9/2009	54	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	3.9	6.3	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
	10/26/2009	55	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	---	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	7.9	29	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)
	4/22/2010	61	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	4.4	5.8	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)
	10/13/2010	54	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	6.4	15	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
	4/7/2011	53.9	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(1.0)J	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(0.20)J	ND(0.20)J	7.0J	9.8J	ND(0.20)J	ND(0.20)J	0.24J	ND(0.20)J
	10/28/2011	61	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	6.6	5.2	ND(0.10)J	ND(0.10)	ND(0.10)	ND(0.10)
	4/6/2012	41	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	12D	10	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)
	11/27/2012	61	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	10	9.1	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
	4/15/2013	46	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	8.1D	48D	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
OB-36-DO(PURGE)	2/2/2004	NA	ND(0.25)	ND(0.25)	ND(0.050)	ND(0.25)	ND(1.0)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	ND(0.25)	9.6	9.3	ND(0.25)	ND(0.10)	ND(0.25)	ND(0.25)
OB-37-DO	2/2/2004	60	ND(10)	ND(10)	ND(2.0)	ND(10)	ND(40)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	110	220	ND(10)	ND(4.0)	ND(10)	ND(10)
	5/4/2004	60	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.10)	ND(0.25)	3.2	5.3	ND(0.050)	ND(0.10)	ND(0.050)	ND(0.050)
	12/28/2004	59	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.20)	ND(0.50)	9	7.6	ND(0.10)	ND(0.20)	ND(0.10)	ND(0.10)
	5/3/2005	58	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	---	ND(0.50)	ND(1.0)	ND(0.50)	ND(1.0)	ND(2.5)	30	58	ND(0.50)	ND(1.0)	ND(0.50)	ND(0.50)
	1/3/2006	62	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	36	100	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	4/7/2006	59	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	---	ND(1.0)	ND(2.0)	ND(1.0)	ND(2.0)	ND(5.0)	53	140	ND(1.0)	ND(2.0)	ND(1.0)	ND(1.0)
	2/5/2007	62	0.0041	0.0019	ND(0.0010)	ND(0.0010)	---	0.077	ND(0.0020)	0.046	ND(0.0020)	ND(0.0050)	0.1	0.0015	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/13/2007	62	0.0021	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.066	ND(0.0020)	0.03	ND(0.0020)	ND(0.0050)	0.13	0.0072	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/15/2007	61	0.15	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.39	ND(0.010)	0.21	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/25/2008	61	0.011	0.0031	ND(0.0025)	ND(0.0025)	---	0.35	ND(0.0050)	0.32D	ND(0.0050)	ND(0.013)	0.0027	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	7/29/2008	61	0.0058J	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	---	0.32J	ND(0.010)J	0.43J	ND(0.010)J	ND(0.025)J	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	ND(0.010)J	ND(0.0050)J	ND(0.0050)J
	10/22/2008	61	0.0056	0.0018	ND(0.0010)	ND(0.0010)	---	0.12	ND(0.0020)	0.11	ND(0.0020)	ND(0.0050)	0.041D	0.037D	ND(0.0010)	ND(0.0020)	0.0021	ND(0.0010)
	1/30/2009	61	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	0.79	17	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
	4/9/2009	61	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	2.4	23	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)
	10/26/2009	49	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	---	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)	2.3	43	ND(0.40)	ND(0.40)	ND(0.40)	ND(0.40)
	4/22/2010	61	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.36	0.98	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
	10/13/2010	61	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.007	ND(0.0050)	0.019	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)
	4/7/2011	35	0.0031J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.016J	ND(0.0020)J	ND(0.0020)J	0.0093J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J
	10/28/2011	61	0.0084	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.12	0.0033	ND(0.0020)	0.007	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2012	46	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.014J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	0.0028J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J
	11/27/2012	61	0.039	0.01	ND(0.0020)	ND(0.0020)	0.02	ND(0.0020)	ND(0.0020)	0.0045	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/15/2013	53.7	0.05	0.018	ND(0.0020)	ND(0.0020)	0.025	ND(0.0020)	ND(0.0020)	0.0048	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-38-DO	7/23/2004	NA	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	0.0048J	0.061J	ND(0.0010)J	ND(0.0020)J	0.0036J	ND(0.0010)J
	12/28/2004	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0037	0.003	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2005	50	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.9	0.85	ND(0.020)	ND(0.040)	0.11	ND(0.020)
	1/3/2006	55	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	2.3	1.1	ND(0.020)	ND(0.040)	0.16	ND(0.020)
	3/28/2006	50	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	2.3	1.1	ND(0.020)	ND(0.040)	0.17	ND(0.020)
	1/31/2007	49	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	2	1.1	ND(0.020)	ND(0.040)	0.18	ND(0.020)
	4/10/2007	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.014	ND(0.0010)	ND(0.0020)	0.0058	ND(0.0010)
	11/16/2007	47	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.8	0.79	ND(0.020)	ND(0.040)	0.17	ND(0.020)
	4/25/2008	54	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	1.7	0.95	ND(0.020)	ND(0.040)	0.2	ND(0.020)
	10/22/2008	54	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.050)	ND(0.025)	ND(0.050)	ND(0.13)	2.1	1.3	ND(0.025)	ND(0.050)	0.18	ND(0.025)
	4/9/2009	47	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.74	0.55	ND(0.010)	ND(0.010)	0.13	ND(0.010)
	10/28/2009	47	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.25	0.36	ND(0.010)	ND(0.010)	1.1	ND(0.010)
	4/21/2010	54	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.25	0.27	ND(0.0025)	ND(0.0025)	0.056	ND(0.0025)
	10/14/2010	45.5	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.43	0.32	ND(0.0050)	0.0064	0.34	ND(0.0050)
	4/5/2011	45	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.27	0.22	ND(0.0040)	ND(0.0040)	0.037	ND(0.0040)
	10/26/2011	45	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.52D	0.39	ND(0.0050)	0.0052	0.28	0.0057
	4/6/2012	44.5	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.47	0.46	ND(0.0050)	ND(0.0050)	0.15	0.0067
	11/27/2012	54	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.24	0.19	ND(0.0050)	ND(0.0050)	0.13	ND(0.0050)
	4/15/2013	42	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.45	0.62D	ND(0.0050)	0.0061	0.12	0.0075
OB-39-DO	7/26/2004	NA	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	0.0046J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	12/28/2004	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0018	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2005	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0073	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/6/2006	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.013	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.011	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/10/2007	55	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.008	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/14/2007	53	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.011	ND(0.0010)	ND(0.0020)	0.0012	ND(0.0010)
	4/25/2008	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0083	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/22/2008	54	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0091	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/9/2009	53	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0076	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
OB-40-DO	7/23/2004	NA	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	12/28/2004	69	ND(0.0010)	0.0015	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2005	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	12/29/2005	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	68	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/31/2007	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/10/2007	69	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	11/14/2007	66	ND(0.0010)	0.0045	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0014	0.0038	ND(0.0010)	ND(0.0020)	0.0027	ND(0.0010)
	4/25/2008	68	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	10/22/2008	68	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/9/2009	68	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
OB-41-S	4/5/2011	13	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.05	0.26	ND(0.0040)	ND(0.0040)	0.081	ND(0.0040)
	10/25/2011	13	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.03	0.12	ND(0.0020)	ND(0.0020)	0.04	ND(0.0020)
	4/5/2012	13.2	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.017	0.069	ND(0.0020)	ND(0.0020)	0.028	ND(0.0020)
	11/12/2012	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.022	0.082	ND(0.0020)	ND(0.0020)	0.034	ND(0.0020)
	4/12/2013	13.3	ND(0.0020)	ND(0.0020)	0.0024	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.071	0.29D	ND(0.0020)	ND(0.0020)	0.08	ND(0.0020)
OB-42-S	4/5/2011	13	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.10	2.7	ND(0.040)	ND(0.040)	1.2	ND(0.040)
	10/24/2011	13	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.25)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	0.096	3.0	ND(0.050)	ND(0.050)	1.0	ND(0.050)
	4/4/2012	13.5	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.078	2.4	ND(0.040)	ND(0.040)	0.94	ND(0.040)
	11/12/2012	14	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.11	2.6	ND(0.040)	ND(0.040)	0.79	ND(0.040)
	4/12/2013	13.6	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.13J	3.5	ND(0.040)	ND(0.040)	1.4	ND(0.040)
OB-43-S	10/24/2011	16	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0052	0.007	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
OB-43-S (cont.)	11/12/2012	14	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0021	0.0030	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/12/2013	16	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0024	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
P-05R	4/27/2009	NA	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J
P-09R	1/6/2006	5.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0048	ND(0.0010)
	3/30/2006	5.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.035	0.16	ND(0.0020)
	2/1/2007	5.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.028	0.065	ND(0.0010)
	4/12/2007	4.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.003	0.05	ND(0.0010)
	11/14/2007	NA	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.074	0.35	0.0068
	2/11/2008	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.014	ND(0.0010)
	4/23/2008	4	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.015	0.047	ND(0.0010)
	10/23/2008	4.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.017	0.071	ND(0.0010)
	4/6/2009	4.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.016	ND(0.0010)
	10/27/2009	4.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/23/2010	4.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0036	ND(0.0010)
	10/13/2010	4.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2011	3.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0021	ND(0.0020)
	10/24/2011	4.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/12/2012	5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/2/2013	3.8	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
P-11R	4/27/2009	NA	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J
	4/22/2010	9	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	4/5/2011	8	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	8.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/12/2013	8.75	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
P-14	6/3/2002	12	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	1/29/2003	12	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
P-19A	5/3/2004	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/3/2005	10	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	0.02	ND(0.0040)	ND(0.010)	0.004	0.02	ND(0.0020)	ND(0.0040)	0.25	ND(0.0020)
	5/2/2005	10	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	ND(0.0020)J	---	ND(0.0020)J	ND(0.0040)J	0.016J	ND(0.0040)J	ND(0.010)J	0.0023J	0.013J	ND(0.0020)J	ND(0.0040)J	0.18J	ND(0.0020)J
	1/6/2006	10	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0098	ND(0.0020)	ND(0.0050)	0.0013	0.007	ND(0.0010)	ND(0.0020)	0.082	ND(0.0010)
	3/30/2006	9	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0050)	0.0021	0.0096	ND(0.0010)	ND(0.0020)	0.14	0.001
	2/1/2007	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	0.0038	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0095	ND(0.0020)	ND(0.0040)	0.16	ND(0.0020)
	4/12/2007	10	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	0.0053	ND(0.0040)	ND(0.010)	0.0022	0.014	ND(0.0020)	ND(0.0040)	0.22	ND(0.0020)
	11/14/2007	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0071	0.038	ND(0.0050)	ND(0.010)	0.44	ND(0.0050)
	4/23/2008	10	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	0.0024	0.016	ND(0.0020)	ND(0.0040)	0.23	ND(0.0020)
	10/23/2008	10	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	0.03	ND(0.0050)	ND(0.010)	0.41	ND(0.0050)
	4/6/2009	10	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0037	0.025	ND(0.0020)	ND(0.0020)	0.28	ND(0.0020)
	10/27/2009	10	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0067	0.031	ND(0.0020)	ND(0.0020)	0.28	ND(0.0020)
4/22/2010	10	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0019	ND(0.0010)	ND(0.0010)	0.033	ND(0.0010)	
P-20R	10/13/2010	10	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0065	0.037	ND(0.0020)	ND(0.0020)	0.47D	ND(0.0020)
	4/6/2011	9	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.01	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0031	0.012	ND(0.0020)	ND(0.0020)	0.12	ND(0.0020)
	10/24/2011	10	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.0047	0.021	ND(0.0040)	ND(0.0040)	0.2	ND(0.0040)
	4/6/2012	9.4	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.0054	0.03	ND(0.0040)	ND(0.0040)	0.29	ND(0.0040)
	11/12/2012	10	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.0076	0.045	ND(0.0040)	ND(0.0040)	0.39	ND(0.0040)
	4/12/2013	9.5	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.006	0.031	ND(0.0020)	ND(0.0020)	0	

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
P-20R (cont.)	4/6/2012	10	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/2/2013	10	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
P-21	1/3/2005	10	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0019	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0025	ND(0.0010)	ND(0.0020)	0.01	ND(0.0010)
	5/2/2005	10	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	1/4/2006	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0013	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/7/2006	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0024	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0036	ND(0.0010)	ND(0.0020)	0.012	ND(0.0010)
	2/1/2007	12	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.004	ND(0.0010)	ND(0.0020)	0.0059	ND(0.0010)
	4/12/2007	11	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	1/3/2005	5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0043	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
P-24	5/2/2005	4	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	0.0020J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J
	1/6/2006	8	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/30/2006	2.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	2/5/2007	8	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	3.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/23/2008	3	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.012	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	6/3/2002	10	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	37D	25	ND(0.20)	ND(0.20)	1.1	ND(0.10)
RW-01_MW-18	6/3/2002	45	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	39D	27	ND(0.20)	ND(0.20)	1.1	ND(0.10)
	2/17/2003	45	0.026	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	0.11	ND(0.0020)	0.003	ND(0.010)	ND(0.010)	0.32D	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	45	0.23	ND(0.010)	ND(0.010)	ND(0.010)	---	3.2D	ND(0.010)	0.13	ND(0.050)	ND(0.020)	ND(0.010)	ND(0.0020)	ND(0.020)	ND(0.020)	ND(0.010)	ND(0.010)
	12/16/2003	45	0.16	ND(0.010)	ND(0.010)	ND(0.010)	---	1.1	ND(0.020)	0.056	ND(0.020)	ND(0.050)	0.014	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	5/13/2004	41	0.022	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.013	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	5/2/2005	45	0.14J	0.0035J	ND(0.0020)J	0.0033J	---	0.24J	ND(0.0040)J	0.061J	ND(0.0040)J	ND(0.010)J	0.010J	ND(0.0020)J	ND(0.0020)J	ND(0.0040)J	ND(0.0020)J	ND(0.0020)J
	4/3/2006	37	0.26	0.0077	ND(0.0020)	0.0053	---	0.14	ND(0.0040)	0.097	ND(0.0040)	ND(0.010)	0.0058	ND(0.0020)	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0020)
	4/12/2007	45	0.3	0.0077	ND(0.0025)	0.0046	---	0.089	ND(0.0050)	0.1	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	4/12/2007	70	1.3	ND(0.010)	ND(0.010)	ND(0.010)	---	0.96	ND(0.020)	0.25	ND(0.020)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.010)
	4/25/2008	44	0.19	0.011	ND(0.0020)	ND(0.0020)	---	0.045	ND(0.0040)	0.15	ND(0.0040)	ND(0.010)	0.0071	0.014	ND(0.0020)	ND(0.0040)	0.0053	ND(0.0020)
	4/9/2009	39	0.32	0.017	ND(0.0025)	ND(0.0025)	---	0.027	ND(0.0025)	0.21	ND(0.0025)	ND(0.0025)	0.051	0.1	ND(0.0025)	ND(0.0025)	0.12	ND(0.0025)
RW-02	6/3/2002	40	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	25	8.1	ND(0.20)	ND(0.20)	ND(0.10)	ND(0.10)
	6/3/2002	70	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	0.3	ND(1.0)	ND(0.40)	9.1	36	ND(0.40)	ND(0.40)	ND(0.20)	ND(0.20)
	2/17/2003	70	0.15	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	0.80D	ND(0.0020)	0.14	ND(0.010)	ND(0.010)	0.052	0.006	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/14/2003	70	0.088	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.83	ND(0.0050)	0.091	ND(0.030)	ND(0.010)	0.01	ND(0.0050)	ND(0.010)	ND(0.010)	ND(0.0050)	ND(0.0050)
	12/16/2003	70	0.16	ND(0.0050)	ND(0.0050)N	ND(0.0050)	---	0.32	ND(0.010)	0.099	ND(0.010)	ND(0.025)	0.013	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	5/2/2004	64	0.3	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.54	ND(0.010)	0.17	ND(0.010)	ND(0.025)	0.014	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	3/31/2006	66	0.63	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	0.48	ND(0.010)	0.23	ND(0.010)	ND(0.025)	0.036	0.0059	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
RW-03	6/3/2002	20	0.04	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	1.7	5.0D	ND(0.020)	ND(0.020)	0.15	ND(0.010)
	6/3/2002	40	0.04	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	1.7	5.0D	ND(0.020)	ND(0.020)	0.15	ND(0.010)
	6/3/2002	70	0.05	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	3.0D	5.0D	ND(0.020)	ND(0.020)	0.29	ND(0.010)
	2/20/2003	70	3.1D	ND(0.010)	ND(0.010)	ND(0.010)	---	0.04	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.020)	ND(0.010)	ND(0.010)
	5/13/2003	70	2.6	ND(0.010)	ND(0.010)	ND(0.010)	---	0.19	ND(0.010)	0.06	ND(0.050)	ND(0.020)	ND(0.010)	ND(0.010)	ND(0.020)	ND(0.020)	ND(0.010)	ND(0.010)
	12/16/2003	70	0.52	0.0054	ND(0.0050)	ND(0.0050)	---	0.024	ND(0.010)	0.0074	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	5/2/2004	62	0.2	0.0055	ND(0.0025)	ND(0.0025)	---	0.036	ND(0.0050)	0.0089	ND(0.0050)	ND(0.013)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0025)
	5/2/2005	70	1.7J	0.047J	ND(0.020)J	ND(0.020)J	---	0.11J	ND(0.040)J	0.033J	ND(0.040)J	ND(0.10)J	ND(0.020)J	ND(0.020)J	ND(0.020)J	ND(0.040)J	ND(0.020)J	ND(0.020)J
	4/3/2006	56	1.9	0.08	ND(0.020)	ND(0.020)	---	0.095	ND(0.040)	0.024	ND(0.040)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	4/12/2007	70	0.033	0.0011	ND(0.0010)	ND(0.0010)	---	0.0015	ND(0.0020)	0.0015	ND(0.0020)	ND(0.0050)	0.021	0.012	ND(0.0010)	ND(0.0020)	0.0053	ND(0.0010)
	7/14/2009	70	0.047	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	0.32	0.34	ND(0.025)	2.6	2.4	ND(0.025)
	7/14/2009	15	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.26	0.14	ND(0.010)	0.56	0.85	ND(0.010)
	10/26/2009	15	0.068	0.0071	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.052	0.025	ND(0.0050)	0.67D	0.058	ND(0.0050)
	10/26/2009	56	0.036	0.0069	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.055	0.093	ND(0.0050)	0.62	0.14	ND(0.0050)
	1/28/2010	55	0.014	0.0028	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.028	0.035	ND(0.0020)	0.14	0.2	ND(0.0020)
	1/28/2010	15	0.01	0.0026	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.02	0.016	ND(0.0020)	0.14	0.19	ND(0.0020)
	4/22/2010	55	0.022	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.46	0.6	ND(0.020)	0.36	2.2	ND(0.020)
	4/28/2010	15	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	---	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	ND(0.025)	0.92	0.84	ND(0.025)	0.56	3.5	ND(0.025)
	7/14/2010	69	0.032J	ND(0.025)J	ND(0.025)J	ND(0.025)J	---	ND(0.025)J	ND(0.025)J	ND(0.025)J	ND(0.025)J	ND(0.025)J	0.62J	1.1J	ND(0.025)J	3.2J	3.7J	ND(0.025)J

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
RW-03 (cont.)	10/12/2010	55	0.78	ND(0.10)	ND(0.10)	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.59	1.1	ND(0.10)	5.2	5.4	ND(0.10)
	1/4/2011	55	0.29	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.098	0.2	ND(0.020)	0.51	1.1	ND(0.020)
RW-04	4/5/2011	54.7	0.01	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.079	0.15	ND(0.0020)	0.0022	0.11	ND(0.0020)
	6/3/2002	20	0.57	0.04	0.03	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.46	0.98	ND(0.020)	ND(0.020)	0.14	ND(0.010)
	6/3/2002	40	3.8	0.3	0.3	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	1.9	8.6	ND(0.20)	ND(0.20)	1.1	ND(0.10)
	6/3/2002	70	5.7	0.4	0.4	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	3.2	22	ND(0.20)	ND(0.20)	2.1	ND(0.10)
	1/29/2003	70	0.027	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	0.022	ND(0.0020)	0.005	ND(0.010)	ND(0.010)	0.12	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	70	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	0.002	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.015	0.004	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/15/2003	70	0.011	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.02	ND(0.0020)	0.0019	ND(0.0020)	ND(0.0050)	0.0019	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/27/2004	63	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.001	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.007	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	57	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0053	0.0012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
4/12/2007	70	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
RW-05	6/3/2002	15	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.003	0.004	ND(0.0020)	ND(0.0020)	0.0060D	ND(0.0020)
	6/3/2002	35	0.11	0.6	0.28	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.27	2.0D	ND(0.020)	0.48	6.3D	0.05
	1/29/2003	35	0.039	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	35	2.9D	0.02	0.028	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.021	0.11	ND(0.0020)	0.004	0.3	ND(0.0020)
	12/15/2003	35	2.2	0.029	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.040)	ND(0.020)	ND(0.040)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.040)	ND(0.020)	ND(0.020)
	5/2/2004	34	0.0044	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0042	0.0028	ND(0.0010)	ND(0.0020)	0.0021	ND(0.0010)
	4/27/2005	33	0.24	0.0082	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0040)	ND(0.0020)	ND(0.0040)	ND(0.010)	ND(0.0020)	0.0028	ND(0.0020)	ND(0.0040)	0.0025	ND(0.0020)
	4/3/2006	33	0.55	0.016	0.005	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.033	0.069	ND(0.0050)	ND(0.010)	0.06	ND(0.0050)
	4/12/2007	33	0.48	0.016	0.014	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.0084	0.038	ND(0.0050)	ND(0.010)	0.046	ND(0.0050)
RW-17_MW-17	6/3/2002	110	ND(0.10)	ND(0.10)	0.1	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	3.7	22D	ND(0.20)	0.3	7.9	ND(0.10)
	6/3/2002	125	ND(0.10)	ND(0.10)	0.1	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	5.1	22D	ND(0.20)	0.3	7.7	ND(0.10)
	6/3/2002	160	ND(0.10)	ND(0.10)	0.1	ND(0.10)	---	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.50)	ND(0.20)	4.9	24D	ND(0.20)	0.3	7.4	ND(0.10)
	2/20/2003	160	0.013	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	0.017	ND(0.0020)	0.004	ND(0.010)	ND(0.010)	0.036	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/13/2003	160	0.002	0.002	ND(0.0010)	ND(0.0020)	---	0.012	ND(0.0020)	0.036	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	2/2/2004	160	ND(0.0050)	ND(0.0050)	ND(0.0010)	ND(0.0050)	ND(0.020)	ND(0.0050)	ND(0.0050)	0.016	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0020)	ND(0.0050)	ND(0.0050)
	4/27/2004	160	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.027	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/29/2005	160	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.014	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/31/2006	56	0.0061	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	0.0013	ND(0.0020)	0.012	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/12/2007	160	0.0028	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0089	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
RW-19	6/3/2002	80	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.40)	8.5	37	ND(0.40)	ND(0.40)	12	0.3
	6/3/2002	115	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.40)	9.3	42	ND(0.40)	ND(0.40)	13	0.3
	6/3/2002	150	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	---	ND(0.20)	ND(0.20)	ND(0.20)	ND(1.0)	ND(0.40)	6.5	37	ND(0.40)	ND(0.40)	25	0.7
	1/29/2003	150	ND(0.0020)	0.007	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	0.002	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/15/2003	150	ND(0.0020)	0.014	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/18/2003	150	0.001	0.0069	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0077	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/1/2004	148	ND(0.0010)	0.003	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0027	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/13/2004	148	ND(0.0050)	0.01	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.0050)
	4/29/2005	148	ND(0.0010)	0.0072	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0025	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	3/28/2006	153	0.0012	0.0068	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0017	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/14/2007	150	ND(0.0010)	0.0062	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0013	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/24/2008	148	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
RW-20	6/3/2002	40	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.007	0.02	ND(0.0020)	ND(0.0020)	0.017	ND(0.0020)
	6/3/2002	72	ND(0.0020)	ND(0.0020)	0.001	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.028	0.094	ND(0.0020)	ND(0.0020)	0.11	0.004
	1/29/2003	72	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	5/15/2003	72	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	0.002	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	12/18/2003	72	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND												

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)	
RW-21	6/3/2002	90	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	0.009	0.02	ND(0.0020)	ND(0.0020)	0.053	ND(0.0020)	
	6/3/2002	120	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	ND(0.050)	ND(0.050)	ND(0.10)	0.9	7.6	ND(0.050)	
	6/3/2002	150	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	---	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.30)	ND(0.10)	ND(0.050)	ND(0.050)	ND(0.10)	1.2	6	ND(0.050)	
	1/29/2003	150	ND(0.0020)	0.009	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	5/15/2003	150	ND(0.0020)	0.007	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	12/18/2003	150	ND(0.0010)	0.0072	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	0.0091	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	5/1/2004	145	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/29/2005	146	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	3/29/2006	149	ND(0.0010)	0.012	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/14/2007	150	ND(0.0010)	0.0069	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/24/2008	148	ND(0.0010)	0.0055	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	RW-22	6/3/2002	80	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.21	1.3	ND(0.020)	0.06	1.9	ND(0.010)
6/3/2002		105	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.17	1.3	ND(0.020)	0.06	1.9	ND(0.010)	
6/3/2002		145	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.16	1.3	ND(0.020)	0.06	1.9	ND(0.010)	
1/23/2003		145	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.06	0.96	ND(0.020)	0.05	1.2	ND(0.010)	
5/13/2003		145	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.020)	0.08	0.94	ND(0.020)	0.03	1.1	ND(0.010)	
12/17/2003		145	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.097	0.75	ND(0.010)	ND(0.020)	0.8	ND(0.010)	
5/1/2004		NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.024	0.6	ND(0.010)	ND(0.020)	0.7	ND(0.010)	
4/28/2005		106	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.038	0.52	ND(0.0050)	ND(0.010)	0.52	ND(0.0050)	
3/27/2006		108	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.029	0.39	ND(0.0050)	ND(0.010)	0.47	ND(0.0050)	
4/11/2007		145	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.016	0.3	ND(0.0050)	ND(0.010)	0.46	ND(0.0050)	
4/22/2008		144	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.012	0.18	ND(0.0025)	ND(0.0050)	0.32	ND(0.0025)	
4/3/2009		144	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.0086	0.12	ND(0.0025)	ND(0.0025)	0.36	ND(0.0025)	
4/20/2010		144	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	0.0063	0.094	ND(0.0050)	ND(0.0050)	0.38	ND(0.0050)	
4/4/2011		105	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.07	ND(0.0040)	ND(0.0040)	0.36	ND(0.0040)	
4/5/2012		62	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.0061	0.047	ND(0.0040)	ND(0.0040)	0.34	ND(0.0040)
4/17/2013		106	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.0062	0.04	ND(0.0040)	ND(0.0040)	0.26	ND(0.0040)
STR-03		5/15/2003	NA	ND(0.0020)	ND(0.0020)	ND(0.0010)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
		12/22/2003	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.54	0.37	ND(0.0050)	0.05	0.43	ND(0.0050)
		5/4/2004	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0011	ND(0.0010)
		12/29/2004	NA	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.3	0.17	ND(0.0050)	0.027	0.4	0.005
	5/2/2005	NA	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J	
	1/3/2006	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	4/3/2006	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)	
	2/1/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.001	0.0028	ND(0.0010)	0.0045	0.053	0.0013	
	4/16/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0022	0.002	ND(0.0010)	ND(0.0020)	0.0053	ND(0.0010)	
	11/16/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.002	0.0011	ND(0.0010)	ND(0.0020)	0.0025	ND(0.0010)	
	1/23/2008	NA	0.021	ND(0.0050)	ND(0.0050)	ND(0.0050)	---	ND(0.0050)	ND(0.010)	ND(0.0050)	ND(0.010)	ND(0.025)	0.18	0.24	ND(0.0050)	0.049	0.6	0.01	
	4/21/2008	NA	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0020)J	ND(0.0050)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0020)J	ND(0.0010)J	ND(0.0010)J	
	7/29/2008	NA	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	ND(0.0050)J	---	ND(0.0050)J	ND(0.010)J	ND(0.0050)J	ND(0.010)J	ND(0.025)J	0.036J	0.041J	ND(0.0050)J	0.15J	0.45J	ND(0.0050)J	
	10/22/2008	NA	0.0073	0.0037	ND(0.0025)	ND(0.0025)	---	0.0032	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	ND(0.0025)	0.0028	ND(0.0025)	0.095	0.34	ND(0.0025)	
	1/13/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.010)	ND(0.0010)	0.0012	ND(0.0010)	0.0013	0.011	ND(0.0010)	
	4/9/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0083	0.0072	ND(0.0010)	0.012	0.085	0.0024	
	7/14/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0013	ND(0.0010)	0.0079	0.015	ND(0.0010)	
	10/27/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	
	1/28/2010	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0067	0.0084	ND(0.0010)	0.0053	0.047	ND(0.0010)	
	4/22/2010	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0014	0.003	ND(0.0010)	
	7/14/2010	NA	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	---	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	ND(0.0010)J	
	10/12/2010	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	1/5/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	4/5/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	7/28/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	
	10/25/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0067	0.027	ND(0.0020)	
	1/18/2012	NA	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.020)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.011	0.02	ND(0.0040)	0.041	0.21	ND(0.0040)

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
STR-03 (cont.)	4/3/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	8/21/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	11/28/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	2/6/2013	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.013	0.032	ND(0.0020)	0.02	0.43D	ND(0.0020)
	4/11/2013	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.004	0.0083	ND(0.0020)	0.0092	0.17	0.0037
STRHA-07A	10/20/2008	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.003	ND(0.0010)	ND(0.0020)	0.005	ND(0.0010)
	4/7/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0015	ND(0.0010)	ND(0.0010)	0.0017	ND(0.0010)
	10/27/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.013	0.058	ND(0.0010)	ND(0.0010)	0.051	ND(0.0010)
	4/28/2010	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0035	0.02	ND(0.0010)	ND(0.0010)	0.02	ND(0.0010)
	10/14/2010	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0061	0.036	ND(0.0020)	ND(0.0020)	0.035	ND(0.0020)
	4/6/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0026	0.013	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)
	10/25/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0021	0.011	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)
	4/6/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0054	0.03	ND(0.0020)	ND(0.0020)	0.036	ND(0.0020)
	11/13/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0068	0.033	ND(0.0020)	ND(0.0020)	0.032	ND(0.0020)
	4/15/2013	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.01	0.046	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)
STRHA-07B	10/20/2008	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.011	0.051	ND(0.0010)	ND(0.0020)	0.046	ND(0.0010)
	4/7/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)
	10/27/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0044	0.025	ND(0.0010)	ND(0.0010)	0.0091	ND(0.0010)
	4/28/2010	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0058	0.031	ND(0.0010)	ND(0.0010)	0.0098	ND(0.0010)
	10/14/2010	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.012	ND(0.0020)	ND(0.0020)	0.0052	ND(0.0020)
	4/6/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0062	0.028	ND(0.0020)	ND(0.0020)	0.0089	ND(0.0020)
	10/25/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0055	0.025	ND(0.0020)	ND(0.0020)	0.0076	ND(0.0020)
	4/6/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0037	0.019	ND(0.0020)	ND(0.0020)	0.0071	ND(0.0020)
	11/13/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0068	0.034	ND(0.0020)	ND(0.0020)	0.031	ND(0.0020)
	4/15/2013	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0073	0.035	ND(0.0020)	ND(0.0020)	0.017	ND(0.0020)
STRM-A-SCDS	9/15/2004	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	0.0026	ND(0.0010)
	1/3/2005	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0012	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	5/19/2005	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	0.0041	ND(0.0010)	ND(0.0020)	0.0016	ND(0.0010)
	1/6/2006	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0013	0.0061	ND(0.0010)	ND(0.0020)	0.007	ND(0.0010)
	3/30/2006	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0036	0.015	ND(0.0010)	ND(0.0020)	0.016	ND(0.0010)
	4/12/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0015	0.0065	ND(0.0010)	ND(0.0020)	0.0066	ND(0.0010)
	4/23/2008	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0019	0.0066	ND(0.0010)	ND(0.0020)	0.0024	ND(0.0010)
	10/21/2008	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0041	0.015	ND(0.0010)	ND(0.0020)	0.0052	ND(0.0010)
	10/23/2008	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0034	0.014	ND(0.0010)	ND(0.0020)	0.016	ND(0.0010)
	4/6/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0035	ND(0.0010)	ND(0.0010)	0.0012	ND(0.0010)
	10/27/2009	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.002	0.0079	ND(0.0010)	ND(0.0010)	0.0034	ND(0.0010)
	4/22/2010	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0016	0.0059	ND(0.0010)	ND(0.0010)	0.0044	ND(0.0010)
	10/13/2010	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0051	0.02	ND(0.0020)	ND(0.0020)	0.057	ND(0.0020)
	4/6/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0033	0.0033	ND(0.0020)	ND(0.0020)	0.0022	ND(0.0020)
	10/26/2011	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0025	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/6/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0048	0.017	ND(0.0020)	ND(0.0020)	0.013	ND(0.0020)
	11/12/2012	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0038	0.012	ND(0.0020)	ND(0.0020)	0.0051	ND(0.0020)
	4/15/2013	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0055	ND(0.0020)	ND(0.0020)	0.0028	ND(0.0020)
UNNAMED_STREAM	3/1/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0010)
	4/16/2007	NA	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0050)	ND(0.0025)	ND(0.0050)	ND(0.013)	0.18	0.16	ND(0.0025)	0.018	0.3	0.0039
	11/16/2007	NA	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0093	0.00				

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon- tetra- chloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
UNNAMED_STREAM (cont.)	1/28/2010	NA	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	---	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.4	1.2	ND(0.020)	0.22	1.9	ND(0.020)
	4/22/2010	NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.29	0.17	ND(0.010)	0.14	1	ND(0.010)
	10/12/2010	NA	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.005	0.0053	ND(0.0020)	ND(0.0020)	0.016	ND(0.0020)
	1/4/2011	NA	ND(0.0020)	ND(0.0020)	0.011	ND(0.0020)	---	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.51D	0.24D	ND(0.0020)	0.20D	1.4D	0.0094
	4/5/2011	NA	0.0022	ND(0.0020)	0.015	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	1.1D	0.86D	ND(0.0020)	0.083	2.3D	0.012
	10/25/2011	NA	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.91	0.59	ND(0.020)	0.16	1.4	ND(0.020)
	1/17/2012	NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.98	0.61	ND(0.010)	0.037	0.48	ND(0.010)
	4/3/2012	NA	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.10)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	1.2	0.73	ND(0.020)	0.18	2	ND(0.020)
	8/21/2012	NA	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	0.043	0.071	ND(0.010)	0.11	0.56	ND(0.010)
	2/6/2013	NA	ND(0.010)	ND(0.010)	0.019	ND(0.010)	ND(0.050)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	1.7D	1.5D	ND(0.010)	0.18	2.2D	0.012
W-1	4/11/2013	NA	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.20)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.065	0.071	ND(0.040)	0.14	2.9	ND(0.040)
	10/19/2006	NA	0.0053	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0067	0.091	ND(0.0010)	ND(0.0020)	0.016	ND(0.0010)
	4/15/2007	10	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	---	ND(0.010)	ND(0.020)	ND(0.010)	ND(0.020)	ND(0.050)	0.071	1.1	ND(0.010)	ND(0.020)	0.56	ND(0.010)
	10/20/2008	11.5	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0020)	ND(0.0010)	ND(0.0020)	ND(0.0050)	0.0065	0.15	ND(0.0010)	ND(0.0020)	0.038	ND(0.0010)
	10/26/2009	9	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	---	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)	0.013	0.21	ND(0.0025)	ND(0.0025)	0.048	ND(0.0025)
	4/21/2010	9	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	---	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	ND(0.0010)	0.0065	0.11	ND(0.0010)	ND(0.0010)	0.055	ND(0.0010)
	10/14/2010	9	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	---	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	ND(0.0040)	0.0066	0.23	ND(0.0040)	ND(0.0040)	0.028	ND(0.0040)
	4/5/2011	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0072	0.095	ND(0.0020)	ND(0.0020)	0.056	ND(0.0020)
	10/24/2011	9	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0066	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)
	4/5/2012	11	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.039	1.0D	ND(0.0020)	ND(0.0020)	0.49D	0.0054
	11/12/2012	9	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.0067	0.17	ND(0.0020)	ND(0.0020)	0.025	ND(0.0020)
	5/2/2013	10.8	ND(0.0020)	ND(0.0020)	0.0021	ND(0.0020)	ND(0.010)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	ND(0.0020)	0.055	1.3D	ND(0.0020)	ND(0.0020)	0.48D	0.007

Table 2
Water Quality Data - VOC Results
June 2002 - May 2013
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Notes:

Analytical results presented in milligrams per liter (mg/l).

Analytical results are reported by the laboratory in micrograms per liter (ug/l). Results are presented without changing the number of significant figures reported by the laboratory.

Bedrock wells BR-1 through BR-8, CL8-BR and CL9-BR each have a multilevel groundwater monitoring system present within the bedrock portion of the well. Zone 1 refers to the deepest sample interval, Zone 2 refers to the middle sampling zone and Zone 3 refers to the sampling zone closest to the ground surface.

1,1,2-Trichloroethane, 1,2-dichloropropane, dichloromethane and dichlorodifluoromethane are compounds which have been detected but are not included on the table.

Sample depths are in feet below grade.

A sample depth of NA indicates that the sample was not collected at a discrete depth.

OB-32-DO(PURGE) = Duplicate sample collected by purge and grab method.

--- = Compound was not analyzed for.

TCA - Trichloroethane

DCE - Dichloroethene

TCE - Trichloroethene

DCA - Dichloroethane

PCE - Tetrachloroethene

ND - None Detected, detection limit provided in parentheses.

E - Estimated concentration.

L - Sample analyzed outside of holding time.

N - Matrix interference.

Z - Sample results switched in May 7, 2004 status report.

D - Indicates that the result is reported from a secondary dilute sample.

J - Estimated concentration.

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
AP-02	6/3/2002	---	42.4	---	---
	6/3/2002	---	---	0.17	0.063
	2/17/2003	61	---	ND(0.05)	0.033
	5/14/2003	55	---	ND(0.05)	620
	12/16/2003	152	---	0.126	805
	5/1/2004	125	---	ND(0.100)	635
	5/2/2005	7060	---	---	---
	4/11/2007	2430	---	---	---
	4/22/2008	866	---	---	---
AP-03-BR	1/6/2006	294	---	---	---
	3/30/2006	56.8	---	---	---
	4/12/2007	74.5	---	---	---
AP-03-DO	1/3/2005	113	---	---	---
	5/2/2005	113	---	---	---
	1/6/2006	128	---	---	---
	3/30/2006	128	---	---	---
	2/1/2007	125	---	---	---
	4/12/2007	91.9	---	---	---
AP-04-BR	1/6/2006	954	---	---	---
	3/30/2006	990	---	---	---
	4/12/2007	1080	---	---	---
AP-04-DO	1/3/2005	178	---	---	---
	5/2/2005	49.9	---	---	---
	2/1/2007	1300	---	---	---
AP-06-BR	6/3/2002	---	2.9	---	---
	6/3/2002	---	---	0.14	ND(0.005)
	1/24/2003	320	---	0.38	0.072
	12/17/2003	378	---	3.12	0.3
	5/1/2004	215	---	0.317	0.15
	4/29/2005	1070	---	---	---
	3/31/2006	1220	---	---	---
AP-06-DO	6/3/2002	---	2.3	---	---
	6/3/2002	---	---	0.03	0.75
	1/24/2003	91	---	ND(0.05)	0.72
	5/14/2003	81	---	0.1	0.78
	12/17/2003	127	---	ND(0.100)	0.644
	5/1/2004	92.6	---	ND(0.100)	0.426
	4/29/2005	96.2	---	---	---
	3/31/2006	94.5	---	---	---
AP-08-DO	8/13/2003	---	---	0.18	0.27
	12/23/2003	68.8	---	0.857	1
	5/3/2004	30.2	---	ND(0.100)	0.122
	1/4/2005	80.9	---	---	---
	4/29/2005	21.3	---	---	---
	3/29/2006	193	---	---	---
AP-09-DO	2/5/2007	58.5	---	---	---
	8/13/2003	---	---	2.5	0.71
	12/29/2003	133	---	1.19	1.79
	5/3/2004	146	---	ND(0.100)	2.31
	12/30/2004	241	---	---	---
	4/29/2005	87.4	---	---	---
	3/29/2006	189	---	---	---
	2/5/2007	174	---	---	---

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
AP-12-BR	6/3/2002	---	70.4	---	---
AP-12-BR (cont.)	6/3/2002	---	---	26	1.4
	1/24/2003	400	---	ND(0.1)	990D
	5/13/2003	120	---	ND(0.05)	0.008
	12/17/2003	6.49	---	0.2	3.71
	4/23/2004	2360	---	ND(0.300)	3030
	4/3/2006	72.4	---	---	---
	4/13/2007	115	---	---	---
	4/20/2010	1200	---	25	26000
	10/14/2010	33100	---	ND(3.0)	24000
	4/14/2011	10400	---	8.7	12000
	10/28/2011	225	---	ND(5.0)	3900
	4/6/2012	890	---	ND(2.5)	9000
	11/27/2012	420	---	ND(1.0)	3300
	4/18/2013	192	---	ND(0.50)	1400
AP-12-DO	6/3/2002	---	22	---	---
	6/3/2002	---	---	0.02	0.2
	1/24/2003	18	---	ND(0.05)	0.014
	5/13/2003	16	---	ND(0.05)	0.076
	12/17/2003	7.49	---	ND(0.100)	0.274
	4/23/2004	24.4	---	ND(0.100)	47.6
	4/29/2005	60.9	---	---	---
	8/30/2005	---	---	---	---
	9/8/2005	---	---	---	---
	4/3/2006	114	---	---	---
	4/13/2007	16.1	---	---	---
	4/20/2010	34.4	---	0.47	5.4
	11/27/2012	538	---	9.2	3400
	4/18/2013	156	---	ND(0.50)	720
AP-12-S	6/3/2002	---	11.9	0.07	0.2
	2/20/2003	34	---	ND(0.1)	65
	5/13/2003	47	---	ND(0.05)	9500
	12/17/2003	4.54	---	ND(0.100)	18.1
	4/23/2004	14.4	---	ND(0.100)	214
	4/29/2005	86.2	---	---	---
	4/3/2006	58.1	---	---	---
	4/13/2007	30.5	---	---	---
AP-13-DO	6/3/2002	---	42.4	---	---
	6/3/2002	---	---	ND(0.01)	0.37
	1/29/2003	140	---	ND(0.05)	2.8
	5/13/2003	170	---	ND(0.05)	0.054
	12/16/2003	2780	---	ND(0.100)	1110
	5/1/2004	438	---	ND(0.100)	ND(0.0100)
	5/2/2005	1760	---	---	---
	12/30/2005	3620	---	---	---
	4/3/2006	4420	---	---	---
	4/11/2007	6380	---	---	---
	7/26/2007	4970	---	0.142	1.5
	11/12/2007	790	---	217	291
	1/23/2008	1980	---	9.41	76.3
	4/21/2008	2350	---	1.5	33.6
	7/28/2008	2290	---	11.9	5.91
	10/22/2008	1480	---	0.124	5.98
	1/14/2009	150	---	0.26	9.3
	4/2/2009	273	---	0.2	13

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
AP-13-S	6/3/2002	---	2.9	0.05	0.18
	1/29/2003	30	---	ND(0.1)	120D
	5/13/2003	18	---	ND(0.05)	0.91
	12/16/2003	14.6	---	2.44	16.5
	5/1/2004	16.4	---	ND(0.100)	0.396
	5/2/2005	34.8	---	---	---
	4/3/2006	26.6	---	---	---
	4/11/2007	11.2	---	---	---
	6/3/2002	---	80.4	0.03	5.3
	2/17/2003	200	---	ND(0.1)	6600
	5/14/2003	170	---	ND(0.05)	8800
	12/16/2003	312	---	ND(0.100)	1240
	5/1/2004	235	---	ND(1.00)	3820
	5/2/2005	162	---	---	---
AP-15-S	8/26/2002	---	25>	0.1	1.9
	5/14/2003	ND(1)	---	ND(0.05)	ND(0.005)
	12/22/2003	280	---	0.221	0.0467
	5/3/2004	234	---	ND(0.100)	0.101
	12/30/2004	923	---	ND(0.100)	0.0368
	4/29/2005	220	---	ND(0.100)	0.0118
	3/29/2006	205	---	ND(0.100)	0.0513
	2/5/2007	59	---	ND(0.100)	0.0198
AP-19	6/3/2002	---	---	ND(0.01)	1.1
	6/11/2002	---	16.5	---	---
	5/14/2003	18	---	ND(0.05)	0.16
	12/15/2003	2.51	---	ND(0.100)	0.0173
	4/26/2004	20.7	---	ND(0.100)	ND(0.0100)
	4/28/2005	19.4	---	---	---
	3/31/2006	23.9	---	---	---
	10/23/2008	77.6	---	ND(0.100)	0.814
	10/27/2009	4.1	---	ND(0.10)	ND(0.010)
	4/21/2010	18.7	---	ND(0.10)	0.095
	10/14/2010	17.2	---	ND(0.10)	0.029
	4/6/2011	24.8	---	ND(0.10)	0.061
	10/27/2011	ND(1.0)	---	ND(0.10)	0.012
	4/5/2012	29	---	ND(0.10)	0.12
	11/13/2012	20.4	---	ND(0.10)	ND(0.010)
AP-20	5/2/2013	28.2	---	ND(0.10)	0.021
	6/3/2002	---	---	ND(0.01)	0.69
	6/11/2002	---	42.3	---	---
	5/14/2003	4	---	ND(0.05)	9.8
	12/15/2003	3.61	---	ND(0.100)	0.369
	4/26/2004	4	---	ND(0.100)	6.95
	4/28/2005	3.46	---	---	---
	3/31/2006	39.6	---	---	---
	10/23/2008	3730	---	ND(1.00)	20900
	10/27/2009	11.1	---	ND(0.10)	6.9
	4/21/2010	31.3	---	ND(0.10)	0.011
	10/14/2010	29.4	---	ND(0.10)	0.012
	4/6/2011	15.4	---	ND(0.10)	ND(0.010)
	10/27/2011	2	---	ND(0.10)	0.028
	4/5/2012	86	---	ND(0.10)	23
	11/13/2012	68.2	---	0.39	8.5
	5/2/2013	45	---	ND(0.10)	2.1

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
AP-21	6/3/2002	---	---	0.01	0.58
	6/11/2002	---	2	---	---
	5/14/2003	4	---	ND(0.05)	7.6
	12/15/2003	2.17	---	0.206	0.681
	4/26/2004	7.44	---	ND(0.100)	8.47
	4/28/2005	2.26	---	---	---
	3/31/2006	138	---	---	---
	10/23/2008	3950	---	ND(1.00)	24000
	11/23/2009	850	---	8.5	14000
	4/21/2010	900	---	10	15000
	10/14/2010	1690	---	ND(2.0)	9000
	4/14/2011	450	---	3.2	3400
	10/27/2011	190	---	ND(2.5)	1100
	4/5/2012	286	---	ND(1.0)	970
	11/13/2012	271	---	ND(0.10)	640
	5/2/2013	275	---	ND(0.10)	190
AP-22	6/3/2002	---	---	ND(0.01)	2.2
	6/11/2002	---	9.6	---	---
	5/14/2003	2	---	ND(0.05)	5.2
	12/15/2003	1.78	---	ND(0.100)	0.2
	4/26/2004	7.59	---	ND(0.100)	32.7
	4/28/2005	9.14	---	---	---
	3/31/2006	175	---	---	---
	10/23/2008	5220	---	ND(1.00)	31300
	10/27/2009	378	---	ND(0.50)	3800
	4/21/2010	489	---	ND(1.0)	73
	10/14/2010	491	---	ND(1.0)	240
	4/14/2011	208	---	ND(0.10)	0.37
	10/27/2011	225	---	ND(2.5)	1200
	4/5/2012	1360	---	ND(2.0)	2000
	11/13/2012	794	---	ND(1.0)	4100
	4/17/2013	425	---	ND(0.10)	150
AP-23-DO	12/29/2004	177	---	---	---
	5/2/2005	398	---	---	---
	12/30/2005	127	---	---	---
	4/3/2006	633	---	---	---
	1/31/2007	416	---	---	---
	4/11/2007	450	---	---	---
	11/12/2007	78	---	12.3	30.8
	1/23/2008	56.2	---	14.4	51.8
	4/21/2008	64.7	---	2.01	31.5
	7/28/2008	35.8	---	0.78	23.9
	10/22/2008	63.9	---	136	181
AP-24-DO	1/14/2009	43.6	---	1.7	6.4
	4/2/2009	60.7	---	3.2	19
	12/29/2004	1990	---	---	---
	5/2/2005	4130	---	---	---
	12/30/2005	429	---	---	---
	4/3/2006	1160	---	---	---
	10/11/2006	---	---	4.79	4430
	1/30/2007	778	---	28	104
	4/10/2007	550	---	0.346	3.17
	8/9/2007	267	---	ND(0.100)	16.6
	11/12/2007	93.2	---	10.4	33.7

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
AP-24-DO (cont.)	1/23/2008	375	---	61.5	143
	4/21/2008	611	---	12.4	48.9
	7/28/2008	411	---	5.52	28.4
	10/22/2008	111	---	26.9	59.5
	1/14/2009	117	---	0.48	7.5
	4/2/2009	283	---	0.25	11
AP-25-DO	12/29/2004	17.2	---	---	---
	5/2/2005	149	---	---	---
	12/30/2005	79.3	---	---	---
	4/3/2006	423	---	---	---
	10/11/2006	---	---	1.98	1300
	1/30/2007	170	---	15.2	42.8
	4/10/2007	15.6	---	ND(0.100)	2.74
	8/9/2007	ND(2.00)	---	ND(0.100)	0.0692
	11/12/2007	3.61	---	ND(0.100)	0.146
	1/23/2008	19.7	---	0.284	0.633
	4/21/2008	96.8	---	0.804	2.12
	7/28/2008	ND(2.00)	---	ND(0.100)	ND(0.0100)
	10/22/2008	150	---	0.589	1.06
	1/14/2009	34.9	---	0.28	0.24
	4/2/2009	61.1	---	ND(0.10)	0.11
AP-26-DO	12/28/2004	23.5	---	---	---
	4/28/2005	22.6	---	---	---
	1/3/2006	20	---	---	---
	1/31/2007	11.1	---	---	---
	11/26/2012	33.5	---	ND(0.10)	8.5
	4/15/2013	39.4	---	ND(0.10)	0.01
AP-27-DO	12/28/2004	48.9	---	---	---
	5/3/2005	60.4	---	---	---
	1/3/2006	796	---	---	---
	4/7/2006	115	---	---	---
	1/31/2007	91.8	---	---	---
	4/13/2007	30.3	---	---	---
	11/15/2007	10.2	---	ND(0.100)	1.82
	4/25/2008	114	---	---	---
	10/22/2008	18.4	---	ND(0.100)	3.55
	4/9/2009	57.8	---	ND(0.10)	0.098
	10/28/2009	13.7	---	ND(0.10)	0.1
	4/21/2010	29.4	---	ND(0.10)	0.1
	10/14/2010	11.2	---	ND(0.10)	0.42
	4/7/2011	387J	---	ND(0.10)	0.046
	10/26/2011	140	---	ND(0.10)	2.8
	4/6/2012	450	---	ND(0.10)	0.053
AP-28-DO	11/27/2012	624	---	ND(0.10)	9.1
	4/16/2013	79.6	---	ND(0.10)	0.073
	12/30/2004	236	---	---	---
	4/29/2005	252	---	---	---
AP-29-DO	3/29/2006	286	---	---	---
	2/5/2007	306	---	---	---
	12/30/2004	226	---	---	---
	4/29/2005	264	---	---	---
	3/29/2006	298	---	---	---
	2/5/2007	313	---	---	---

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
AP-30-DO	4/18/2013	3860	---	ND(0.50)	3500
AP-30R-DO	4/7/2011	1000J	---	6	7900
	11/7/2011	2730	---	ND(50)	20000
	4/17/2012	1070	---	ND(5.0)	6400
AP-31-DO	4/6/2011	3380J	---	2.5	2200
	11/7/2011	3240	---	ND(1.0)	780
	4/17/2012	2650	---	ND(0.10)	0.58
	4/18/2013	742	---	ND(0.10)	67
AP-32-DO	4/7/2011	1440J	---	ND(1.0)	75
	11/7/2011	979	---	ND(0.10)	0.055
	4/17/2012	631	---	ND(0.10)	0.072
	4/18/2013	565	---	ND(0.10)	0.012
APBIO-01	4/12/2007	246	---	---	---
B-2	4/14/2007	265	---	---	---
	11/16/2007	52.8	---	---	---
	4/25/2008	689	---	---	---
B-3	6/3/2002	---	2.5	0.23	0.027
	1/29/2003	9	---	0.06	0.6
	5/13/2003	10	---	ND(0.05)	0.076
	12/16/2003	20.7	---	ND(0.100)	43.3
	5/2/2004	14.7	---	ND(0.100)	0.0294
	4/27/2005	16.3	---	---	---
	3/31/2006	10.1	---	---	---
	4/10/2007	9.26	---	---	---
	4/21/2008	10.9	---	---	---
BR-1_ZONE1	5/16/2003	47	---	4.1	0.38
BR-1_ZONE2	5/16/2003	8	---	1.3	0.2
BR-1_ZONE3	5/16/2003	190	---	1	0.26
BR-5_ZONE1	6/3/2002	---	---	0.22	0.057
	1/31/2003	26	---	0.05	0.012
	5/16/2003	71	---	ND(0.05)	2300
	12/19/2003	31	---	ND(0.100)	0.025
	5/4/2004	75.5	---	ND(0.100)	0.0136
	1/5/2005	59.1	---	---	---
	5/3/2005	29.9	---	---	---
	1/5/2006	14.7	---	---	---
	4/3/2006	18.1	---	---	---
BR-5_ZONE2	1/31/2003	15	---	0.14	0.039
	5/16/2003	17	---	0.2	2.7
	12/19/2003	36.8	---	ND(0.100)	0.816
	5/4/2004	66.9	---	ND(0.100)	0.216
	1/5/2005	24.9	---	---	---
	5/3/2005	13.4	---	---	---
	1/5/2006	19.8	---	---	---
	4/3/2006	14.4	---	---	---
BR-5_ZONE3	6/3/2002	---	6.5	---	---
	1/31/2003	70	---	ND(0.1)	450D
	5/16/2003	12	---	0.06	0.023
	12/19/2003	62.6	---	0.752	238
	5/4/2004	34.8	---	ND(0.100)	3.14
	5/3/2005	18.5	---	---	---
	1/5/2006	13.4	---	---	---
	4/3/2006	17.1	---	---	---

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
BR-6_ZONE1	1/5/2005	56	---	---	---
	5/3/2005	54.4	---	---	---
BR-6_ZONE1 (cont.)	1/5/2006	60	---	---	---
	4/3/2006	60.5	---	---	---
	4/13/2007	82.2	---	---	---
BR-6_ZONE2	1/5/2005	59.7	---	---	---
	5/3/2005	84.3	---	---	---
	1/5/2006	68.9	---	---	---
	4/3/2006	74.5	---	---	---
	4/13/2007	64.7	---	---	---
BR-6_ZONE3	5/3/2005	65.9	---	---	---
	1/5/2006	60	---	---	---
	4/3/2006	59.8	---	---	---
	4/13/2007	281	---	---	---
BW-01	11/29/2006	---	---	ND(0.100)	0.0282
	4/10/2007	96.1	---	36.5	10.7
	7/19/2007	83.4	---	32	22.4
	11/12/2007	18	---	7.57	5.71
	1/24/2008	97.1	---	24.5	4.47
	4/21/2008	73	---	12.5	2.82
	7/28/2008	48.1	---	ND(0.100)	1.04
	10/21/2008	35.5	---	2.86	3.82
	1/13/2009	86.1	---	2.1	2.3
	4/2/2009	67.3	---	3.8	3.2
BW-02	10/11/2006	---	---	0.123	35.1
	1/30/2007	51.9	---	107	50.8
	4/10/2007	282	---	61.1	17.1
	7/19/2007	77.3	---	14.8	8.14
	11/12/2007	21	---	19	7
	1/24/2008	84.5	---	25	3.49
	4/21/2008	74	---	16.5	4.56
	7/28/2008	45	---	1.28	1.54
	10/21/2008	45.4	---	1.45	3.42
	1/13/2009	87.2	---	8.2	2.3
BW-03	4/2/2009	97.8	---	6.4	2.4
	10/11/2006	---	---	ND(0.100)	1.86
	1/30/2007	67.2	---	74.1	67.4
	4/10/2007	248	---	64.5	14.8
	7/19/2007	57.3	---	24.5	12.5
	11/12/2007	31.7	---	20.3	9.02
	1/24/2008	106	---	37.4	7.44
	4/21/2008	55.9	---	28.7	6.25
	7/28/2008	37.6	---	1.67	3.84
	10/21/2008	50.1	---	17.9	5.33
BW-04	1/13/2009	80.8	---	13	5.6
	4/2/2009	91.3	---	18	8
	10/11/2006	---	---	ND(0.100)	0.0434
	1/30/2007	88.4	---	25.2	27.9
	4/10/2007	84.8	---	17.2	6.49
	7/19/2007	63	---	26	8.3
	11/12/2007	247	---	49.6	11
	1/22/2008	173	---	11.9	25.3
	4/21/2008	128	---	9.61	2.96
	7/28/2008	38	---	7.42	3.18
	10/21/2008	58.2	---	7.75	2.15
	1/13/2009	96.5	---	9.5	3.8

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
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Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
BW-04 (cont.)	4/2/2009	95.1	---	10	3.2
BW-05	10/11/2006	---	---	ND(0.100)	ND(0.0100)
	1/30/2007	82.5	---	39.8	63
	4/10/2007	86.4	---	8	4.78
	7/19/2007	83.4	---	3.21	2.05
	11/12/2007	118	---	9.6	3.61
	1/22/2008	140	---	13.5	3.49
	4/21/2008	115	---	5.68	2.28
	7/28/2008	81.1	---	5.45	2.28
	10/21/2008	77.1	---	10.5	1.75
	1/13/2009	205	---	20	4.7
	4/2/2009	130	---	27	4.9
BW-08	11/29/2006	---	---	ND(0.100)	4.01
	4/10/2007	91.2	---	33.7	36.7
	7/19/2007	87	---	15.2	12
	11/12/2007	252	---	43.5	13.2
	1/22/2008	186	---	43	13.5
	4/21/2008	164	---	26	9.56
	7/28/2008	131	---	21.8	9.42
	10/21/2008	148	---	24.5	1.75
	1/13/2009	124	---	18	5.3
	4/2/2009	104	---	27	7.9
BW-09	11/29/2006	---	---	0.42	24.5
	4/10/2007	74.1	---	27.6	27.6
	8/9/2007	122	---	16.5	7.07
	11/12/2007	472	---	32.2	15.1
	1/22/2008	132	---	25.4	15.1
	4/21/2008	177	---	31.8	10.4
	7/28/2008	128	---	12.2	4.17
	10/21/2008	141	---	62.4	19.4
	1/13/2009	131	---	20	7.1
	4/2/2009	174	---	41	11
CL02-BR	6/3/2002	---	80	---	---
	6/3/2002	---	---	0.03	0.022
	1/23/2003	100	---	ND(0.05)	ND(0.005)
	5/14/2003	140	---	ND(0.05)	0.016
	12/18/2003	92.8	---	ND(0.100)	0.0693
	5/2/2004	123	---	ND(0.100)	0.0787
	Dup. 5/2/2004	124	---	ND(0.100)	0.0745
	12/29/2004	108	---	ND(0.100)	0.0138
	4/29/2005	97.5	---	ND(0.100)	0.0319
	1/4/2006	95.3	---	ND(0.100)	ND(0.0100)
	3/31/2006	177	---	0.964	0.272
	2/1/2007	159	---	ND(0.100)	0.0206
	4/11/2007	197	---	ND(0.100)	0.0178
	11/14/2007	104	---	0.168	0.129
	4/24/2008	129	---	0.527	0.127
CL03-BR	6/3/2002	---	59.2	---	---
	6/3/2002	---	---	0.5	0.32
	1/29/2003	30	---	ND(0.1)	160D
	5/14/2003	14	---	ND(0.05)	950
	12/18/2003	24.2	---	ND(0.100)	157
	5/1/2004	2790	---	ND(3.00)	29100
	4/29/2005	156	---	---	---

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
CL03-BR (cont.)	3/29/2006	165	---	---	---
CL03-DO	6/3/2002	---	26	---	---
	6/3/2002	---	---	0.09	ND(0.005)
	1/29/2003	42	---	ND(0.05)	0.34
	5/14/2003	7	---	ND(0.05)	0.15
	12/18/2003	6.97	---	0.118	0.0395
	5/1/2004	54.4	---	ND(0.100)	1.07
	4/29/2005	14.6	---	---	---
	3/29/2006	58.3	---	---	---
CL03-S	6/3/2002	---	26.4	0.01	0.12
	1/29/2003	120	---	ND(0.05)	0.21
	5/14/2003	78	---	ND(0.05)	0.067
	12/17/2003	143	---	ND(0.100)	0.0779
	5/1/2004	63.1	---	ND(0.100)	0.0394
	4/29/2005	172	---	---	---
	3/29/2006	320	---	---	---
CL04-BR	6/3/2002	---	---	1.1	1.1
	5/14/2003	57	---	0.87	0.41
	12/16/2003	59.2	---	ND(0.100)	0.122
	12/16/2003	59.6	---	ND(0.100)	0.121
	4/26/2004	62.8	---	0.717	0.373
	4/28/2005	73.3	---	---	---
	3/28/2006	70.6	---	---	---
	4/11/2007	177	---	---	---
CL04-DO	6/3/2002	---	---	ND(0.01)	ND(0.005)
	6/11/2002	---	72.1	---	---
	5/14/2003	110	---	ND(0.05)	ND(0.005)
	12/16/2003	83.7	---	ND(0.100)	ND(0.0100)
	4/26/2004	97.2	---	ND(0.100)	ND(0.0100)
	4/28/2005	123	---	---	---
	3/28/2006	80.8	---	---	---
	4/11/2007	118	---	---	---
CL05-DOA	6/3/2002	---	70.8	---	---
	6/3/2002	---	---	0.36	0.53
	1/29/2003	330	---	1.1	8.9
	5/13/2003	ND(1)	---	ND(0.05)	0.35
	12/15/2003	ND(1.00)	---	6.53	1140
	5/2/2004	200	---	ND(0.100)	0.554
	4/27/2005	172	---	---	---
	3/31/2006	1360	---	---	---
CL06-BR	5/15/2003	210	---	ND(0.05)	0.01
CL06-DO	5/15/2003	5	---	ND(0.05)	ND(0.005)
CL08-DO	12/23/2003	59.9	---	ND(0.100)	ND(0.0100)
CL09-BR_ZONE1	5/16/2003	8	---	2.7	0.12
	12/19/2003	8.8	---	0.412	0.119
	5/3/2004	9.47	---	1.15	0.446
	1/4/2005	10.8	---	---	---
	5/3/2005	17.1	---	---	---
	1/5/2006	10.6	---	---	---
	4/3/2006	29.8	---	---	---
	5/3/2004	19.1	---	1.58	0.49
CL09-BR_ZONE2	6/3/2002	---	---	0.72	0.28
	5/16/2003	16	---	1.3	0.37
	12/19/2003	14.3	---	1.74	0.382
	5/3/2004	19.1	---	1.58	0.49

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
CL09-BR_ZONE2 (cont.)	1/4/2005	36.4	---	---	---
	5/3/2005	14	---	---	---
	1/5/2006	19.1	---	---	---
	4/3/2006	16.1	---	---	---
CL09-BR_ZONE3	5/16/2003	48	---	2.9	0.35
	12/19/2003	59.2	---	1.6	0.365
	5/3/2004	211	---	4.91	0.488
	1/4/2005	122	---	---	---
	5/3/2005	87.2	---	---	---
	1/5/2006	547	---	---	---
	4/3/2006	368	---	---	---
CL09-DO Dup.	6/3/2002	---	---	ND(0.01)	0.021
	1/28/2003	120	---	ND(0.05)	0.011
	5/15/2003	110	---	ND(0.05)	0.006
	12/17/2003	112	---	ND(0.100)	0.24
	5/1/2004	187	---	ND(0.100)	0.015
	5/1/2004	187	---	ND(0.100)	0.0146
	5/2/2005	174	---	---	---
	4/7/2006	164	---	---	---
CL09-S	6/3/2002	---	---	ND(0.01)	0.006
CL10-BR	6/3/2002	---	---	1.9	0.35
	6/11/2002	---	6.2	---	---
	5/14/2003	86	---	0.4	0.13
	12/16/2003	92.7	---	2.4	0.178
	4/26/2004	29.7	---	1.09	0.172
	12/30/2004	33.8	---	0.247	0.129
	4/28/2005	62.8	---	ND(0.100)	21.5
	3/28/2006	41.2	---	0.249	0.311
	1/31/2007	24.7	---	ND(0.100)	0.203
	4/10/2007	22	---	0.116	0.238
CL10-BR2	10/21/2008	24.9	---	1.65	0.784
	4/27/2004	60.7	---	ND(0.100)	ND(0.0100)
	4/27/2004	74.7	---	ND(0.100)	0.073
CL10-DO	6/3/2002	---	---	ND(0.01)	0.032
	6/11/2002	---	3.3	---	---
	5/14/2003	24	---	ND(0.05)	0.91
	12/16/2003	21	---	ND(0.100)	0.203
	4/26/2004	24.9	---	ND(0.100)	1.15
	12/30/2004	28	---	ND(0.100)	11.1
	4/28/2005	13	---	0.3	0.055
	3/28/2006	43.9	---	ND(0.100)	287
	1/31/2007	45.1	---	ND(0.100)	91.2
	4/10/2007	43.4	---	ND(0.100)	120
CL10-S	10/21/2008	33.6	---	ND(0.100)	164
	6/3/2002	---	---	0.03	0.015
	6/11/2002	---	24.1	---	---
	5/14/2003	31	---	ND(0.05)	0.009
	12/16/2003	60.1	---	ND(0.100)	ND(0.0100)
	4/26/2004	23.4	---	ND(0.100)	0.0216
	12/30/2004	87.3	---	ND(0.100)	ND(0.0100)
	4/28/2005	70.8	---	ND(0.100)	0.0437
	3/28/2006	67.6	---	ND(0.100)	0.0581
	1/31/2007	55.4	---	ND(0.100)	0.0128
	4/10/2007	60	---	ND(0.100)	0.0207

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
CL10-S (cont.)	10/21/2008	12.3	---	0.12	0.0194
CL12-S1	6/3/2002	---	54.8	---	---
	6/3/2002	---	---	0.11	0.55
	2/26/2003	230	---	0.17	0.48
	5/15/2003	230	---	0.48	0.71
	12/17/2003	74.9	---	ND(0.100)	0.117
	5/1/2004	80.7	---	ND(0.100)	0.325
	4/29/2005	56.5	---	---	---
	3/28/2006	332	---	---	---
GZ-1	8/26/2002	---	25>	9.3	0.86
	1/28/2003	190	---	0.62	1.1
	5/14/2003	ND(1)	---	ND(0.05)	ND(0.005)
	12/23/2003	124	---	1.38	0.82
	5/3/2004	243	---	1	0.822
	4/29/2005	373	---	---	---
	4/7/2006	253	---	---	---
GZ-2R	8/26/2002	---	25>	0.13	2.2
	1/29/2003	ND(1)	---	0.07	3.4
	5/14/2003	ND(1)	---	ND(0.05)	ND(0.005)
	12/22/2003	99.9	---	ND(0.100)	0.2
	5/3/2004	328	---	ND(0.100)	0.0157
	4/29/2005	405	---	---	---
	4/7/2006	344	---	---	---
GZ-4	8/26/2002	---	25>	29	3
	5/3/2004	313	---	9.76	2.41
	5/3/2004	314	---	9.97	2.56
MW-002R	6/3/2002	---	118.6	0.12	1.4
	1/23/2003	150	---	ND(0.05)	0.34
	5/14/2003	97	---	ND(0.05)	0.19
	12/18/2003	215	---	0.209	0.927
	5/2/2004	147	---	ND(0.100)	0.0475
	4/29/2005	383	---	---	---
	3/31/2006	111	---	---	---
MW-004R	6/3/2002	---	58.8	---	---
	6/3/2002	---	---	0.12	0.13
	5/14/2003	93	---	ND(0.05)	1.1
	12/18/2003	100	---	ND(0.100)	0.0231
	12/18/2003	102	---	ND(0.100)	0.0215
	5/2/2004	8.44	---	ND(0.100)	ND(0.0100)
	4/29/2005	80.9	---	---	---
	3/31/2006	188	---	---	---
MW-007R	6/3/2002	---	56.4	---	---
	6/3/2002	---	---	0.06	0.074
	1/23/2003	260	---	0.18	0.46
	5/14/2003	880	---	ND(0.05)	0.5
	12/17/2003	64.4	---	ND(0.100)	ND(0.0100)
	5/2/2004	127	---	ND(0.100)	ND(0.0100)
	4/29/2005	1020	---	---	---
	3/31/2006	1140	---	---	---
MW-008	6/3/2002	---	104.4	58	5.4
	1/29/2003	100	---	1.4	0.75
	5/12/2003	69	---	1.2	0.66
	12/17/2003	5.46	---	3.05	0.191
	4/23/2004	134	---	34.4	3.51

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
MW-008 (cont.)	4/27/2005	85.1	---	---	---
	3/27/2006	79.3	---	---	---
	4/23/2008	87.4	---	---	---
MW-009 Dup.	6/13/2002	---	24.8	11	26
	1/23/2003	980	---	0.61	30
	5/12/2003	780	---	0.93	23
	12/15/2003	1120	---	20.3	20.5
	4/23/2004	967	---	ND(0.100)	21.3
	4/23/2004	980	---	ND(0.100)	20.5
	4/27/2005	773	---	---	---
	3/27/2006	990	---	---	---
	10/11/2006	---	---	21.3	20.9
	1/30/2007	676	---	96.2	5.34
	4/10/2007	774	---	128	13.1
	7/19/2007	659	---	86.6	7.91
	11/12/2007	68	---	1.01	0.16
	1/23/2008	164	---	18.8	1.67
	4/21/2008	330	---	90.7	6.29
	7/28/2008	656	---	80.4	6.74
	10/21/2008	742	---	62.9	7.31
	1/14/2009	822	---	60	7
	4/2/2009	711	---	70	6
MW-009A	6/13/2002	---	25	0.02	0.055
	1/23/2003	260	---	0.1	6.8
	5/12/2003	99	---	0.06	1
	12/15/2003	11	---	ND(0.100)	0.018
	4/23/2004	1.87	---	ND(0.100)	0.0133
	4/27/2005	7.65	---	---	---
	3/27/2006	38.5	---	---	---
	4/12/2007	27.8	---	---	---
MW-010	4/21/2008	22.3	---	---	---
	5/13/2003	ND(1)	---	---	---
MW-013	5/13/2003	---	---	0.07	0.035
	6/3/2002	---	44	---	---
MW-013	6/3/2002	---	---	14	11
	1/27/2003	2600	---	ND(0.1)	46
	5/13/2003	1800	---	ND(0.05)	120
	12/16/2003	981	---	ND(0.100)	109
	5/1/2004	619	---	ND(0.100)	0.0122
	4/28/2005	718	---	---	---
	3/31/2006	2720	---	---	---
	4/10/2007	2430	---	---	---
	4/22/2008	395	---	---	---
	4/21/2010	586	---	2.4	2300
	10/14/2010	928	---	ND(1.0)	4800
	4/14/2011	1920	---	2.8	3100
	10/27/2011	1410	---	ND(0.50)	510
	4/5/2012	930	---	ND(0.50)	560
	11/26/2012	647	---	ND(1.0)	210
	4/17/2013	635	---	ND(0.10)	210
MW-014A	6/3/2002	---	20.5	---	---
	6/3/2002	---	---	0.03	0.022
	1/23/2003	10	---	ND(0.05)	0.12
	5/13/2003	38	---	0.08	0.27

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
MW-014A (cont.)	12/17/2003	10.9	---	ND(0.100)	ND(0.0100)
	5/1/2004	16.1	---	ND(0.100)	ND(0.0100)
	4/28/2005	14.4	---	---	---
	3/31/2006	5.6	---	---	---
MW-030	1/4/2005	138	---	---	---
	4/27/2005	106	---	---	---
	12/29/2005	190	---	ND(0.100)	ND(0.0100)
	4/7/2006	263	---	---	---
	2/1/2007	138	---	---	---
	4/14/2007	146	---	---	---
	11/16/2007	628	---	ND(0.100)	0.914
	4/25/2008	171	---	---	---
	10/22/2008	1210	---	ND(0.100)	0.011
	4/9/2009	135	---	0.16	0.012
MW-032	6/3/2002	---	---	0.02	ND(0.005)
	6/11/2002	---	12.8	---	---
	5/14/2003	10	---	ND(0.05)	0.012
	12/15/2003	12.6	---	3.9	0.0755
	4/26/2004	29.4	---	ND(0.100)	0.021
	4/28/2005	6.45	---	---	---
	3/31/2006	38.7	---	---	---
MW-033B Dup.	6/3/2002	---	17.6	---	---
	6/13/2002	---	---	0.07	6.2
	5/14/2003	760	---	ND(0.05)	0.62
	12/17/2003	298	---	0.101	0.0399
	4/27/2004	766	---	ND(0.100)	0.492
	4/27/2004	770	---	ND(0.100)	0.491
	4/28/2005	1000	---	---	---
MW-036	3/31/2006	686	---	---	---
	6/3/2002	---	46.2	---	---
	6/3/2002	---	---	0.04	0.078
	1/24/2003	210	---	ND(0.05)	2.8
	5/15/2003	96	---	0.13	0.21
	12/17/2003	65.6	---	ND(0.100)	0.0704
	5/1/2004	386	---	ND(0.100)	0.0678
	4/29/2005	106	---	---	---
MW-104R	3/28/2006	693	---	---	---
	6/3/2002	---	2.7	---	---
MW-104R	6/3/2002	---	---	0.17	0.035
OB-04-BR Dup.	6/3/2002	---	9.8	---	---
	6/3/2002	---	---	0.02	ND(0.005)
	1/24/2003	18	---	0.6	0.016
	5/14/2003	7	---	0.2	0.01
	12/16/2003	10.8	---	0.646	0.037
	12/16/2003	10.7	---	0.616	0.0359
	4/27/2004	8.98	---	0.186	0.0182
	4/29/2005	13.3	---	---	---
	3/28/2006	13.5	---	---	---
OB-04-DO	6/3/2002	---	17.4	---	---
	6/3/2002	---	---	ND(0.01)	1.7
	1/24/2003	40	---	0.05	0.5
	5/14/2003	44	---	0.53	0.54
	12/16/2003	7.63	---	0.108	0.0545
	4/27/2004	4.79	---	ND(0.100)	ND(0.0100)

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-04-DO (cont.)	4/29/2005	13.2	---	---	---
	3/28/2006	78.3	---	---	---
OB-04-S	6/3/2002	---	130.4	1.2	6.5
	1/24/2003	130	---	0.19	1.2
	5/14/2003	97	---	1.2	1.7
	12/16/2003	324	---	0.219	2.71
	4/27/2004	108	---	0.356	0.142
	4/29/2005	186	---	---	---
	3/28/2006	290	---	---	---
OB-05-BR	6/3/2002	---	58.8	---	---
	6/3/2002	---	---	1.7	0.42
	1/24/2003	100	---	0.17	0.04
	5/14/2003	100	---	0.61	0.016
	12/16/2003	107	---	ND(0.100)	0.0137
	4/27/2004	108	---	ND(0.100)	0.0143
	12/30/2004	108	---	---	---
	4/29/2005	107	---	---	---
	1/4/2006	93.8	---	---	---
	3/29/2006	107	---	---	---
	2/1/2007	102	---	---	---
OB-05-DO	6/3/2002	---	19.5	---	---
	6/3/2002	---	---	0.06	0.41
	1/24/2003	96	---	0.57	0.63
	5/14/2003	18	---	0.84	0.076
	12/16/2003	20	---	0.535	0.179
	4/27/2004	21.6	---	ND(0.100)	ND(0.0100)
	12/30/2004	20.8	---	---	---
	4/29/2005	21.8	---	---	---
	1/4/2006	19.6	---	---	---
	3/29/2006	414	---	---	---
OB-05-S	6/3/2002	---	44	0.01	0.31
	2/20/2003	460	---	ND(0.05)	0.18
	5/14/2003	90	---	0.2	0.18
	12/16/2003	215	---	ND(0.100)	0.0548
	4/27/2004	86.8	---	ND(0.100)	ND(0.0100)
	4/29/2005	41.5	---	---	---
	3/29/2006	302	---	---	---
OB-06-BR	6/3/2002	---	---	18	0.73
	1/29/2003	76	---	15	1.8
	5/15/2003	1	---	0.29	0.021
	12/17/2003	26.2	---	1.28	0.176
	5/1/2004	45.6	---	0.663	0.257
	12/30/2004	43.7	---	---	---
	5/2/2005	42.3	---	---	---
	1/4/2006	42	---	---	---
	4/7/2006	46.9	---	---	---
OB-06-DO	2/1/2007	42.8	---	---	---
	6/3/2002	---	1.1	---	---
	6/3/2002	---	---	0.01	0.12
	1/29/2003	86	---	ND(0.05)	0.045
	5/15/2003	ND(1)	---	1.1	0.48
	12/17/2003	114	---	0.287	0.776
	5/1/2004	136	---	6.68	1.28

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-06-DO (cont.)	12/30/2004	123	---	---	---
	5/2/2005	168	---	---	---
	1/4/2006	140	---	---	---
	4/7/2006	154	---	---	---
	2/1/2007	127	---	---	---
OB-07-DO	8/26/2002	---	25>	8.1	1.7
	5/14/2003	210	---	5.6	0.86
	12/19/2003	2.69	---	ND(0.100)	ND(0.0100)
	5/3/2004	21.4	---	0.828	0.123
	12/30/2004	2.38	---	---	---
	4/29/2005	18	---	---	---
	3/29/2006	183	---	---	---
OB-08-DO	2/1/2007	14.5	---	---	---
	8/26/2002	---	25>	44	2
	5/15/2003	130	---	46	1.6
	12/18/2003	150	---	44.2	1.68
	5/3/2004	139	---	47.9	1.79
	1/4/2005	152	---	---	---
	4/29/2005	153	---	---	---
	1/4/2006	147	---	---	---
	4/7/2006	164	---	---	---
OB-08-S	2/1/2007	162	---	---	---
	8/26/2002	---	25>	9.1	1.7
OB-09-BR	5/3/2004	97.9	---	ND(0.100)	0.0112
	6/3/2002	---	10.4	---	---
OB-09-BR Dup.	6/3/2002	---	---	7.5	0.37
	1/23/2003	19	---	0.08	0.01
	5/12/2003	10	---	0.23	0.064
	12/15/2003	12.5	---	0.177	0.063
	4/23/2004	20.6	---	ND(0.100)	0.0237
	12/29/2004	15.7	---	0.343	0.0435
	12/29/2004	15.2	---	0.34	0.0428
	4/27/2005	22.8	---	0.165	0.0326
	12/30/2005	15.6	---	0.266	0.0527
	3/27/2006	23.2	---	0.228	0.0602
	11/29/2006	---	---	6.18	0.262
	1/31/2007	6.77	---	0.715	0.189
	4/10/2007	19.3	---	2.26	0.216
	7/19/2007	12.4	---	0.399	0.0918
	8/9/2007	14	---	0.407	0.0965
	11/12/2007	18.3	---	0.792	0.157
	1/22/2008	17.8	---	1.1	0.157
	4/21/2008	15.2	---	0.394	0.0828
	7/29/2008	3.33	---	1.97	0.0971
	10/22/2008	10.8	---	2.84	0.17
	1/14/2009	16	---	1.5	0.17
	4/9/2009	20	---	1.5	0.24
OB-09-DO Dup.	6/3/2002	---	81.3	---	---
	6/3/2002	---	---	2.3	0.36
	1/23/2003	15	---	0.05	0.062
	5/12/2003	2	---	ND(0.05)	ND(0.005)
	12/15/2003	4.48	---	ND(0.100)	0.0319
	12/15/2003	4.24	---	---	---
	4/23/2004	2.09	---	ND(0.100)	ND(0.0100)

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-09-DO (cont.)	12/29/2004	4.88	---	ND(0.100)	ND(0.0100)
	4/27/2005	6.58	---	ND(0.100)	ND(0.0100)
	12/30/2005	13.3	---	ND(0.100)	ND(0.0100)
	3/27/2006	18.5	---	4.84	0.278
	11/29/2006	---	---	1.01	0.146
	1/31/2007	9.75	---	0.181	0.0364
	4/10/2007	18.3	---	1.12	0.0804
	7/19/2007	9.45	---	0.616	0.138
	11/12/2007	9.39	---	ND(0.100)	0.0444
	1/22/2008	12	---	ND(0.100)	0.0171
	4/21/2008	3.64	---	ND(0.100)	0.0445
	7/29/2008	ND(2.00)	---	ND(0.100)	ND(0.0100)
	10/22/2008	6.3	---	0.255	0.0796
	1/13/2009	32.6	---	ND(0.10)	ND(0.010)
	4/9/2009	44.6	---	ND(0.10)	ND(0.010)
OB-09-S	6/3/2002	---	78.5	1.8	1.8
	1/23/2003	190	---	0.08	0.33
	5/12/2003	78	---	ND(0.05)	0.051
	12/15/2003	5.32	---	ND(0.100)	0.0169
	4/23/2004	3.73	---	ND(0.100)	ND(0.0100)
	12/29/2004	43.4	---	ND(0.100)	0.0163
	4/27/2005	16.2	---	0.112	0.0289
	12/30/2005	28.2	---	ND(0.100)	0.0106
	3/27/2006	547	---	0.604	1.1
	10/11/2006	---	---	2.52	1.36
	1/30/2007	72.8	---	40	25.6
	4/10/2007	30.9	---	75.6	21.1
	7/26/2007	42.1	---	4.82	0.887
	11/12/2007	63.2	---	5.08	1.08
	4/21/2008	168	---	8.7	1.88
	7/29/2008	222	---	13.1	3.98
	10/22/2008	116	---	17	1.3
	4/9/2009	122	---	16	2
OB-10-BR	6/3/2002	---	64.4	---	---
	6/3/2002	---	---	0.04	0.19
	1/23/2003	90	---	ND(0.05)	0.042
	5/13/2003	93	---	0.34	0.19
	12/15/2003	82	---	0.403	0.0398
	4/23/2004	87.4	---	ND(0.100)	0.0666
	4/27/2005	69.3	---	---	---
	3/27/2006	55	---	---	---
OB-10-DO	6/3/2002	---	42	---	---
	6/3/2002	---	---	ND(0.01)	0.17
	1/23/2003	37	---	ND(0.05)	0.42
	5/13/2003	29	---	1.2	1.1
	12/15/2003	31.4	---	ND(0.100)	ND(0.0100)
	4/23/2004	32.6	---	ND(0.100)	ND(0.0100)
	4/27/2005	30.6	---	---	---
	3/27/2006	34.1	---	---	---
	11/29/2006	---	---	ND(0.100)	0.351
OB-10-S	4/16/2007	38.1	---	ND(0.100)	ND(0.0100)
	6/3/2002	---	61.6	ND(0.01)	0.022
	1/23/2003	35	---	ND(0.05)	0.007
	5/13/2003	300	---	ND(0.05)	ND(0.005)

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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150 Sohler Road
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-10-S (cont.) Dup.	12/15/2003	14.5	---	ND(0.100)	ND(0.0100)
	12/15/2003	14	---	ND(0.100)	ND(0.0100)
	4/23/2004	71	---	ND(0.100)	ND(0.0100)
	4/27/2005	124	---	---	---
	3/27/2006	50.1	---	---	---
	11/29/2006	---	---	ND(0.100)	1.28
	4/16/2007	39.5	---	ND(0.100)	18.5
OB-11-BR	6/3/2002	---	17	---	---
	6/3/2002	---	---	1.5	0.05
	1/27/2003	7	---	0.31	0.18
	5/12/2003	8	---	1.1	0.2
	12/16/2003	8.89	---	1.99	0.221
	5/1/2004	9.13	---	0.34	0.129
	4/28/2005	9.01	---	---	---
	3/27/2006	10.9	---	---	---
OB-11-DO	6/3/2002	---	5.4	---	---
	6/3/2002	---	---	0.08	0.32
	1/27/2003	19	---	ND(0.05)	0.01
	5/12/2003	12	---	ND(0.05)	0.28
	12/16/2003	16.4	---	1.89	0.21
	5/1/2004	13.2	---	ND(0.100)	ND(0.0100)
	4/28/2005	15	---	---	---
	3/27/2006	18.1	---	---	---
OB-11-S	6/3/2002	---	80	0.16	1.7
	1/27/2003	43	---	ND(0.05)	1.3
	5/12/2003	38	---	1.5	1.9
	12/16/2003	42.6	---	ND(0.100)	1.34
	5/1/2004	38.8	---	1.02	1.24
	4/28/2005	38	---	---	---
	3/27/2006	39	---	---	---
OB-12-BR	6/3/2002	---	12.4	---	---
	6/3/2002	---	---	1.9	0.036
	1/27/2003	12	---	ND(0.05)	0.009
	5/13/2003	14	---	1.5	0.045
	12/16/2003	7970	---	ND(0.500)	3190
	5/13/2004	673	---	126	7270
	4/3/2006	687	---	---	---
	11/29/2006	---	---	ND(0.100)	211
	1/31/2007	4.78	---	---	---
	4/16/2007	1220	---	ND(0.100)	1070
OB-12-DO	6/3/2002	---	10.8	---	---
	6/3/2002	---	---	0.33	0.59
	1/27/2003	69	---	ND(0.05)	0.73
	5/13/2003	52	---	1	0.7
	12/16/2003	181	---	ND(0.100)	243
	5/1/2004	33.5	---	ND(0.100)	4.6
	4/28/2005	38.6	---	---	---
	4/3/2006	58.9	---	---	---
	11/29/2006	---	---	ND(0.100)	1.5
	1/31/2007	104	---	---	---
	4/16/2007	84.9	---	ND(0.100)	6.65
	10/27/2009	116	---	ND(0.50)	1100
	10/26/2011	87.6	---	ND(0.50)	54
	11/26/2012	120	---	ND(1.0)	790

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-12-DO (cont.)	4/17/2013	62.8	---	ND(0.10)	22
OB-12-S	6/3/2002	---	62.1	0.52	0.4
	1/27/2003	42	---	ND(0.05)	0.13
	5/13/2003	38	---	ND(0.05)	0.022
	12/16/2003	178	---	ND(0.100)	684
	5/13/2004	385	---	2.29	4170
	4/28/2005	17.7	---	---	---
	4/3/2006	52.6	---	---	---
	11/29/2006	---	---	ND(0.100)	0.14
	1/31/2007	17.8	---	---	---
	4/16/2007	31.7	---	ND(0.100)	0.0656
OB-14-DO	6/3/2002	---	54	---	---
	6/3/2002	---	---	0.04	0.29
	1/23/2003	17	---	0.13	0.5
	5/13/2003	19	---	0.44	0.12
	12/17/2003	15.5	---	0.8	0.32
	5/1/2004	22.2	---	ND(0.100)	0.0573
	4/28/2005	25.3	---	---	---
	3/27/2006	28.1	---	---	---
OB-15-S	6/3/2002	---	78.2	---	---
	6/3/2002	---	---	5.4	26
	1/23/2003	400	---	18	7.1
	5/12/2003	220	---	1.4	2.5
	12/16/2003	47.3	---	ND(0.100)	48.3
	4/23/2004	37	---	ND(0.100)	23.9
	4/27/2005	52.3	---	---	---
	4/3/2006	619	---	---	---
	4/10/2007	92.2	---	---	---
OB-16-BR	4/25/2008	564	---	---	---
	6/3/2002	---	---	0.02	ND(0.005)
	6/11/2002	---	9	---	---
	5/14/2003	85	---	ND(0.05)	ND(0.005)
	12/16/2003	97.7	---	ND(0.100)	ND(0.0100)
	4/27/2004	92.7	---	ND(0.100)	ND(0.0100)
	4/28/2005	90.5	---	---	---
	3/28/2006	93.6	---	---	---
OB-16-S	4/10/2007	51.6	---	---	---
	6/3/2002	---	---	0.03	0.092
	6/11/2002	---	38.7	---	---
	5/14/2003	170	---	0.07	0.11
	12/16/2003	167	---	0.114	ND(0.0100)
	4/27/2004	112	---	ND(0.100)	ND(0.0100)
	4/28/2005	130	---	---	---
	3/28/2006	201	---	---	---
OB-17-BR	4/10/2007	166	---	---	---
	6/3/2002	---	1.9	---	---
	6/3/2002	---	---	1.3	0.011
	5/15/2003	9	---	0.28	0.008
	12/18/2003	10.1	---	0.214	0.0315
	5/2/2004	9.71	---	0.324	0.0358
	5/19/2005	40	---	---	---
OB-17-DO	4/7/2006	30.9	---	---	---
	6/3/2002	---	64.7	---	---
	6/3/2002	---	---	ND(0.01)	0.24

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-17-DO (cont.)	5/15/2003	ND(1)	---	ND(0.05)	0.069
	12/18/2003	122	---	ND(0.100)	0.255
	5/2/2004	136	---	ND(0.100)	0.105
	5/2/2005	134	---	---	---
	4/7/2006	134	---	---	---
OB-18-DO	8/26/2002	---	25>	5.1	1.4
	5/14/2003	49	---	6.8	1.3
	12/23/2003	23.8	---	ND(0.100)	ND(0.0100)
	5/3/2004	59.1	---	0.911	0.904
	4/29/2005	63.3	---	---	---
OB-18-S Dup.	4/7/2006	91.6	---	---	---
	8/26/2002	---	25>	15	1.4
	1/28/2003	180	---	0.38	0.83
	5/14/2003	170	---	0.26	2
	12/23/2003	95.1	---	ND(0.100)	1.24
	12/23/2003	91.6	---	ND(0.100)	1.27
	5/3/2004	72.6	---	ND(0.100)	2.06
	4/29/2005	46.2	---	---	---
	4/7/2006	163	---	---	---
	2/1/2007	158	---	---	---
OB-19-BR	6/3/2002	---	104	---	---
	6/3/2002	---	---	0.53	0.02
	1/28/2003	25	---	ND(0.05)	0.4
	5/13/2003	9	---	0.62	0.16
	12/17/2003	2620	---	ND(0.100)	34.7
	4/26/2004	545	---	ND(0.300)	3960
	12/28/2004	1130	---	---	---
	4/28/2005	928	---	---	---
	1/3/2006	238	---	---	---
	3/31/2006	191	---	---	---
	11/29/2006	---	---	ND(0.100)	70.1
	1/31/2007	3.45	---	---	---
OB-19-DO	4/16/2007	27.1	---	0.753	2.57
	6/3/2002	---	19.41	---	---
	6/3/2002	---	---	0.66	1.9
	1/28/2003	900	---	ND(0.1)	8700D
	5/13/2003	20	---	ND(0.05)	14
	12/17/2003	22.8	---	ND(0.100)	2.75
	4/26/2004	20.1	---	ND(0.100)	1.95
	12/28/2004	27.7	---	---	---
	4/28/2005	32.2	---	---	---
	3/31/2006	35.5	---	---	---
	1/31/2007	33.6	---	---	---
	4/11/2007	36.6	---	---	---
	10/13/2010	15.9	---	ND(0.10)	1.1
	4/4/2011	24	---	0.84	2.6
	10/26/2011	34	---	0.78	3.2
	4/5/2012	25.8	---	ND(0.10)	5.8
	11/26/2012	26.7	---	0.13	4.9
	4/15/2013	28.3	---	ND(0.10)	0.061
OB-19-S	6/3/2002	---	62.1	---	---
	1/28/2003	10	---	ND(0.05)	0.023
	5/13/2003	17	---	ND(0.05)	0.009
	12/17/2003	15.7	---	0.104	0.0113

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
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SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-19-S (cont.)	4/26/2004	36.5	---	ND(0.100)	0.0761
	4/28/2005	16.8	---	---	---
	3/28/2006	17.1	---	---	---
OB-20-BR	9/3/2004	0.063	---	ND(0.100)	ND(0.0100)
	1/3/2005	63.2	---	1.51	0.0191
	5/2/2005	54	---	ND(0.100)	0.0146
	1/6/2006	33.4	---	ND(0.100)	0.27
	3/30/2006	33.9	---	ND(0.100)	1080
	2/1/2007	44	---	ND(0.100)	170
	4/12/2007	31.7	---	ND(0.100)	90.6
OB-20-DO	9/3/2004	0.12	---	2.5	0.178
	1/3/2005	15.4	---	ND(0.100)	0.0129
	5/2/2005	7.92	---	ND(0.100)	0.0611
	1/6/2006	55.4	---	ND(0.100)	ND(0.0100)
	3/30/2006	112	---	ND(0.100)	33
	2/1/2007	107	---	ND(0.100)	6.4
	4/12/2007	10.8	---	ND(0.100)	0.314
OB-20-S	9/2/2004	0.06	---	13.5	1.2
	1/3/2005	35.9	---	1.44	0.2
	5/2/2005	24.1	---	ND(0.100)	0.0503
	1/6/2006	71.6	---	0.101	0.171
	3/30/2006	79.5	---	0.257	0.331
	2/1/2007	69.5	---	0.104	0.14
	4/12/2007	52.9	---	ND(0.100)	0.0857
OB-21-BR	9/2/2004	0.096	---	ND(0.100)	ND(0.0100)
	1/3/2005	102	---	ND(0.100)	2.91
	5/2/2005	97.4	---	ND(0.100)	ND(0.0100)
	1/6/2006	124	---	0.106	ND(0.0100)
	3/30/2006	132	---	ND(0.100)	0.0162
	2/1/2007	202	---	ND(0.100)	0.103
	4/12/2007	178	---	0.627	0.176
OB-21-DO	9/2/2004	0.21	---	28.6	3.52
	1/3/2005	177	---	ND(0.100)	2.97
	5/2/2005	227	---	25.5	1.55
	1/6/2006	223	---	ND(0.100)	1.19
	3/30/2006	244	---	4.94	0.764
	2/1/2007	257	---	23.4	1.21
	4/12/2007	254	---	30.6	1.31
OB-22-DO	9/3/2004	0.083	---	1.72	0.558
	1/4/2005	260	---	ND(0.100)	ND(0.0100)
	5/2/2005	4.14	---	0.156	ND(0.0100)
	1/4/2006	365	---	ND(0.100)	ND(0.0100)
	4/7/2006	99.1	---	3.33	0.818
	2/1/2007	11	---	ND(0.100)	ND(0.0100)
	4/15/2007	26.6	---	ND(0.100)	0.0136
OB-23-BR	6/3/2002	---	24.6	---	---
	6/13/2002	---	---	2.8	0.07
OB-24-S	5/14/2003	120	---	3.1	7.2
	12/18/2003	200	---	0.639	0.283
	4/27/2004	94.2	---	1.05	3.87
	4/28/2005	71.8	---	---	---
	3/31/2006	49.3	---	---	---
	4/11/2007	45.6	---	---	---
OB-25-BR	12/17/2003	283	---	ND(0.100)	1110

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-25-BR (cont.) Dup.	4/26/2004	8.62	---	ND(0.100)	0.272
	4/26/2004	8.74	---	ND(0.100)	0.272
	4/28/2005	11.3	---	---	---
	3/31/2006	81	---	---	---
	11/26/2012	812	---	ND(1.0)	7300
OB-25-DO	12/17/2003	40	---	ND(0.100)	12.8
	4/26/2004	35.2	---	ND(0.100)	19.5
	4/28/2005	31.7	---	---	---
	3/31/2006	48.1	---	---	---
OB-26-BR	12/17/2003	18	---	16.5	14.9
	4/26/2004	8.49	---	0.136	80.5
	4/28/2005	4.61	---	---	---
	3/31/2006	5.44	---	---	---
OB-26-DO	12/17/2003	19.8	---	ND(0.100)	126
	4/26/2004	24.7	---	ND(0.100)	200
	4/28/2005	23.6	---	---	---
	3/31/2006	95.9	---	---	---
OB-27-BR	12/18/2003	16.1	---	ND(0.100)Z	0.0164
	4/27/2004	21.6	---	ND(0.100)	0.15
	12/28/2004	406	---	ND(0.100)	3570
	4/28/2005	71.5	---	ND(0.100)	214
	1/3/2006	86.3	---	ND(0.100)	606
	3/28/2006	32.6	---	ND(0.100)	0.0214
	1/31/2007	160	---	ND(0.100)	1490
	4/14/2007	136	---	ND(0.100)	806
	11/15/2007	74.5	---	ND(0.100)	7.05
	4/28/2008	57.2	---	ND(0.100)	1.16
	4/22/2010	214	---	1.9	1800
	10/14/2010	421	---	ND(1.0)	4800
	4/14/2011	690	---	5.2	6700
	10/28/2011	94	---	ND(0.50)	300
	4/6/2012	273	---	ND(0.50)	2200
	11/26/2012	540	---	ND(1.0)	4400
	4/15/2013	113	---	ND(0.50)	770
OB-27-DO	12/18/2003	78.6	---	ND(0.100)Z	0.163
	4/27/2004	87.9	---	ND(0.100)	ND(0.0100)
	12/28/2004	89.7	---	ND(0.100)	0.0712
	4/28/2005	156	---	ND(0.100)	ND(0.0100)
	1/3/2006	258	---	ND(0.100)	ND(0.0100)
	3/28/2006	275	---	ND(0.100)	ND(0.0100)
	1/31/2007	330	---	ND(0.100)	ND(0.0100)
	4/10/2007	334	---	ND(0.100)	ND(0.0100)
	11/15/2007	199	---	ND(0.100)	0.258
OB-28-BR	4/23/2008	448	---	ND(0.100)	ND(0.0100)
	12/17/2003	1210	---	ND(0.100)	304
	4/26/2004	29.8	---	ND(0.100)	274
	4/28/2005	53.5	---	---	---
OB-28-DO	3/31/2006	47.1	---	---	---
	12/17/2003	844	---	ND(0.100)	718
	4/26/2004	96.8	---	ND(0.300)	2410
	4/28/2005	32.9	---	---	---
OB-29-DO	3/31/2006	31	---	---	---
	8/13/2003	---	---	1.9	1.3
	12/29/2003	148	---	0.746	0.89

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-29-DO (cont.)	5/3/2004	74.1	---	1.31	1.24
	12/30/2004	86.7	---	ND(0.100)	ND(0.0100)
	4/29/2005	58.2	---	ND(0.100)	0.0192
	3/29/2006	213	---	0.322	1.34
OB-30-DO	5/5/2004	84.8	---	ND(0.100)	ND(0.0100)
	12/29/2004	106	---	---	---
	4/28/2005	125	---	---	---
	1/3/2006	151	---	---	---
	3/28/2006	170	---	---	---
	1/31/2007	160	---	---	---
	4/11/2007	277	---	---	---
	11/15/2007	289	---	---	---
OB-32-DO	5/5/2004	767	---	ND(0.100)	1.09
	12/29/2004	844	---	---	---
	5/2/2005	2900	---	---	---
	1/3/2006	3700	---	---	---
	4/3/2006	1000	---	---	---
	1/31/2007	3920	---	---	---
	4/11/2007	564	---	---	---
	11/15/2007	990	---	---	---
	4/25/2008	1190	---	---	---
	5/8/2008	781	---	---	---
	4/20/2010	74	---	ND(1.0)	540
	10/14/2010	211	---	ND(1.0)	690
	4/14/2011	262	---	ND(1.0)	520
	10/28/2011	175	---	ND(0.50)	290
	4/5/2012	204	---	ND(0.20)	190
	11/27/2012	209	---	ND(1.0)	220
	4/18/2013	203	---	ND(0.10)	140
OB-33-DO	5/5/2004	49.7	---	0.138	0.646
	12/29/2004	7.54	---	---	---
	4/28/2005	17.8	---	---	---
	12/29/2005	4.72	---	---	---
	3/28/2006	12.5	---	---	---
	1/31/2007	7.55	---	---	---
	4/14/2007	11.4	---	---	---
	11/13/2007	7.2	---	---	---
OB-34-DO	4/23/2008	11.8	---	---	---
	5/5/2004	16	---	ND(0.100)	ND(0.0100)
	5/5/2004	16.5	---	ND(0.100)	ND(0.0100)
	12/29/2004	57	---	---	---
	5/2/2005	39.9	---	---	---
	1/3/2006	88	---	---	---
	3/28/2006	68.8	---	---	---
	1/31/2007	35.8	---	---	---
OB-35-DO	10/27/2009	38.7	---	ND(0.50)	10
	12/28/2004	82.6	---	4.6	0.0926
	5/3/2005	72.6	---	ND(0.100)	ND(0.0100)
	1/3/2006	80.1	---	ND(0.100)	39.5
	4/7/2006	276	---	ND(0.100)	ND(0.0100)
	2/5/2007	88.8	---	ND(0.100)	7.11
	4/13/2007	115	---	ND(0.100)	157
	11/15/2007	373	---	ND(0.100)	260
	4/25/2008	79.5	---	ND(0.100)	ND(0.0100)

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-35-DO (cont.)	10/23/2008	392	---	ND(0.100)	249
	4/9/2009	79.1	---	ND(0.10)	0.03
	10/28/2009	328	---	ND(0.10)	ND(0.010)
	4/22/2010	73.2	---	ND(0.10)	0.2
	10/14/2010	193	---	ND(0.10)	0.074
	4/7/2011	112J	---	ND(0.10)	0.023
	10/27/2011	84.3	---	ND(0.10)	0.066
	4/6/2012	78.4	---	ND(0.10)	0.028
	11/27/2012	83.5	---	ND(0.10)	4.2
	4/15/2013	135	---	ND(0.10)	0.37
OB-36-DO Dup.	2/2/2004	7.91	---	---	---
	5/4/2004	7.68	---	ND(0.100)	0.635
	5/4/2004	7.44	---	ND(0.100)	0.627
	12/28/2004	117	---	---	---
	5/3/2005	445	---	---	---
	1/3/2006	284	---	---	---
	4/7/2006	42.2	---	---	---
	2/5/2007	40.8	---	---	---
	4/13/2007	15.3	---	---	---
	11/15/2007	11.5	---	---	---
	4/25/2008	---	---	18.9	15.3
	5/8/2008	9.54	---	---	---
	2/2/2004	20.9	---	---	---
	5/4/2004	2.53	---	ND(0.100)	0.18
	12/28/2004	7.18	---	---	---
OB-37-DO	5/3/2005	3.15	---	ND(0.100)	0.0939
	1/3/2006	7.64	---	---	---
	4/7/2006	10.4	---	ND(0.100)	0.205
	2/5/2007	29.4	---	0.128	25.2
	4/13/2007	15.6	---	ND(0.100)	18.1
	11/15/2007	ND(1000)	---	ND(1.00)	21500
	4/25/2008	417	---	15.2	74.6
	5/7/2010	47.3	---	ND(1.0)	63
	10/13/2010	621	---	ND(1.0)	3800
	4/7/2011	10800J	---	11	18000
	10/28/2011	890	---	ND(10)	15000
	4/6/2012	438	---	ND(1.5)	3200
	11/27/2012	14.4	---	0.56	20
	4/15/2013	181	---	ND(0.10)	66
	12/28/2004	384	---	ND(0.100)	ND(0.0100)
OB-38-DO	4/27/2005	24	---	0.129	0.0162
	1/3/2006	3320	---	ND(0.100)	ND(0.0100)
	3/28/2006	677	---	0.138	0.96
	1/31/2007	1080	---	ND(0.100)	0.459
	4/10/2007	146	---	ND(0.100)	ND(0.0100)
	11/16/2007	1.39	---	ND(0.100)	ND(0.0100)
	4/25/2008	771	---	ND(0.100)	0.472
	10/22/2008	12.2	---	ND(0.100)	0.0256
	4/9/2009	459	---	ND(0.10)	0.14
	10/28/2009	31.7	---	ND(0.10)	0.025
	12/28/2004	15.8	---	ND(0.100)	ND(0.0100)
OB-39-DO	4/27/2005	18.1	---	ND(0.100)	ND(0.0100)
	1/6/2006	15.6	---	ND(0.100)	ND(0.0100)
	3/28/2006	16.1	---	ND(0.100)	0.0857

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
OB-39-DO (cont.)	1/31/2007	9.12	---	ND(0.100)	ND(0.0100)
	4/10/2007	12	---	ND(0.100)	ND(0.0100)
	11/14/2007	15.1	---	ND(0.100)	0.0109
	4/25/2008	12.7	---	ND(0.100)	0.0153
	10/22/2008	12.4	---	ND(0.100)	0.0337
	4/9/2009	15.5	---	ND(0.10)	ND(0.010)
OB-40-DO	12/28/2004	36	---	ND(0.100)	ND(0.0100)
	4/27/2005	27.8	---	ND(0.100)	ND(0.0100)
	12/29/2005	26.6	---	ND(0.100)	ND(0.0100)
	3/28/2006	34.9	---	ND(0.100)	ND(0.0100)
	1/31/2007	41	---	ND(0.100)	ND(0.0100)
	4/10/2007	36.4	---	ND(0.100)	ND(0.0100)
	11/14/2007	63.1	---	ND(0.100)	ND(0.0100)
	4/25/2008	38.4	---	ND(0.100)	0.0303
	10/22/2008	55.1	---	ND(0.100)	ND(0.0100)
P-14	6/3/2002	---	1.9	---	---
	5/3/2004	1400	---	ND(0.100)	0.0614
P-19A	1/3/2005	97.6	---	---	---
	5/2/2005	104	---	---	---
	1/6/2006	159	---	---	---
	3/30/2006	144	---	---	---
	2/1/2007	117	---	---	---
P-20R	1/6/2006	10.7	---	ND(0.100)	0.0807
	3/30/2006	27.5	---	ND(0.100)	0.372
	2/1/2007	84	---	0.15	1.24
P-21	1/3/2005	1000	---	12.6	1.16
	5/2/2005	1580	---	---	---
	1/4/2006	4070	---	---	---
	4/7/2006	257	---	---	---
	2/1/2007	606	---	---	---
P-24	1/3/2005	69.4	---	ND(0.100)	ND(0.0100)
	5/2/2005	21.3	---	ND(0.100)	ND(0.0100)
	1/6/2006	65.4	---	ND(0.100)	ND(0.0100)
	3/30/2006	36.3	---	ND(0.100)	0.0135
	2/5/2007	20.6	---	ND(0.100)	ND(0.0100)
RW-01_MW-18	6/3/2002	---	108.8	---	---
	6/3/2002	---	---	2.2	1.3
	2/17/2003	80	---	ND(0.1)	83
	5/13/2003	600	---	0.1	6000
	12/16/2003	613	---	ND(0.100)	1330
	5/13/2004	240	---	30.9	1430
	5/2/2005	56.9	---	---	---
	4/3/2006	933	---	---	---
RW-02 Dup.	6/3/2002	---	60.4	---	---
	6/3/2002	---	---	0.21	3
	2/17/2003	500	---	ND(0.1)	29000
	5/14/2003	380	---	ND(0.05)	12000
	12/16/2003	422	---	ND(0.100)N	1380N
	12/16/2003	426	---	ND(0.100)	1380
	5/2/2004	456	---	ND(1.00)	7670
	3/31/2006	603	---	---	---
RW-03	6/3/2002	---	67.2	---	---
	6/3/2002	---	---	0.11	0.26

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
RW-03 (cont.)	2/20/2003	44	---	ND(0.05)	3.1
	5/13/2003	30	---	ND(0.05)	210
	12/16/2003	22.8	---	6.94	29.2
	5/2/2004	12.6	---	ND(0.100)	0.0905
	5/2/2005	16.8	---	---	---
	4/3/2006	136	---	---	---
RW-04	6/3/2002	---	17.3	---	---
	6/3/2002	---	---	ND(0.01)	0.063
	1/29/2003	73	---	ND(0.05)	0.24
	5/13/2003	ND(1)	---	ND(0.05)	2.6
	12/15/2003	15.3	---	ND(0.100)	119
	4/27/2004	4.03	---	ND(0.100)	11.5
	4/29/2005	5.83	---	---	---
	3/31/2006	66.5	---	---	---
RW-05	6/3/2002	---	19.6	---	---
	6/3/2002	---	---	0.12	0.23
	1/29/2003	90	---	ND(0.05)	11
	5/13/2003	ND(1)	---	ND(0.05)	0.98
	12/15/2003	14.7	---	ND(0.100)	117
	5/2/2004	101	---	ND(0.100)	0.237
	4/27/2005	106	---	---	---
	4/3/2006	296	---	---	---
RW-17_MW-17	6/3/2002	---	69.1	---	---
	6/3/2002	---	---	0.57	0.11
	2/20/2003	180	---	ND(0.1)	41
	5/13/2003	3	---	ND(0.05)	66
	4/27/2004	20.7	---	ND(0.100)	9.82
	4/29/2005	243	---	---	---
	3/31/2006	30.1	---	---	---
RW-19	6/3/2002	---	9.7	---	---
	6/3/2002	---	---	0.03	0.06
	1/29/2003	140	---	ND(0.1)	720D
	5/15/2003	130	---	ND(0.05)	3600
	12/18/2003	9.9	---	0.304	0.64
	5/1/2004	598	---	ND(0.300)	1550
	5/13/2004	373	---	31	345
	4/29/2005	26.9	---	---	---
RW-20	3/28/2006	28.2	---	---	---
	6/3/2002	---	42.4	---	---
	6/3/2002	---	---	1.1	0.34
	1/29/2003	100	---	0.56	0.24
	5/15/2003	120	---	2.6	0.35
	12/18/2003	9	---	0.144	0.758
	5/1/2004	180	---	0.512	7.14
	4/29/2005	132	---	---	---
RW-21	3/29/2006	349	---	---	---
	6/3/2002	---	8.3	---	---
	6/3/2002	---	---	4.4	0.32
	1/29/2003	280	---	2.4	0.44
	5/15/2003	10	---	1.7	17
	12/18/2003	10.5	---	0.418	0.487
	5/1/2004	49.4	---	0.104	0.66
	4/29/2005	43.3	---	---	---
RW-21	3/29/2006	38.6	---	---	---

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
RW-22	6/3/2002	---	18.6	---	---
	6/3/2002	---	---	1.4	0.038
	1/23/2003	23	---	ND(0.05)	ND(0.005)
	5/13/2003	10	---	ND(0.05)	ND(0.005)
	12/17/2003	12.2	---	ND(0.100)	ND(0.0100)
	5/1/2004	14.8	---	ND(0.100)	0.0277
	4/28/2005	14.9	---	---	---
	3/27/2006	17.1	---	---	---
STR-03	11/29/2006	---	---	1.88	1.23
	3/1/2007	---	---	5.15	1.11
	4/16/2007	461	---	1.82	0.817
	11/16/2007	9.85	---	0.371	0.0596
	1/23/2008	1130	---	8.87	6.07
	4/21/2008	900	---	0.324	0.137
	7/29/2008	1170	---	2.45	0.732
	10/22/2008	1340	---	31.6	13.6
	1/13/2009	1790	---	1.4	0.58
	4/9/2009	1320	---	3.5	2.6
STRHA-02	2/1/2007	---	---	---	1.36
STRHA-03	1/29/2003	---	---	---	1.6
	5/15/2003	---	---	---	3.1
	12/22/2003	---	---	---	2.28
	4/27/2004	---	---	11.4	1.9
	12/30/2004	---	---	---	3.04
	4/29/2005	---	---	18.4	2.98
	1/4/2006	---	---	---	3.31
	4/3/2006	---	---	---	4.8
	2/1/2007	---	---	---	1.26
STRM-A-SCDS	9/15/2004	161	---	2.07	0.924
	1/3/2005	187	---	1.46	0.326
	5/19/2005	124	---	2.14	0.536
	1/6/2006	178	---	1.7	0.516
	3/30/2006	148	---	1.18	0.732
	4/12/2007	124	---	1.48	0.465
STRMH-02	1/29/2003	---	---	---	1.7
	5/15/2003	---	---	---	3.1
	5/4/2004	---	---	10	1.76
	1/4/2005	---	---	---	1.32
	4/29/2005	---	---	17.9	2.9
	1/4/2006	---	---	---	0.0616
	4/3/2006	---	---	---	4.98
	4/15/2007	---	---	---	1.28
STRMH-03	4/15/2007	---	---	---	1.29
UNNAMED_STREAM	7/2/2003	---	---	---	12
	12/23/2003	---	---	48.9	9.48
	5/4/2004	---	---	0.275	0.192
	12/29/2004	---	---	13.6	9.25
	5/3/2005	---	---	---	9.12
	1/3/2006	---	---	---	9.96
	4/3/2006	---	---	---	9.05
	10/11/2006	---	---	0.237	0.0536
	11/29/2006	---	---	46.1	7.31
	2/1/2007	---	---	---	7.48
	3/1/2007	---	---	0.186	---

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

SITE_ID	DATE	Chloride Total (mg/l)	Chloride Field (mg/l)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
UNNAMED_STREAM (cont.)	4/16/2007	380	---	4.92	1.63
	11/16/2007	21.7	---	1.42	0.197
	1/23/2008	861	---	22.6	5.22
	4/21/2008	1710	---	64.6	10.3
	7/29/2008	1640	---	78.6	8.54
	10/21/2008	175	---	76.4	11
	1/14/2009	1460	---	48	6.9
	4/9/2009	1170	---	22	6.1
MW-2_32-TOZER	11/8/2011	489	---	2.58	---

Notes:

mg/l = milligrams per liter

--- = not collected

ND(0.05) = non detect (method detection limit)

25> = Result higher than the test kit range

Dup. = Duplicate sample

NA = Not Applicable, or sample not collected at a discrete well depth

D = Result reported and from a dilute sample

J = Estimated value.

N = matrix interference

Z = Sample results switched in May 7, 2004 status report.

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	AP-13-DO 7/26/2007	AP-13-DO 7/31/2007	AP-13-DO 11/12/2007	AP-13-DO 1/23/2008	AP-13-DO 4/21/2008	AP-13-DO 7/28/2008	AP-13-DO 10/22/2008	AP-13-DO 1/14/2009	AP-13-DO 4/2/2009	AP-13-DO 4/22/2010	AP-13-DO 7/14/2010	AP-13-DO 10/12/2010	AP-13-DO 1/4/2011	AP-13-DO 4/5/2011	AP-13-DO 7/28/2011	AP-13-DO 10/25/2011
Dissolved Metals																	
Iron	mg/L	0.142	---	217	9.41	1.5	11.9	0.124	0.26	0.2	---	---	---	---	---	---	---
Manganese	mg/L	1.5	---	291	76.3	33.6	5.91	5.98	9.27	13	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	120	---	1500	2400	2500	2400	2200	78	180	460	630J	980	2500	1600	2700	2500
Lactic Acid	mg/L	<10	---	200000D	61000D	36000	15000	17000	<1.0	<1.0	<5.0	<10J	360	16000	930	35000	6300
n-Butanoic acid	mg/L	<20	---	<200	<200	<400	<200	<200	<2.0	6.3	<10	<20J	18	<200	68	<400	<100
Propionic acid	mg/L	170	---	<100	<100	<200	<100	<100	26	48	74	85J	150	220	93	270	210
Pyruvic Acid	mg/L	<5.0	---	470	250	140	75	120	<0.50	<0.50	<2.5	<5.0J	14	<50	7.7	<100	<25
Miscellaneous Analyses																	
Methane	ug/L	<2.0	---	<2.0	11	4.7	5.2	7	<2.0	2.8	83	18J	6.6	5.4	2.7	8.6	3.6
Ethane	ug/L	<1.0	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J	<1.0	<1.0	<1.0	1.5	<1.0
Ethene	ug/L	<1.0	---	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	17	5.6J	17	21	5	71	35
Chloride	mg/L	4970	---	790	1980	2350	2290	1480	150	273	---	---	---	---	---	---	---
TOC	mg/L	91.6	---	56300	24400	12500	6500	5890	65.1	106	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	1.0×10^4	---	2.2×10^2	2.4×10^4	---	1.0×10^4	3.8×10^5	7.4×10^3	$<7.7 \times 10^1$	1.2×10^6	4.4×10^4	1.1×10^5	4.0×10^4	1.2×10^4	6.3×10^1 J	7.1×10^2
Dehalococcoides sp.	(1)	---	---	---	---	Neg	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	3.56×10^1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	4.3×10^1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	9.11	7.00	9.21	8.67	8.93	8.15	8.83	---	7.81	7.19	7.28	7.17	---	---
ORP	mV	---	---	-94	109	-36.2	20.8	-82.5	-170	-153.5	---	-32	-71	-181.9	-354	---	---
Dissolved Oxygen	mg/L	---	---	0.17	0.73	0.14	0.32	0.41	0.32	0.44	---	0.39	0.22	0.79	0.43	---	---
Specific Conductivity	ms/cm	---	---	39.66	21.34	17.6	14.61	13	8.547	12.369	---	9.527	9.191	11.269	9.699	---	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	AP-13-DO 1/17/2012	AP-13-DO 4/3/2012	AP-13-DO 5/2/2013	AP-23-DO 11/12/2007	AP-23-DO 1/23/2008	AP-23-DO 4/21/2008	AP-23-DO 7/28/2008	AP-23-DO 10/22/2008	AP-23-DO 1/14/2009	AP-23-DO 4/2/2009	AP-23-DO 1/28/2010	AP-23-DO 4/22/2010	AP-23-DO 7/14/2010	AP-23-DO 10/12/2010	AP-23-DO 1/4/2011	AP-23-DO 4/5/2011
Dissolved Metals																	
Iron	mg/L	---	---	---	12.3	14.4	2.01	0.78	136	1.73	3.2	---	---	---	---	---	---
Manganese	mg/L	---	---	---	30.8	51.8	31.5	23.9	181	6.44	19	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	1300	1200	---	470	1600D	390	28	560	220	290	28	320	260J	620	2800	2000
Lactic Acid	mg/L	740	290	---	20000D	340D	22	2.9	1700	6.1	33	5.7	15	<10J	<10	20000	11000
n-Butanoic acid	mg/L	<40	20	---	<100	390D	110	6.9	50	36	77	3.1	22	41J	240	<400	1200
Propionic acid	mg/L	41	16	---	890	3100D	750	35	1300	500	670D	41	770	620J	1100	5200	3100
Pyruvic Acid	mg/L	<10	<5.0	---	110	19	<5.0	<0.50	<5.0	<2.5	<0.50	<0.50	<2.5	<5.0J	<5.0	430	<50
Miscellaneous Analyses																	
Methane	ug/L	3	2.3	---	5.4	6.4	2.7	2.4	4.5	3.9	36	27	14	19J	700D	200	240
Ethane	ug/L	<1.0	<1.0	---	2.1	3.3	4.3	4.9	6.2	2.2	2.1	<2.0	<1.0	<1.0J	2.5	<10	<10
Ethene	ug/L	7.8	3.3	---	6.3	7	10	14	30	22	36	170	65	65J	310D	2500D	640
Chloride	mg/L	---	---	---	78	56.2	64.7	35.8	13.9	43.6	60.7	---	---	---	---	---	---
TOC	mg/L	---	---	---	8840	1.84	546	40	1250	324	417	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	<2.8 x 10 ¹	<4.2 x 10 ¹	---	5.4 x 10 ²	1.9 x 10 ³	---	6.1 x 10 ⁴	4.6 x 10 ⁴	3.1 x 10 ⁶	4.5 x 10 ⁴	3.5 x 10 ⁴	1.0 X 10 ⁵	3.6 X 10 ⁴	7.1 x 10 ⁵	6.0 x 10 ⁴	3.7 x 10 ⁵
Dehalococcoides sp.	(1)	---	---	---	---	---	Pos	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	6.3	6.5	6.04	6.92	6.49	7.91	7.66	8.1	8.31	8.44	7.3	7.28	6.52	7.2
ORP	mV	---	---	398.5	-33	155	74.9	28.8	75.6	54.3	-36.3	-231	-390	-156	-200	-348.6	-360
Dissolved Oxygen	mg/L	---	---	0.87	0.27	4.70	0.49	0.82	0.21	0.92	0.65	0.2	0.16	0.43	0.21	0.21	0.35
Specific Conductivity	ms/cm	---	---	7.476	14.09	25.5	19.75	19.78	29.73	28.13	25.632	20.055	19.235	16.707	17.112	16.25	16.20

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
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Beverly, Massachusetts

CONSTITUENT	UNITS	AP-23-DO 7/28/2011	AP-23-DO 10/25/2011	AP-23-DO 1/17/2012	AP-23-DO 4/3/2012	AP-24-DO 10/11/2006	AP-24-DO 1/30/2007	AP-24-DO 4/10/2007	AP-24-DO 7/20/2007	AP-24-DO 7/31/2007	AP-24-DO 8/9/2007	AP-24-DO 11/12/2007	AP-24-DO 1/23/2008	AP-24-DO 4/21/2008	AP-24-DO 7/28/2008	AP-24-DO 10/22/2008	AP-24-DO 1/14/2009
Dissolved Metals																	
Iron	mg/L	---	---	---	---	4.79	28	0.346	---	---	<0.100	10.4	61.5	12.4	5.52	26.9	0.48
Manganese	mg/L	---	---	---	---	4430	104	3.17	---	---	16.6	33.7	143	48.9	28.4	59.5	7.46
Metabolic Acids																	
Acetic acid	mg/L	920	220	26	190	<5.0	4000	270	---	---	850N	460	2600	1800	2000	130	440
Lactic Acid	mg/L	150	5.5	6	4.1	<5.0	49000	1600	---	---	<10	20000D	54000D	23000	17000	850	<10
n-Butanoic acid	mg/L	140	25	<2.0	17	<10	<800	<100	---	---	110	<100	<200	<500	<200	<10	53
Propionic acid	mg/L	1800	390	42	290	<5.0	<400	<50	---	---	340	630	<100	<250	<100	120	930
Pyruvic Acid	mg/L	19	<1.0	<0.50	<1.0	<2.5	330	<25	---	---	<5.0	<25	150	<130	<50	2.6	<5.0
Miscellaneous Analyses																	
Methane	ug/L	340	120	26	130	<2.0	5.9	5.9	---	---	<2.0	<2.0	9.5	9.5	13	34	59
Ethane	ug/L	<10U	<2.0	<2.0	<4.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethene	ug/L	500	65	230D	510D	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	<1.0	<1.0	1	1	1.6
Chloride	mg/L	---	---	---	---	---	778	550	---	---	267	93.2	375	611	411	111	117
TOC	mg/L	---	---	---	---	5.77	17800	2880	---	---	566	5770	15600	7740	6410	302	629
Dehalococcoides sp.	cells/ml	2.1×10^4	2.7×10^6	5.5×10^5	1.4×10^7	$<3.3 \times 10^2$	1.9×10^5	3.4×10^4	$<1.0 \times 10^1$	---	---	6.4×10^2	$<1.0 \times 10^1$	---	8.7×10^3	3.7×10^6	3.2×10^4
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	Pos	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	6.26×10^3	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	1.10×10^6	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	---	---	---	7.83	8.93	7.9	---	7.85	6.3	6.63	8.05	7.91	7.54	7.83
ORP	mV	---	---	---	---	---	98.7	-153.3	103	---	-100	-37	130	-72.2	41.6	-218.8	-238.3
Dissolved Oxygen	mg/L	---	---	---	---	---	0.57	0.84	0.64	---	0.77	0.37	0.46	0.2	0.57	0.22	0.28
Specific Conductivity	ms/cm	---	---	---	---	---	22.54	13.88	7.518	---	8.662	9.161	18.85	12.68	12.49	19.54	14.33

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	AP-24-DO 4/2/2009	AP-24-DO 1/28/2010	AP-24-DO 4/22/2010	AP-24-DO 7/14/2010	AP-24-DO 10/12/2010	AP-24-DO 1/4/2011	AP-24-DO 4/5/2011	AP-24-DO 7/28/2011	AP-24-DO 10/25/2011	AP-24-DO 4/3/2012	AP-25-DO 10/11/2006	AP-25-DO 1/30/2007	AP-25-DO 4/10/2007	AP-25-DO 7/20/2007	AP-25-DO 7/31/2007	AP-25-DO 8/9/2007
Dissolved Metals																	
Iron	mg/L	0.25	---	---	---	---	---	---	---	---	---	1.98	15.2	<0.100	---	---	<0.100
Manganese	mg/L	11	---	---	---	---	---	---	---	---	---	1300	42.8	2.74	---	---	0.0692
Metabolic Acids																	
Acetic acid	mg/L	780D	73	260	190J	480	2500	480	280	780	380	100	<200	100	---	---	<1.0
Lactic Acid	mg/L	4600D	4.8	340	<1.0J	<5.0	11000	33	20000	750	<5.0	<5.0	27000	34	---	---	<1.0
n-Butanoic acid	mg/L	130	11	21	16J	15	250	120	<400U	710	54	<10	<400	6.3	---	---	<2.0
Propionic acid	mg/L	1200D	48	330	200J	340	4900	740	<200U	1600	420	<5.0	<200	170	---	---	<1.0
Pyruvic Acid	mg/L	2.5	<0.50	<1.0	<0.50J	<2.5	89	<5.0	<100U	6.5	<2.5	<2.5	<100	<0.50	---	---	<0.50
Miscellaneous Analyses																	
Methane	ug/L	110	<4.0	<20	<20J	<50	<100	<100	<40U	<8.0	<8.0	<2.0	11	<2.0	---	---	<2.0
Ethane	ug/L	<2.0	<2.0	<10	<10J	<25	<50	<50	<20U	<4.0	<4.0	<1.0	<1.0	<1.0	---	---	<1.0
Ethene	ug/L	3.9	160	680	1900DJ	4600D	4500	2600	1400	300	5100D	<1.0	4.4	1	---	---	<1.0
Chloride	mg/L	283	---	---	---	---	---	---	---	---	---	---	170	15.6	---	---	<2.00
TOC	mg/L	1950	---	---	---	---	---	---	---	---	---	46.5	7470	137	---	---	6.08
Dehalococcoides sp.	cells/ml	6.2×10^3	5.1×10^4	2.1×10^6	8.8×10^4	1.8×10^5	1.5×10^5	1.8×10^6	8.0×10^3	3.4×10^4	2.2×10^7	$<3.3 \times 10^2$	8.0×10^5	3.7×10^3	6.0×10^4	---	---
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6.57×10^6	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	7.40×10^5	---
Field Parameters																	
pH	--	7.74	8.38	8.05	7.29	7.1	6.35	7.27	---	---	---	---	7.7	6.74	6.99	---	7.16
ORP	mV	-92.7	-223	-195	-33	-191	-133.1	-360	---	---	---	---	-57.4	-145.4	-140	---	-105
Dissolved Oxygen	mg/L	0.69	0.32	0.49	0.41	0.39	0.39	0.59	---	---	---	---	0.92	0.78	0.85	---	0.45
Specific Conductivity	ms/cm	8.644	3.816	3.262	3.473	3.415	12.112	3.542	---	---	---	---	18.85	1.901	2.218	---	1.984

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
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Beverly, Massachusetts

CONSTITUENT	UNITS	AP-25-DO 11/12/2007	AP-25-DO 1/23/2008	AP-25-DO 4/21/2008	AP-25-DO 7/28/2008	AP-25-DO 10/22/2008	AP-25-DO 1/14/2009	AP-25-DO 4/2/2009	AP-25-DO 1/28/2010	AP-25-DO 1/4/2011	AP-25-DO 4/5/2011	BW-01 11/29/2006	BW-01 4/10/2007	BW-01 7/19/2007	BW-01 11/12/2007	BW-01 1/24/2008	BW-01 4/21/2008
Dissolved Metals																	
Iron	mg/L	<0.100	0.284	0.804	<0.100	0.589	0.28	<0.10	---	---	---	<0.100	36.5	32	7.57	24.5	12.5
Manganese	mg/L	0.146	0.633	2.12	<0.0100	1.06	0.243	0.11	---	---	---	0.0282	10.7	22.4	5.71	4.47	2.82
Metabolic Acids																	
Acetic acid	mg/L	1.7	75	240	2.2	200	24	59	<1.0	8.2	---	<1.0	130	780	6	13	<1.0
Lactic Acid	mg/L	1	120	<2.0	<1.0	19	<1.0	1.9	<1.0	<1.0	---	<1.0	<2.0	<10	<1.0	1.5	<1.0
n-Butanoic acid	mg/L	<2.0	2.4	5.9	<2.0	4.5	<2.0	<2.0	<2.0	<2.0	---	<2.0	28	250	<2.0	<2.0	<2.0
Propionic acid	mg/L	3.4	67	300	<1.0	160	5.8	15	<1.0	<1.0	---	<1.0	210	530	1.4	3.3	<1.0
Pyruvic Acid	mg/L	<0.50	<0.50	<1.0	<0.50	0.66	<0.50	<0.50	<0.50	<0.50	---	<0.50	<1.0	<5.0	<0.50	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	<2.0	6	<100	<100	30	<10	57	16	130D	---	16	590	8100	1600	2300	2400
Ethane	ug/L	<1.0	<2.5	<50	<50	<1.0	<5.0	<20	<1.0	<1.0	---	<1.0	<10	<100	<20	<40	<50
Ethene	ug/L	2.6	200	2400	4500	6300D	440	1100	18	320D	---	<1.0	<10	<100	<20	<40	<50
Chloride	mg/L	3.61	19.7	96.8	<2.00	150	34.9	61.1	---	---	---	---	96.1	83.4	18	97.1	73
TOC	mg/L	5.15	100	105	4.57	164	19.3	32.2	---	---	---	1.4	205	1210	7.75	11.9	4.99
Dehalococcoides sp.	cells/ml	1.5x10 ³	1.9x10 ³	---	<2.5x10 ¹	<5.4x10 ¹	9.5 x 10 ⁵	2.3 x 10 ⁴	2.6 x 10 ⁴	1.1 x 10 ⁴	---	---	<8.3 x 10 ¹	<3.3 x 10 ³ D	1.4 x 10 ³	<1.0 x 10 ¹	3.2 x 10 ³
Dehalococcoides sp.	(1)	---	---	Neg	---	---	---	---	---	---	---	---	---	---	---	---	Neg
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	7.47	6.64	7.19	6.93	7.12	7.03	8.17	8.04	7.62	10.02	5.72	6.89	7.72	6.76	5.92	---
ORP	mV	-90	-92	-116.8	-88.9	-151.2	-110.3	-133.5	-165	-175.9	-351	179.6	-90.3	-168.2	-110	-90	---
Dissolved Oxygen	mg/L	0.28	0.24	0.16	0.3	0.3	0.2	0.22	0.13	0.38	0.8	2.05	0.92	0.5	0.02	0.80	---
Specific Conductivity	ms/cm	0.134	0.430	1.185	1.052	1.891	0.357	0.495	0.185	0.271	0.116	0.163	0.853	2.347	0.373	0.500	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-01 7/28/2008	BW-01 10/22/2008	BW-01 1/13/2009	BW-01 4/2/2009	BW-01 7/14/2009	BW-01 10/27/2009	BW-01 1/28/2010	BW-01 4/22/2010	BW-01 10/28/2011	BW-01 8/20/2012	BW-01 10/26/2012	BW-02 10/11/2006	BW-02 1/30/2007	BW-02 4/10/2007	BW-02 7/19/2007	BW-02 11/12/2007
Dissolved Metals																	
Iron	mg/L	<0.100	2.86	2.1	3.8	---	---	---	---	---	---	---	0.123	107	61.1	14.8	19
Manganese	mg/L	1.04	3.82	2.27	3.2	---	---	---	---	---	---	---	35.1	50.8	17.1	8.14	7
Metabolic Acids																	
Acetic acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	570	98	220	61
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	840	<1.0	<2.0	<1.0
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	---	---	---	<2.0	21	30	<4.0	<2.0
Propionic acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	990	170	24	18
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	<0.50	7.7	<0.50	<1.0	<0.50
Miscellaneous Analyses																	
Methane	ug/L	51	1200D	1700	260	170	77	54	1300	---	---	---	8.6	1200	780	5000	2300
Ethane	ug/L	<1.0	<1.0	<20U	<5.0	<2.0	<1.0	<1.0	<25	---	---	---	<1.0	<20	<10	<100	<40
Ethene	ug/L	<1.0	<1.0	<20U	<5.0	<2.0	<1.0	<1.0	<25	---	---	---	<1.0	<20	<10	<100	<40
Chloride	mg/L	48.1	35.5	86.1	67.3	---	---	---	---	---	---	---	---	51.9	282	77.3	21
TOC	mg/L	3.04	3.87	2.4	1.6	---	---	---	---	---	---	---	6.96	876	187	151	36.8
Dehalococcoides sp.	cells/ml	<2.2 x 10 ¹	<2.7x10 ¹	5.7 x 10 ²	1.2 x 10 ⁴	3.2 x 10 ³	1.1 x 10 ⁴	7.8 x 10 ³	8.6 X 10 ³	---	---	---	<2.5 x 10 ¹	3.7 x 10 ³	<6.3 x 10 ¹	---	1.2 x 10 ³
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	6.11	6.5	6.15	6.46	6.01	6.21	---	---	6.81	5.35	4.96	7.06	6.69	7.01	7.04	6.97
ORP	mV	-58.5	-57.9	-45.5	35.3	59	-0.8	---	---	-107	-49.2	4.6	143.6	-164.9	-139.1	-198.5	-145
Dissolved Oxygen	mg/L	0.21	0.37	0.29	5.5	0.27	0.17	---	---	0.36	0.43	2.03	2.6	0.51	0.44	0.62	0.05
Specific Conductivity	ms/cm	0.231	0.324	0.348	0.174	0.216	0.253	---	---	0.588	0.535	1.099	0.786	1.828	0.97	1.405	0.553

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-02 1/24/2008	BW-02 4/21/2008	BW-02 7/28/2008	BW-02 10/22/2008	BW-02 1/13/2009	BW-02 4/2/2009	BW-02 7/14/2009	BW-02 10/27/2009	BW-02 1/28/2010	BW-02 4/22/2010	BW-02 10/28/2011	BW-02 8/20/2012	BW-02 10/26/2012	BW-03 10/11/2006	BW-03 1/30/2007	BW-03 4/10/2007	BW-03 7/19/2007
Dissolved Metals																		
Iron	mg/L	25	16.5	1.28	1.45	8.16	6.4	---	---	---	---	---	---	---	<0.100	74.1	64.5	24.5
Manganese	mg/L	3.49	4.56	1.54	3.42	2.32	2.4	---	---	---	---	---	---	---	1.86	67.4	14.8	12.5
Metabolic Acids																		
Acetic acid	mg/L	21	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	880	67	3.3
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	2600	<1.0	<1.0
n-Butanoic acid	mg/L	2.3	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	---	---	---	<2.0	<100	29	<2.0
Propionic acid	mg/L	15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	1100	97	<1.0
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	<0.50	<25	<0.50	<0.50
Miscellaneous Analyses																		
Methane	ug/L	1600	5100	140	1700D	1900	1300	71	100	170	1400	---	---	---	29	2600	1000	950
Ethane	ug/L	<20	<100	<2.0	<1.0	<20	<25	<1.0	<1.0	<2.0	<25	---	---	---	<1.0	<50	<20	<10
Ethene	ug/L	<20	<100	<2.0	<1.0	<20	<25	1.9	<1.0	<2.0	<25	---	---	---	<1.0	<50	<20	47
Chloride	mg/L	84.5	74	45	45.4	87.2	97.8	---	---	---	---	---	---	---	---	67.2	248	57.3
TOC	mg/L	12.8	4.12	3.46	5.04	2.3	3.8	---	---	---	---	---	---	---	4.24	1620	111	8.16
Dehalococcoides sp.	cells/ml	<1.0 x 10 ¹	---	1.8 x 10 ⁴	<3.6 x 10 ¹	1.4 x 10 ³	4.6 x 10 ³	9.5 x 10 ³	1.6 x 10 ⁴	7.6 x 10 ³	<1.0 X 10 ¹	---	---	---	<3.3x10 ¹	8.0 x 10 ³	<4.0 x 10 ¹	<2.5 x 10 ¹ D
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	Neg	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	5.70	6.46	6.14	6.58	6.12	6.46	6.11	6.25	---	---	6.12	5.86	6.32	6.76	6.75	7.04	7.13
ORP	mV	-50	11.4	-38.1	-91.8	-49.5	11.4	4	13.9	---	---	6.8	-85.5	-82	228.1	-122.3	-188.7	-166.9
Dissolved Oxygen	mg/L	0.83	2.53	0.19	0.32	0.35	2.53	0.48	0.22	---	---	0.63	0.64	0.29	5.65	0.25	0.13	0.58
Specific Conductivity	ms/cm	0.444	0.219	0.184	0.482	0.361	0.219	0.192	0.213	---	---	0.314	0.259	1.393	0.411	2.787	0.796	0.598

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-03 11/12/2007	BW-03 1/24/2008	BW-03 4/21/2008	BW-03 7/28/2008	BW-03 10/22/2008	BW-03 1/13/2009	BW-03 4/2/2009	BW-03 7/14/2009	BW-03 10/27/2009	BW-03 1/28/2010	BW-03 4/22/2010	BW-03 10/28/2011	BW-03 8/20/2012	BW-03 10/26/2012	BW-04 10/11/2006	BW-04 1/30/2007	BW-04 4/10/2007
Dissolved Metals																		
Iron	mg/L	20.3	37.4	28.7	1.67	17.9	12.6	18	---	---	---	---	---	---	---	<0.100	25.2	17.2
Manganese	mg/L	9.02	7.44	6.25	3.84	5.33	5.64	8	---	---	---	---	---	---	---	0.0434	27.9	6.49
Metabolic Acids																		
Acetic acid	mg/L	82	37	12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	530	87
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	<10	<1.0
n-Butanoic acid	mg/L	9.6	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	---	---	---	<2.0	170	35
Propionic acid	mg/L	74	13	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	<1.0	730	73
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	<0.50	<5.0	<0.50
Miscellaneous Analyses																		
Methane	ug/L	3500	4100	5200	84	2700D	1900	2300	1300	45	800	2000	---	---	---	24	280	300
Ethane	ug/L	<50	<50	<100	<1.0	1.1	<20	<40	<20	<1.0	<10	<20	---	---	---	<1.0	<5.0	<5.0
Ethene	ug/L	<50	<50	<100	<1.0	9.5	<20	<40	<20	<1.0	<10	<20	---	---	---	<1.0	130	220
Chloride	mg/L	31.7	106	55.9	37.6	50.1	80.8	91.3	---	---	---	---	---	---	---	---	88.4	84.8
TOC	mg/L	86.2	24.1	14.9	4.77	5.85	3.8	2.8	---	---	---	---	---	---	---	2.46	729	107
Dehalococcoides sp.	cells/ml	4.0×10^3	1.6×10^2	---	$<2.6 \times 10^1$	$<4.0 \times 10^1$	2.0×10^3	1.5×10^3	1.7×10^4	1.0×10^4	---	$<2.9 \times 10^1$	---	---	---	$<1.2 \times 10^1$	2.6×10^4	1.5×10^4
Dehalococcoides sp.	(1)	---	---	Neg	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	6.94	5.77	7.16	6.37	6.7	6.43	6.67	6.19	6.43	---	---	6.19	6.21	6.45	6.81	7.26	7.69
ORP	mV	-150	-109	-131.6	-98.3	-101.6	-102.1	-16.7	-84	-53.7	---	---	8.8	-89.4	-107.1	239.2	-161.3	-227.5
Dissolved Oxygen	mg/L	0.04	0.35	0.18	0.21	0.33	0.62	1.27	0.25	0.12	---	---	0.39	0.4	0.16	2.55	0.6	0.14
Specific Conductivity	ms/cm	1.004	0.547	0.27	0.312	0.558	0.398	0.237	0.29	0.279	---	---	0.268	0.228	0.769	0.799	1.685	0.589

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-04 7/19/2007	BW-04 11/12/2007	BW-04 1/22/2008	BW-04 4/21/2008	BW-04 7/28/2008	BW-04 10/22/2008	BW-04 1/13/2009	BW-04 4/2/2009	BW-04 7/14/2009	BW-04 10/27/2009	BW-04 1/28/2010	BW-04 4/22/2010	BW-04 7/14/2010	BW-04 10/12/2010	BW-04 1/4/2011	BW-04 4/5/2011	BW-04 7/28/2011
Dissolved Metals																		
Iron	mg/L	26	49.6	11.9	9.61	7.42	7.75	9.46	10	---	---	---	---	---	---	---	---	---
Manganese	mg/L	8.3	11	25.3	2.96	3.18	2.15	3.82	3.2	---	---	---	---	---	---	---	---	---
Metabolic Acids																		
Acetic acid	mg/L	1.2	110	86	16	<1.0	7.6	1.9	<1.0	86	<1.0	<1.0	2	280J	3.9	<1.0	<1.0	<1.0
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10J	<1.0	<1.0	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	20	5	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	35J	<2.0	<2.0	<2.0	<2.0
Propionic acid	mg/L	<1.0	150	55	<1.0	<1.0	7.3	<1.0	<1.0	110	<1.0	<1.0	<1.0	660J	<1.0	<1.0	<1.0	<1.0
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.58	<5.0J	<0.50	<0.50	<0.50	<0.50
Miscellaneous Analyses																		
Methane	ug/L	300	510	1200	5000	710	490D	4800	9200	2700	2300	37	1800	2200J	3200D	2000	1100	590
Ethane	ug/L	<5.0	<10	<20	<100	<8.0	9.7	<50	<100	<50	130	<1.0	<25	68J	99	110	40	62
Ethene	ug/L	450	850	<20	110	36	440D	99	1300	1100	550	26	830	950J	66	110	370	330
Chloride	mg/L	63	247	173	128	38	58.2	96.5	95.1	---	---	---	---	---	---	---	---	---
TOC	mg/L	6.05	118	72.9	19.9	8.59	10.2	22.1	15.2	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	2.6×10^3	3.7×10^2	3.6×10^2	---	5.8×10^4	7.4×10^4	6.2×10^4	$<2.2 \times 10^1$	2.4×10^6	7.6×10^4	1.4×10^4	$<2.9 \times 10^1$	2.5×10^5	$<8.0 \times 10^2$	2.3×10^3	$<6.3 \times 10^1$	1.4×10^2
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	Pos	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	7.63	6.94	5.65	7.58	6.84	7.21	7.17	7.38	6.81	6.9	---	---	---	---	---	7.52	7.17
ORP	mV	-207.5	-128	-123	-138.3	-121.8	-142.9	-154	-140.4	-138	-116.7	---	---	---	---	---	-367	-179.5
Dissolved Oxygen	mg/L	0.4	0.03	0.27	0.32	0.4	0.35	0.39	0.36	0.13	0.2	---	---	---	---	---	0.24	0.24
Specific Conductivity	ms/cm	0.517	1.401	1.283	0.638	0.742	0.817	1.134	0.821	1.186	0.701	---	---	---	---	---	0.69	0.484

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-04 10/25/2011	BW-04 1/18/2012	BW-04 4/3/2012	BW-04 8/21/2012	BW-04 11/28/2012	BW-04 2/6/2013	BW-04 4/11/2013	BW-05 10/11/2006	BW-05 1/30/2007	BW-05 4/10/2007	BW-05 7/19/2007	BW-05 11/12/2007	BW-05 1/22/2008	BW-05 4/21/2008	BW-05 7/28/2008	BW-05 10/22/2008	BW-05 1/13/2009
Dissolved Metals																		
Iron	mg/L	---	---	---	---	---	---	---	<0.100	39.8	8	3.21	9.6	13.5	5.68	5.45	10.5	20.1
Manganese	mg/L	---	---	---	---	---	---	---	<0.0100	63	4.78	2.05	3.61	3.49	2.28	2.28	1.75	4.7
Metabolic Acids																		
Acetic acid	mg/L	<1.0	<1.0	<1.0	---	---	---	---	<1.0	910	9	9.3	73	4	31	20	43	81
Lactic Acid	mg/L	<1.0	<1.0	<1.0	---	---	---	---	<1.0	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	---	---	---	---	<2.0	82	<2.0	<2.0	4.2	<2.0	<2.0	<2.0	<2.0	2.1
Propionic acid	mg/L	<1.0	<1.0	<1.0	---	---	---	---	<1.0	1600	5.1	2.3	160	<1.0U	5.2	<1.0	40	140
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	---	---	---	---	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5
Miscellaneous Analyses																		
Methane	ug/L	240	17	1200D	960	970D	1200D	3100D	33	180	95	360	300D	130	49	290	430D	<100
Ethane	ug/L	19	<1.0	28	60	140	14	23	<1.0	<2.0	<5.0	<10	2	5.4	3.2	4.4	40	<50
Ethene	ug/L	130	5.1	70	310	180	<5.0U	<20	<1.0	80	410	650	470D	140	120	210	1800D	4400
Chloride	mg/L	---	---	---	---	---	---	---	---	82.5	86.4	83.4	118	140	115	81.1	77.1	205
TOC	mg/L	---	---	---	5.5	3.9	15.3	6.8	2.49	1120	12.4	10.2	103	6.23	26	10.5	44.7	106
Dehalococcoides sp.	cells/ml	5.5×10^4	1.8×10^4	$<1.1 \times 10^1$	$<3.7 \times 10^1$	4.1×10^6	$<1.0 \times 10^2$	$<1.2 \times 10^1$	$<1.2 \times 10^1$	1.2×10^4	1.5×10^4	1.9×10^4	1.9×10^3	1.1×10^3	---	8.7×10^4	2.8×10^5	3.3×10^4
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	Neg	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	7.1	---	---	---	6.79	6.79	---	6.59	6.80	8.02	7.56	7.05	5.84	7.55	6.91	7.34	7.2
ORP	mV	-141	---	---	---	-89.1	-93.5	---	250.4	-92.3	-216.8	-181.1	-147	-185	-175.8	-104.1	-170.6	-171.3
Dissolved Oxygen	mg/L	0.43	---	---	---	0.26	0.32	---	2.28	0.53	0.16	0.43	0.05	0.83	0.35	0.62	0.82	1.11
Specific Conductivity	ms/cm	0.567	---	---	---	0.602	0.635	---	0.802	4.144	0.634	0.580	1.534	0.773	0.534	0.47	0.601	0.952

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-05 4/2/2009	BW-05 7/14/2009	BW-05 10/27/2009	BW-05 1/28/2010	BW-05 4/22/2010	BW-05 7/14/2010	BW-05 10/12/2010	BW-05 1/4/2011	BW-05 4/5/2011	BW-05 7/28/2011	BW-05 10/25/2011	BW-05 1/18/2012	BW-05 4/3/2012	BW-05 8/21/2012	BW-05 11/28/2012	BW-05 2/6/2013	BW-05 4/11/2013
Dissolved Metals																		
Iron	mg/L	27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	4.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																		
Acetic acid	mg/L	41	44	1.7	<1.0	43	56J	32	<1.0	20	89	53	30	<1.0	---	---	---	---
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	---
n-Butanoic acid	mg/L	<2.0	---	<2.0	<2.0	<2.0	4.8J	<2.0	<2.0	<2.0	6.6	<2.0	<2.0	<2.0	---	---	---	---
Propionic acid	mg/L	43	34	<1.0	<1.0	43	88J	1.5	<1.0	<1.0	120	20	<1.0	<1.0	---	---	---	---
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---
Miscellaneous Analyses																		
Methane	ug/L	210	340	260	490	<100	1600J	1400	8900D	200	970	110	710	600D	4800D	11000D	20000	18000
Ethane	ug/L	<100	<50	23	<40	<50	<25J	130	1000	<50	31	<25	<25	67	49	<50	<200U	<200
Ethene	ug/L	5100	3600	1900	2300	4700	1900J	700	59	3700	1500	1700	4000D	750D	170	<50	<200U	<200
Chloride	mg/L	130	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	42.1	---	---	---	---	---	---	---	---	---	---	---	---	800	700	105	180
Dehalococcoides sp.	cells/ml	1.8×10^4	1.2×10^5	4.5×10^4	3.4×10^4	1.1×10^6	2.4×10^4	8.7×10^3	6.5×10^2	5.9×10^4	5.5×10^2	1.9×10^5	1.2×10^4	$<1.0 \times 10^1$	$<3.3 \times 10^3$	1.2×10^6	$<1.2 \times 10^2$	$<1.4 \times 10^1$
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	7.41	7.18	7.22	---	---	---	---	---	7.67	7.34	7.36	---	---	---	6.34	6.55	---
ORP	mV	-165.6	-185	-138.8	---	---	---	---	---	-366	-170.8	-145.5	---	---	---	-135.6	15.4	---
Dissolved Oxygen	mg/L	0.27	0.34	0.43	---	---	---	---	---	0.34	0.43	0.66	---	---	---	0.21	0.52	---
Specific Conductivity	ms/cm	0.862	0.692	0.571	---	---	---	---	---	0.617	0.816	0.64	---	---	---	2.559	2.078	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-06 7/28/2011	BW-06 10/25/2011	BW-06 1/18/2012	BW-06 4/3/2012	BW-06 8/21/2012	BW-06 11/28/2012	BW-06 2/6/2013	BW-06 4/11/2013	BW-08 11/12/2007	BW-08 1/22/2008	BW-08 4/21/2008	BW-08 7/28/2008	BW-08 10/22/2008	BW-08 1/13/2009	BW-08 4/2/2009	BW-08 7/14/2009
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	43.5	43	26	21.8	24.5	18.5	27	---
Manganese	mg/L	---	---	---	---	---	---	---	---	13.2	13.5	9.56	9.42	1.75	5.26	7.9	---
Metabolic Acids																	
Acetic acid	mg/L	180	1.5	110	63	---	---	---	---	50	12	<1.0	20	59	7	39	160
Lactic Acid	mg/L	<2.0	<1.0	<1.0	<1.0	---	---	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butanoic acid	mg/L	8.7	<2.0	2.6	<2.0	---	---	---	---	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---
Propionic acid	mg/L	300	<1.0	58	<1.0	---	---	---	---	38	<1.0U	<1.0	<1.0	68	2.5	26	140
Pyruvic Acid	mg/L	<1.0	<0.50	<0.50	<0.50	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	210D	51	270	1700	350	6300D	11000D	13000D	240	450	190	120	200D	220	350	520
Ethane	ug/L	<1.0	<5.0	<5.0	62	20	68	<100U	<100	<5.0	48	3.2	<20	<1.0	<20	<100	<100
Ethene	ug/L	2800D	380	3900D	3500	77	140	<100U	<100	360	67	120	1200	2600D	1500	7300	6900
Chloride	mg/L	---	---	---	---	---	---	---	---	252	186	164	131	148	124	104	---
TOC	mg/L	---	---	---	---	271	167	34.1	72.2	55.6	12.6	3.46	12.2	63.4	10.1	34.4	---
Dehalococcoides sp.	cells/ml	9.9×10^3	2.5×10^4	3.1×10^4	1.2×10^5	$<3.3 \times 10^3$	$<4.6 \times 10^1$	$<1.1 \times 10^2$	$<2.4 \times 10^1$	2.8×10^3	1.6×10^3	---	$<2.1 \times 10^1$	2.9×10^6	4.5×10^2	1.3×10^3	1.4×10^5
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	Pos	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	7.15	7.29	---	---	---	---	6.3	---	7.12	5.51	7.42	6.69	7.37	6.95	7.36	7.1
ORP	mV	-157	-87.9	---	---	---	---	-62.5	---	-141	-115	-113.2	-127.8	-180.1	-160.2	-138.4	-162
Dissolved Oxygen	mg/L	0.16	0.92	---	---	---	---	0.41	---	0.09	0.24	0.35	0.43	0.29	0.2	0.16	0.14
Specific Conductivity	ms/cm	1.174	0.508	---	---	---	---	0.525	---	1.228	0.953	0.567	0.687	0.906	0.659	0.647	1.122

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-08 10/27/2009	BW-08 1/28/2010	BW-08 4/22/2010	BW-08 7/14/2010	BW-08 10/12/2010	BW-08 1/5/2011	BW-08 4/5/2011	BW-08 7/28/2011	BW-08 10/25/2011	BW-08 1/18/2012	BW-08 4/3/2012	BW-08 8/21/2012	BW-08 11/28/2012	BW-08 2/6/2013	BW-08 4/11/2013
Dissolved Metals																
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																
Acetic acid	mg/L	57	<1.0	<1.0	130J	270	290	21	220	1.8	12	100	---	---	---	---
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<2.0J	<2.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	---	---	---	---
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	22J	4.8	5.9	<2.0	11	<2.0	<2.0	<2.0	---	---	---	---
Propionic acid	mg/L	1.9	<1.0	<1.0	260J	110	120	<1.0	250	<1.0	<1.0	2.2	---	---	---	---
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<1.0J	<1.0	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	---	---	---	---
Miscellaneous Analyses																
Methane	ug/L	1000	81	210	1500DJ	4900D	16000D	8900	2800	250	1600D	4300D	1700	15000D	21000D	19000
Ethane	ug/L	<100	12	<10	29J	75	1700	650	<100	17	20	82	40	40	<200U	<200
Ethene	ug/L	5900	280	620	3800DJ	1300D	250	1900	4800	1000D	760	3400D	39	<20	<200U	<200
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	---	---	---	---	---	---	---	---	---	---	---	194	630	181	52
Dehalococcoides sp.	cells/ml	5.6×10^5	4.8×10^4	$<2.6 \times 10^1$	2.3×10^4	1.0×10^4	$<1.0 \times 10^1$ U	3.7×10^4	2.1×10^2	4.6×10^4	2.9×10^5	1.8×10^5	$<3.7 \times 10^1$	$<3.1 \times 10^1$	$<8.3 \times 10^1$	3.3×10^3
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
pH	--	7.39	---	---	---	---	---	7.5	7.21	7.43	---	---	---	6.15	6.59	---
ORP	mV	-191.5	---	---	---	---	---	-373	-167.6	-116.7	---	---	---	-88.1	-106.3	---
Dissolved Oxygen	mg/L	0.06	---	---	---	---	---	0.22	0.36	0.82	---	---	---	0.26	0.72	---
Specific Conductivity	ms/cm	0.96	---	---	---	---	---	0.608	1.408	0.565	---	---	---	2.384	1.754	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-09 7/20/2007	BW-09 8/9/2007	BW-09 11/12/2007	BW-09 1/22/2008	BW-09 4/21/2008	BW-09 7/28/2008	BW-09 10/22/2008	BW-09 1/13/2009	BW-09 4/2/2009	BW-09 7/14/2009	BW-09 10/27/2009	BW-09 1/28/2010	BW-09 4/22/2010	BW-09 7/28/2011	BW-09 10/25/2011	BW-09 1/18/2012
Dissolved Metals																	
Iron	mg/L	---	16.5	32.2	25.4	31.8	12.2	62.4	19.6	41	---	---	---	---	---	---	---
Manganese	mg/L	---	7.07	15.1	15.1	10.4	4.17	19.4	7.09	11	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	---	9.3	2.3	1.7	2.6	12	290	5.6	17	260	56	<1.0	<1.0	530	<1.0	32
Lactic Acid	mg/L	---	<1.0	4.9	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<2.0	1.5	<1.0	<1.0	<5.0	<1.0	<1.0
n-Butanoic acid	mg/L	---	<2.0	<2.0	<2.0	<2.0	<2.0	27	<2.0	<2.0	---	<2.0	<2.0	<2.0	31	<2.0	<2.0
Propionic acid	mg/L	---	8.9	<1.0	<1.0	<1.0	<1.0	490	<1.0	2.2	250	<1.0	<1.0	<1.0	680	<1.0	4.1
Pyruvic Acid	mg/L	---	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	---	150	370	220	280	190	420D	650	660	2500	2800	370	640	7500D	7400	2200
Ethane	ug/L	---	<10	<10	11	12	<20	<1.0	42	<20	74	140	57	<10	200	1500	160
Ethene	ug/L	---	570	640	73	160	1500	2400D	1200	2000	4600	4600	830	900	3500D	280	1100
Chloride	mg/L	---	122	472	132	177	128	141	131	174	---	---	---	---	---	---	---
TOC	mg/L	---	13.3	8.14	10.6	6.01	10.2	365	9.8	13.8	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	<3.3 x 10 ³ D	<1.0 x 10 ¹	1.4 x 10 ³	7.7 x 10 ²	---	3.2 x 10 ⁵	5.1 x 10 ⁵	1.9 x 10 ³	6.7 x 10 ³	4.0 x 10 ⁴	1.2 x 10 ⁵	8.3 x 10 ⁴	<2.4 x 10 ¹	5.1 x 10 ¹	1.2 x 10 ³	1.5 x 10 ⁵
Dehalococcoides sp.	(1)	---	---	---	---	Neg	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	7.20	7.11	---	5.81	7.5	6.93	7.17	7.06	7.34	7.24	7.51	---	---	6.71	7.17	---
ORP	mV	-165	-138	---	-97	-214.3	-139.8	-176.1	-167.1	-106.5	-174	-197.9	---	---	-163.4	-113.6	---
Dissolved Oxygen	mg/L	0.27	0.09	---	0.34	0.15	0.27	0.25	0.22	0.2	0.11	0.14	---	---	0.62	0.55	---
Specific Conductivity	ms/cm	0.675	0.865	---	0.826	0.6	0.683	1.601	0.724	0.699	1.463	1.094	---	---	3.207	0.636	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-09 4/3/2012	BW-09 8/21/2012	BW-09 11/28/2012	BW-09 2/6/2013	BW-09 4/11/2013	MW-009 10/11/2006	MW-009 1/30/2007	MW-009 4/10/2007	MW-009 7/19/2007	MW-009 7/31/2007	MW-009 11/12/2007	MW-009 1/23/2008	MW-009 4/21/2008	MW-009 7/28/2008	MW-009 10/22/2008	MW-009 1/14/2009
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	21.3	96.2	128	86.6	---	1.01	18.8	90.7	80.4	62.9	59.5
Manganese	mg/L	---	---	---	---	---	20.9	5.34	13.1	7.91	---	0.16	1.67	6.29	6.74	7.31	6.98
Metabolic Acids																	
Acetic acid	mg/L	85	---	---	---	---	<1.0	1600	700	220	---	16	290D	1200	580	5.9	210E
Lactic Acid	mg/L	<1.0	---	---	---	---	<1.0	1300	<20	<2.0	---	<1.0	3.7	<10	<5.0	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	---	---	---	---	<2.0	410	540	77	---	<2.0	25	77	24	<2.0	4.9
Propionic acid	mg/L	4.2	---	---	---	---	<1.0	2800	1300	160	---	4.7	390D	1200	440	1.6	7.7
Pyruvic Acid	mg/L	<0.50	---	---	---	---	<0.50	<25	<10	<1.0	---	<0.50U	<0.50U	<5.0	<2.5	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	4500D	9400D	17000D	22000D	17000	100	34	160	890	---	31	1300	10000	7100	16000D	15000
Ethane	ug/L	350	450	<100	<200U	<200	2.1	1.1	<2.0	<25	---	<1.0	<20	<200	<100	890D	1300
Ethene	ug/L	4100D	370	<100	<200U	<200	3.4	1.9	6	1500	---	18	160	2500	1800	2100D	<250
Chloride	mg/L	---	---	---	---	---	---	676	774	659	---	68	164	330	656	742	822
TOC	mg/L	---	1010	630	124	144	2.1	2600	1270	237	---	9.74	319	957	444	7.25	109
Dehalococcoides sp.	cells/ml	3.1×10^5	$<3.1 \times 10^1$	$<3.1 \times 10^1$	$<7.7 \times 10^1$	$<3.1 \times 10^1$	$<1.0 \times 10^1$	---	1.3×10^4	1.7×10^4	---	6.4×10^2	1.2×10^3	---	8.1×10^3	$<3.6 \times 10^1$	8.8×10^3
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	Pos	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	1.28×10^6	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	1.5×10^4	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	6.3	6.55	---	6.27	6.56	6.5	6.59	---	6.57	5.89	6.76	6.46	6.79	6.83
ORP	mV	---	---	-111.7	-118.1	---	-15.6	-192.3	-160.6	-145.6	---	-132	-145	-120.4	-140.5	-158.4	-168.2
Dissolved Oxygen	mg/L	---	---	0.15	0.22	---	6.34	6.2	0.77	0.85	---	0.18	0.59	0.39	0.33	0.31	0.52
Specific Conductivity	ms/cm	---	---	2.362	1.725	---	3.378	7.305	8.721	1.99	---	3.765	3.845	3.874	3.24	2.963	3.53

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	MW-009 4/2/2009	MW-009 7/14/2009	MW-009 10/27/2009	MW-009 1/28/2010	MW-009 4/22/2010	MW-009 7/14/2010	MW-009 10/12/2010	MW-009 1/4/2011	MW-009 4/5/2011	MW-009 7/28/2011	MW-009 10/25/2011	MW-009 1/17/2012	MW-009 4/3/2012	MW-009 8/21/2012	MW-009 11/28/2012
Dissolved Metals																
Iron	mg/L	70	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																
Acetic acid	mg/L	390	1000	500	250	600	320J	6.1	<1.0	6	<1.0U	<1.0	<1.0	<1.0	---	---
Lactic Acid	mg/L	<1.0	370	<5.0	<2.0	<5.0	<2.0J	<1.0	<1.0	<1.0	<1.0U	<1.0	<1.0	<1.0	---	---
n-Butanoic acid	mg/L	11	---	30	12	63	11J	<2.0	<2.0	<2.0	<2.0U	<2.0	<2.0	<2.0	---	---
Propionic acid	mg/L	17	2900	810	200	370	74J	<1.0	<1.0	1.6	<1.0U	<1.0	<1.0	<1.0	---	---
Pyruvic Acid	mg/L	<0.50	<20	<2.5	<1.0	<2.5	<1.0J	<0.50	<0.50	<0.50	<0.50U	<0.50	<0.50	<0.50	---	---
Miscellaneous Analyses																
Methane	ug/L	17000	9500	14000	16000	15000	15000J	12000	20000D	24000	15000	9500	17000D	16000	16000	20000
Ethane	ug/L	1900	360	330	870	1200	1200J	930	1500	1900	1400	830	1900	2000	2500	2600
Ethene	ug/L	<250	1600	690	<250	1000	<250J	220	430	910	1400	1100	2000	1200	1600	2700
Chloride	mg/L	711	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	183	---	---	---	---	---	---	---	---	---	---	---	---	28000	11900
Dehalococcoides sp.	cells/ml	1.5×10^4	2.7×10^5	1.2×10^5	2.5×10^4	5.6×10^5	9.0×10^3	$<6.4 \times 10^1$	3.3×10^3	1.5×10^5	2.1×10^2	---	$<4.0 \times 10^1$	$<3.7 \times 10^1$	$<3.3 \times 10^3$	$<1.0 \times 10^1$
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
pH	--	6.87	6.51	6.51	---	---	---	---	---	7.17	7.07	7.05	---	---	---	---
ORP	mV	-143.3	-116	-105.1	---	---	---	---	---	-368	-169.8	-128.4	---	---	---	---
Dissolved Oxygen	mg/L	0.74	0.74	0.31	---	---	---	---	---	0.59	0.2	0.39	---	---	---	---
Specific Conductivity	ms/cm	3.435	7.494	5.223	---	---	---	---	---	5.494	4.105	2.545	---	---	---	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	MW-009 2/6/2013	MW-009 4/11/2013	OB-09-BR 11/29/2006	OB-09-BR 1/31/2007	OB-09-BR 4/10/2007	OB-09-BR 7/19/2007	OB-09-BR 8/9/2007	OB-09-BR 11/12/2007	OB-09-BR 1/22/2008	OB-09-BR 4/21/2008	OB-09-BR 7/29/2008	OB-09-BR 10/22/2008	OB-09-BR 1/14/2009	OB-09-BR 4/9/2009	OB-09-BR 7/14/2009	OB-09-BR 10/28/2009
Dissolved Metals																	
Iron	mg/L	---	---	6.18	0.715	2.26	0.399	0.407	0.792	1.1	0.394	1.97	2.84	1.5	1.5	---	---
Manganese	mg/L	---	---	0.262	0.189	0.216	0.0918	0.0965	0.157	0.157	0.0828	0.0971	0.17	0.166	0.24	---	---
Metabolic Acids																	
Acetic acid	mg/L	---	---	<1.0	---	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	1	<1.0	<1.0	<1.0	1.1
Lactic Acid	mg/L	---	---	<1.0	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butanoic acid	mg/L	---	---	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0
Propionic acid	mg/L	---	---	<1.0	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyruvic Acid	mg/L	---	---	<0.50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	23000	15000	510	---	8.8	860	12	36	44	100	8.4	80	210	12000	170	500
Ethane	ug/L	2200	1200	<1.0	---	<1.0U	<10	<1.0	1.3	1.1	<2.0	<1.0	<1.0	<2.5	<200	<2.5	<5.0
Ethene	ug/L	6800	5400	91	---	1.1	640	2	4.9	5.2	8.5	<1.0	3.6	4.5	<200	6.4	8.4
Chloride	mg/L	---	---	---	6.77	19.3	12.4	14	18.3	17.8	15.2	3.33	10.8	16	20	---	---
TOC	mg/L	7200	5800	1.89	---	6.19	4.84	3.74	4.78	4.41	5.35	5.24	6.23	6.5	4.1	---	---
Dehalococcoides sp.	cells/ml	<3.3 x 10 ³	<3.3 x 10 ³	---	---	<3.3x10 ¹	<2.0x10 ¹ D	<1.0x10 ¹	3.9x10 ²	<1.0x10 ¹	---	<3.3x10 ¹	1.1 x 10 ⁴	2.7 x 10 ⁴	<3.2 x 10 ¹	8.5 x 10 ³	1.8 x 10 ⁴
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	Pos	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	5.43	---	6.83	---	6.43	8.36	7.46	8.11	5.98	9.15	8.53	9.64	9.18	7.69	7.91	8.83
ORP	mV	12	---	-20.1	---	-300.2	-314.9	-170	-248	-169	-275.8	96.2	-346.1	-335.4	-156	-323	-415.7
Dissolved Oxygen	mg/L	1.56	---	0.64	---	0.23	0.5	0.26	0.05	0.15	0.76	0.4	0.92	1.2	0.36	0.11	0.86
Specific Conductivity	ms/cm	3.539	---	0.185	---	0.127	0.094	0.143	0.141	0.229	0.081	0.094	0.129	0.111	0.136	0.139	0.144

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-BR 1/28/2010	OB-09-BR 4/22/2010	OB-09-BR 7/14/2010	OB-09-BR 10/12/2010	OB-09-BR 1/5/2011	OB-09-BR 4/6/2011	OB-09-BR 7/28/2011	OB-09-BR 10/25/2011	OB-09-BR 1/18/2012	OB-09-BR 4/3/2012	OB-09-BR 8/21/2012	OB-09-BR 11/28/2012	OB-09-BR 2/6/2013	OB-09-BR 4/11/2013	OB-09-DO 11/29/2006	OB-09-DO 1/31/2007
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.01	0.181
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.146	0.0364
Metabolic Acids																	
Acetic acid	mg/L	<1.0	<1.0	2.7J	2.4	6	2.8	8.6	1.5	110	6.2	---	---	---	---	<1.0	---
Lactic Acid	mg/L	<1.0	<1.0	<1.0J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	---	<1.0	---
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0J	<2.0	<2.0	<2.0	<2.0	<2.0	2.7	<2.0	---	---	---	---	<2.0	---
Propionic acid	mg/L	<1.0	<1.0	1.3J	<1.0	<1.0	<1.0	<1.0	<1.0	58	<1.0	---	---	---	---	<1.0	---
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	<0.50	---
Miscellaneous Analyses																	
Methane	ug/L	170	340	560DJ	490	1300D	720	1600D	1200	660	1700D	2500D	2100	2300	1800	130	---
Ethane	ug/L	<2.0	<5.0	<5.0J	<10	<10	<10	<10	<20	<10	<10	<20	<50	<25U	<25	17	---
Ethene	ug/L	3	8.1	16J	13	28	20	34	<20	11	42	66	57	64	58	7.6	---
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9.75
TOC	mg/L	---	---	---	---	---	---	---	---	---	---	12.3	13.2	10.3	11.5	4.71	---
Dehalococcoides sp.	cells/ml	<6.7 x 10 ¹	<3.1 x 10 ⁴	---	---	3.6 x 10 ³	---	---	---	1.5 x 10 ³	---	---	---	---	---	---	---
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	7.48	---	8.51	7.65	8.51	8.10	---	---	---	---	---	---	7.53	---	6.41	---
ORP	mV	-174	---	-63	-311	-405.5	-363	---	---	---	---	---	---	-172.1	---	45.9	---
Dissolved Oxygen	mg/L	0.36	---	0.26	0.31	0.67	0.31	---	---	---	---	---	---	0.4	---	0.64	---
Specific Conductivity	ms/cm	0.146	---	0.157	0.17	0.173	0.190	---	---	---	---	---	---	0.31	---	0.084	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-DO 4/10/2007	OB-09-DO 7/19/2007	OB-09-DO 11/12/2007	OB-09-DO 1/22/2008	OB-09-DO 4/21/2008	OB-09-DO 7/29/2008	OB-09-DO 10/22/2008	OB-09-DO 1/13/2009	OB-09-DO 4/9/2009	OB-09-DO 4/27/2009	OB-09-DO 7/14/2009	OB-09-DO 10/28/2009	OB-09-DO 1/28/2010	OB-09-DO 4/22/2010	OB-09-DO 7/14/2010	OB-09-DO 10/12/2010
Dissolved Metals																	
Iron	mg/L	1.12	0.616	<0.100	<0.100	<0.100	<0.100	0.255	<0.100	<0.10	---	---	---	---	---	---	---
Manganese	mg/L	0.0804	0.138	0.0444	0.0171	0.0445	<0.0100	0.0796	<0.0100	<0.010	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	35	1.9	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	---	<1.0	<1.0	2.8	<1.0	72	4.0J	3.7
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J	<1.0
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0	---	<2.0	<2.0	2.5	<2.0J	<2.0
Propionic acid	mg/L	41	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	<1.0	<1.0	<1.0	<1.0	140	<1.0J	<1.0
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	0.83	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50J	<0.50
Miscellaneous Analyses																	
Methane	ug/L	7.4	33000	100	230	9.6	<2.0	36	<2.0	10000	---	2100	610	180	4500	13000DJ	3000
Ethane	ug/L	<1.0	<500	<2.0	<2.5	<1.0	<1.0	<1.0	<1.0	320	---	130	16	<2.0	140	240J	80
Ethene	ug/L	<1.0	700	<2.0	<2.5	<1.0	<1.0	1.3	<1.0	370	---	73	31	<2.0	110	210J	57
Chloride	mg/L	18.3	9.45	9.39	12	3.64	<2.00	6.3	32.6	44.6	---	---	---	---	---	---	---
TOC	mg/L	5.09	8.87	11.4	3.96	8.15	9.51	9.63	5.7	4.4	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	<2.6 x 10 ¹	<3.3 x 10 ³ D	1.2 x 10 ³	<1.0 x 10 ¹	---	<4.8 x 10 ¹	<5.3 x 10 ¹	<2.0 x 10 ¹	<1.0 x 10 ¹	---	3.0 x 10 ⁵	3.5 x 10 ⁵	5.1 x 10 ³	6.1 X 10 ⁵	---	---
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	Neg	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	6.64	7.28	7.11	5.36	8.16	6.48	7.24	6.48	6.22	6.52	6.95	6.69	6.52	---	6.71	6.75
ORP	mV	-41	-91.6	-43	42	-48.3	-71.8	-105.3	7.6	-41	37.9	-126	-130.7	-65	---	-34	-135
Dissolved Oxygen	mg/L	6.81	0.32	0.61	0.45	0.34	0.29	0.28	0.77	0.14	0.34	0.12	0.32	0.26	---	0.19	0.27
Specific Conductivity	ms/cm	0.041	0.064	0.077	0.163	0.048	0.067	0.108	0.105	0.233	0.161	0.21	0.226	0.124	---	0.266	0.259

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
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CONSTITUENT	UNITS	OB-09-DO 1/5/2011	OB-09-DO 4/6/2011	OB-09-DO 7/28/2011	OB-09-DO 10/25/2011	OB-09-DO 1/18/2011	OB-09-DO 4/3/2012	OB-09-DO 8/21/2012	OB-09-DO 11/28/2012	OB-09-DO 2/6/2013	OB-09-DO 4/11/2013	OB-09-S 10/11/2006	OB-09-S 1/30/2007	OB-09-S 4/10/2007	OB-09-S 7/26/2007	OB-09-S 7/31/2007	OB-09-S 11/12/2007
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	2.52	40	75.6	4.82	---	5.08
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	1.36	25.6	21.1	0.887	---	1.08
Metabolic Acids																	
Acetic acid	mg/L	1.5	1.2	2.1	7.8	1.4	<1.0	---	---	---	---	<1.0	790	140	26	---	16
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	---	<1.0	<20	<5.0	<1.0	---	<1.0
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	---	---	---	<2.0	240	100	<2.0	---	<2.0
Propionic acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	---	<1.0	1200	320	12	---	6.4
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	<0.50	<10	<2.5	<0.50	---	<0.50
Miscellaneous Analyses																	
Methane	ug/L	12000D	3000	600	1800D	1200	1200	1800	330	240	840D	180	30	8.7	48	---	210
Ethane	ug/L	410	100	<10	<10	<25	<20	<20	<5.0	<5.0U	<5.0	7.3	1.2	<1.0	<1.0	---	3.4
Ethene	ug/L	330	80	11	37	<25	<20	<20	<5.0	<5.0U	5.6	80	13	40	81	---	88
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	72.8	30.9	42.1	---	63.2
TOC	mg/L	---	---	---	---	---	---	29.7	8.8	6.4	5.5	9.63	1020	132	34.7	---	24.9
Dehalococcoides sp.	cells/ml	2.4×10^5	---	---	---	1.8×10^5	---	---	---	---	---	$<2.3 \times 10^1$	1.3×10^5	7.1×10^3	---	---	1.8×10^3
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.79×10^6	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5×10^3	---
Field Parameters																	
pH	--	6.82	6.43	---	---	---	---	---	6	6.54	---	6.44	6.65	6.39	8.45	---	6.42
ORP	mV	-171.6	-390	---	---	---	---	---	-99.2	-16.1	---	100.8	-169.5	-195.5	-129.5	---	-82
Dissolved Oxygen	mg/L	0.32	0.16	---	---	---	---	---	0.15	2.26	---	5.9	0.44	1.36	1.45	---	0.19
Specific Conductivity	ms/cm	0.225	0.105	---	---	---	---	---	0.212	0.112	---	1.868	17.9	17.44	0.653	---	2.993

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-S 4/21/2008	OB-09-S 7/29/2008	OB-09-S 10/22/2008	OB-09-S 4/9/2009	OB-09-S 4/27/2009	OB-09-S 7/14/2009	OB-09-S 10/28/2009	OB-09-S 1/28/2010	OB-09-S 4/22/2010	OB-9-S 7/14/2010	OB-09-S 10/12/2010	OB-09-S 1/5/2011	OB-09-S 4/5/2011	OB-09-S 7/28/2011	OB-09-S 10/25/2011	OB-09-S 1/18/2012
Dissolved Metals																	
Iron	mg/L	8.7	13.1	17	16	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	1.88	3.98	1.3	2	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	240	20	97	---	150	660	92	53	310	160J	250	870	390	940	360	<1.0
Lactic Acid	mg/L	<2.0	<1.0	<1.0	---	<1.0	<20	<1.0	<1.0	290	220J	<2.0	<10	<5.0	<10	<2.0	<1.0
n-Butanoic acid	mg/L	61	2.2	4.3	---	31	---	16	9	100	17J	8.5	270	100	48	74	<2.0
Propionic acid	mg/L	190	10	140	---	230	1700	110	57	830	210J	170	1700	510	1100	300	<1.0
Pyruvic Acid	mg/L	<1.0	<0.50	<0.50	---	<0.50	<10	<0.50	<0.50	<2.5	<1.0J	<1.0	<5.0	<2.5	<5.0	<1.0	<0.50
Miscellaneous Analyses																	
Methane	ug/L	1700	1900	1200D	10000	---	10000	3700	12000	12000	13000J	9000	25000D	25000	21000D	18000	18000
Ethane	ug/L	<20	<20	40	<200	---	<200	<50	320	<200	240J	370	470	<500	330	290	310
Ethene	ug/L	400	640	1500D	4300	---	2000	580	820	1300	1700J	290	1000	1000	<200	<250	<250
Chloride	mg/L	168	222	116	122	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	331	20.9	101	231	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	---	<9.1 x 10 ¹	5.8 x 10 ³	---	1.0 x 10 ⁴	9.6 x 10 ⁵	2.4 x 10 ⁶	1.5 x 10 ⁵	9.6 X 10 ⁵	<1.0 X 10 ²	7.2 x 10 ³	8.1 x 10 ³	9.4 x 10 ⁵	1.6 x 10 ³	4.9 x 10 ⁵	4.8 x 10 ⁴
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	Pos	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	6.74	6.0	6.6	6.43	6.43	6.3	---	6.45	---	6.42	6.3	6.16	6.8	---	---	---
ORP	mV	-98.2	-34.7	-103.4	-126	-106.4	-100	-102	-102	---	-43	-98	-144.9	-367	---	---	---
Dissolved Oxygen	mg/L	0.58	0.39	0.6	0.53	0.24	0.17	0.31	1.49	---	0.44	0.19	0.40	0.54	---	---	---
Specific Conductivity	ms/cm	11.66	9.736	9.466	14	11.583	10.859	7.857	12.945	---	6.045	6.144	---	11.86	---	---	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-S 4/3/2012	OB-09-S 8/21/2012	OB-09-S 11/28/2012	OB-09-S 2/6/2013	OB-09-S 4/11/2013	OB-15-S 1/19/2009	OB-15-S 4/9/2009	OB-15-S 7/14/2009	OB-15-S 1/28/2010	OB-15-S 4/22/2010	OB-15-S 10/12/2010	OB-15-S 1/4/2011	OB-15-S 7/28/2011	OB-15-S 10/25/2011	OB-15-S 1/17/2012	OB-15-S 4/3/2012
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	54	---	---	---	---	---	---	180	<1.0	12	12	120	670	230	57	9.4
Lactic Acid	mg/L	<1.0	---	---	---	---	---	---	420	<1.0	490	<1.0	<1.0	<10	<2.0	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	---	---	---	---	---	---	---	<2.0	<10	<2.0	4.6	120	37	<2.0	<2.0
Propionic acid	mg/L	19	---	---	---	---	---	---	310	<1.0	24	11	110	1200	310	31	<1.0
Pyruvic Acid	mg/L	<0.50	---	---	---	---	---	---	<1.3U	<0.50	<2.5	<0.50	<0.50	<5.0	<1.0	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	27000D	13000	15000	21000D	18000	---	---	55	92	390	5400D	12000D	8100	11000D	21000D	21000
Ethane	ug/L	690	<200	<200	<200U	<200	---	---	<1.0U	<1.0	<5.0	<5.0	150	<100	210	400	370
Ethene	ug/L	<250	<200	<200	<200U	<200	---	---	90	24	170	540D	210	230	480	160	310
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	---	210	32.7	23	34.9	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	6.4×10^5	$<3.3 \times 10^3$	$<9.1 \times 10^1$	$<9.7 \times 10^1$	$<1.2 \times 10^2$	---	---	8.5×10^4	5.2×10^3	$<7.7 \times 10^1$	8.8×10^4	1.1×10^5	6.1×10^1	1.8×10^7	$<6.6 \times 10^1$	7.5×10^5
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	5.8	6.43	---	7.53	7.49	6.64	---	---	---	---	6.29	6.52	6.52	---
ORP	mV	---	---	-62.2	-77.9	---	-58	-143.2	-163	---	---	---	---	-145	-94.2	-94.2	---
Dissolved Oxygen	mg/L	---	---	0.08	0.3	---	0.48	0.3	0.37	---	---	---	---	0.24	0.41	0.41	---
Specific Conductivity	ms/cm	---	---	0.276	1.539	---	2.381	1.875	9.071	---	---	---	---	14.038	3.543	3.543	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-15-S 8/21/2012	OB-15-S 11/28/2012	OB-15-S 2/6/2013	OB-15-S 4/11/2013	STR-03 11/16/2007	STR-03 1/23/2008	STR-03 4/21/2008	STR-03 7/29/2008	STR-03 10/22/2008	STR-03 1/13/2009	STR-03 4/9/2009	STR-03 7/14/2009	STR-03 10/27/2009	STR-03 1/28/2010	STR-03 4/22/2010	STR-03 7/14/2010
Dissolved Metals																	
Iron	mg/L	---	---	---	---	0.371	8.87	0.324	2.45	31.6	1.44	3.5	---	---	---	---	---
Manganese	mg/L	---	---	---	---	0.0596	6.07	0.137	0.732	13.6	0.577	2.6	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	---	---	---	---	<1.0	<1.0	<1.0	2.6	1.6	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	1.5J
Lactic Acid	mg/L	---	---	---	---	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J
n-Butanoic acid	mg/L	---	---	---	---	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0J
Propionic acid	mg/L	---	---	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J
Pyruvic Acid	mg/L	---	---	---	---	<0.50	<0.50	0.51	<0.50	0.97	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50J
Miscellaneous Analyses																	
Methane	ug/L	21000	18000	24000	15000	6.9	180	17	590	800D	20	39	270	4.5	24	46	4.3J
Ethane	ug/L	300	300	280	280	<1.0U	7.4	<1.0	34	78	<1.0	1.3	13	<1.0	1.1	1.5	<1.0J
Ethene	ug/L	280	<250	<250U	<250	<1.0U	37	<1.0	76	85	<1.0	6.2	13	<1.0	3.6	3.5	<1.0J
Chloride	mg/L	---	---	---	---	9.85	1130	900	1170	1340	1790	1320	---	---	---	---	---
TOC	mg/L	1750	1670	620	543	7.58	5.21	1.98	12.1	13	1.7	1.6	---	---	---	---	---
Dehalococcoides sp.	cells/ml	<3.3 x 10 ³	<1.7 x 10 ²	<1.1 x 10 ²	1.1 x 10 ⁵	<6.7 x 10 ¹	7.5 x 10 ²	---	1.4 x 10 ⁵	<3.4 x 10 ¹	<1.0 x 10 ¹	5.9 x 10 ²	<1.0 x 10 ¹	2.0 x 10 ⁴	5.2 x 10 ³	<2.2 X 10 ¹	4.2 X 10 ³
Dehalococcoides sp.	(1)	---	---	---	---	---	---	Neg	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	6.48	---	---	---	---	---	---	---	---	---	---	---	---	---
ORP	mV	---	---	-96.5	---	---	---	---	---	---	---	---	---	---	---	---	---
Dissolved Oxygen	mg/L	---	---	0.99	---	---	---	---	---	---	---	---	---	---	---	---	6.05
Specific Conductivity	ms/cm	---	---	2.18	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	STR-03 10/12/2010	STR-03 1/5/2011	STR-03 4/5/2011	STR-03 7/28/2011	STR-03 10/25/2011	STR-03 1/18/2012	STR-03 4/3/2012	UNNAMED STREAM 10/11/2006	UNNAMED STREAM 2/1/2007	UNNAMED STREAM 3/1/2007	UNNAMED STREAM 4/16/2007	UNNAMED STREAM 7/19/2007	UNNAMED STREAM 11/16/2007	UNNAMED STREAM 1/23/2008	UNNAMED STREAM 4/21/2008	UNNAMED STREAM 7/29/2008
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	0.237	---	0.186	4.92	---	1.42	22.6	64.6	78.6
Manganese	mg/L	---	---	---	---	---	---	---	0.0536	7.48	---	1.63	---	0.197	5.22	10.3	8.54
Metabolic Acids																	
Acetic acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	<1.0	<1.0	<1.0	5.6
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	<1.0	<1.0	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	---	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0
Propionic acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	<1.0	<1.0	---	<1.0	<1.0	<1.0	<1.0
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	<0.50	<0.50	---	<0.50	<0.50	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	<2.0	5.5	2	5	49	170D	7.7	---	---	6.2	90	---	28	240	260	1100
Ethane	ug/L	<1.0	<1.0	<1.0	<1.0	2.5	10	<1.0	---	---	<1.0	1.7	---	<1.0	14	14	120
Ethene	ug/L	<1.0	<1.0	<1.0	<1.0	7.8	36	<1.0	---	---	<1.0	3.5	---	<1.0	12	18	380
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	380	---	21.7	861	1710	1640
TOC	mg/L	---	---	---	---	---	---	---	---	---	1.6	10.8	---	9.6	5.92	8.98	12.0
Dehalococcoides sp.	cells/ml	<6.4 x 10 ¹	1.6 X 10 ³	3.1 x 10 ³	<1.0 x 10 ¹	4.8 x 10 ³	1.5 x 10 ⁴	---	3.3 x 10 ²	---	---	---	2.8 x 10 ³	2.3 x 10 ³	2.6 x 10 ³	---	<2.3 x 10 ¹
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	Neg	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	---	---	---	---	---	7.26	---	---	---	---	---	---	---	---
ORP	mV	---	---	---	---	---	---	---	173.6	---	---	---	---	---	---	---	---
Dissolved Oxygen	mg/L	8.02	---	10.12	2.87	---	---	---	6.11	---	---	---	---	---	---	---	---
Specific Conductivity	ms/cm	---	---	---	---	---	---	---	2.78	---	---	---	---	---	---	---	---

TABLE 4
Water Quality Data
BIOREMEDIATION PARAMETERS
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	UNNAMED STREAM 10/22/2008	UNNAMED STREAM 1/14/2009	UNNAMED STREAM 4/9/2009	UNNAMED STREAM 7/14/2009	UNNAMED STREAM 10/27/2009	UNNAMED STREAM 1/28/2010	UNNAMED STREAM 4/22/2010	UNNAMED STREAM 10/12/2010	UNNAMED STREAM 1/4/2011	UNNAMED STREAM 4/5/2011	UNNAMED STREAM 10/25/2011	UNNAMED STREAM 1/17/2012	UNNAMED STREAM 4/3/2012	UNNAMED STREAM 8/21/2012	UNNAMED STREAM 2/6/2013	UNNAMED STREAM 4/11/2013
Dissolved Metals																	
Iron	mg/L	76.4	47.8	22	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	11	6.89	6.1	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	3.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.5	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	---	---
Propionic acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---
Miscellaneous Analyses																	
Methane	ug/L	1800D	470	240	240	2300	360	260	<2.0	780D	290	620D	200	350D	160	540D	370D
Ethane	ug/L	260D	37	15	14	110	31	11	<1.0	57	19	52	12	26	14	33	17
Ethene	ug/L	190D	37	24	65	61	70	46	<1.0	61	21	32	9.6	49	55	100	35
Chloride	mg/L	175	1460	1170	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	15.6	16.7	3.7	---	---	---	---	---	---	---	---	---	---	16.2	4.5	13.8
Dehalococcoides sp.	cells/ml	<4.7 x 10 ¹	6.7 x 10 ³	3.8 x 10 ²	1.2 x 10 ⁵	2.1 x 10 ⁴	9.7 x 10 ²	<2.2 X 10 ¹	1.6 x 10 ³	5.2 x 10 ²	<1.0 x 10 ¹	1.4 x 10 ⁵	<4.0 X 10 ¹	4.5 x 10 ³	<5.0 x 10 ¹	<5.9 x 10 ⁴ J	<1.1 x 10 ¹
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
ORP	mV	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dissolved Oxygen	mg/L	---	---	---	---	---	---	---	8.48	---	4.39	---	---	---	---	---	---
Specific Conductivity	ms/cm	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Notes: < = Less than detection limit
 --- = Not Sampled
 mg/L = Milligrams per liter
 ug/L = Micrograms per liter
 mV = Millivolt
 ms/cm = Millisiemen per centimeter
 TOC = total organic carbon
 cells/ml = cells per milliliter
 D = Result reported is from a diluted sample
 N = Matrix interference
 Field parameter results reported are from the closest date to the analytical sampling
 Pos = results indicate active Dehalococcoides are present
 Neg = results do not indicate active Dehalococcoides are present
 (1) = results from RNA analysis
 (2) = results from biotrap analysis by Microbial Insights (cells/grams of beads)
 (3) = results from biotrap analysis by Shaw (cells/grams of beads)
 * = Sample BW-03 collected on 1/28/2010 but was broken in transit, not analyzed.
 J - Estimated concentration

TABLE 5
PERMANGANATE CONCENTRATIONS IN GROUNDWATER
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

	September 2010		October 2010		January 2011		April 2011		October-November 2011		April 2012		November 2012		April-May 2013	
Well ID	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)
AP-12-BR	---	---	340,000	34	---	---	110,000	11.0	9,900	0.990	19,000	1.900	8,000	0.800	2,800	0.280
AP-12-DO	---	---	ND(<0.2)	NA	ND(<0.2)	NA	0.3	0.00003	ND(<0.2)	NA	0.2	0.00002	9,100	0.910	17,000	1.700
AP-12-S	---	---	---	---	---	---	---	---	---	---	ND(<0.2)	NA	---	---	0.5	0.00005
AP-14-S	---	---	---	---	1	0.0001	---	---	---	---	---	---	---	---	---	---
AP-19	---	---	ND(<0.2)	NA	---	---	ND(<0.1)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA
AP-20	---	---	ND(<0.2)	NA	---	---	0.1	0.00001	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA	0.1	0.00001
AP-21	---	---	15,000	1.5	---	---	8,200	0.8	1,000	0.1	2,200	0.220	1,900	0.190	500	0.050
AP-22	---	---	430	0.043	---	---	1.0	0.0001	3,200	0.32	10,000	1.000	9,700	0.970	400	0.04
AP-26-DO	---	---	---	---	---	---	---	---	ND(<0.2)	NA	ND(<0.2)	NA	17.0	0.00170	ND(<0.2)	NA
AP-27-DO	---	---	ND(<0.2)	NA	---	---	---	---	0.4	0.00004	ND(<0.2)	NA	57.0	0.00570	0.3	0.00003
AP-30-DO	---	---	---	---	---	---	20,000	2.0	---	---	---	---	---	---	---	---
AP-30R-DO	---	---	---	---	---	---	---	---	84,000	8.40	19,000	1.900	---	---	7,700	0.770
AP-31-DO	---	---	---	---	---	---	12,000	1.2	2,400	0.24	0.2	0.00002	---	---	100.0	0.01
AP-32-DO	---	---	---	---	---	---	3.7	0.00037	ND(<0.2)	NA	0.2	0.00002	---	---	ND(<0.2)	NA
B-2	---	---	---	---	---	---	---	---	---	---	---	---	ND(<0.2)	NA	---	---
CL10-BR	---	---	---	---	---	---	0.2	0.00002	---	---	---	---	---	---	---	---
CL10-DO	---	---	350	0.035	---	---	250	0.0	7.1	0.00071	44.0	0.0044	---	---	85.0	0.0085
CL10-S	---	---	---	---	---	---	ND(<0.1)	NA	---	---	---	---	---	---	---	---
MW-013	---	---	1,400	0.14	---	---	6,900	0.7	1,200	0.12	1,300	0.130	440	0.044	610	0.061
OB-10-BR	4500	0.45	---	---	ND(<0.2)	NA	---	---	---	---	---	---	---	---	---	---
OB-10-S	240	0.024	---	---	---	---	87	0.0087	---	---	---	---	---	---	---	---
OB-12-DO	0.3	0.00003	---	---	ND(<0.2)	NA	---	---	190	0.01903	ND(<0.2)	NA	2,000	0.200	47.0	0.0047
OB-19-DO	---	---	ND(<0.2)	NA	---	---	---	---	ND(<0.2)	NA	---	---	---	---	ND(<0.2)	NA
OB-25-BR	---	---	---	---	---	---	9,200	0.9	---	---	ND(<0.2)	NA	17,000	1.700	1,200	0.120
OB-26-BR	---	---	---	---	---	---	---	---	---	---	0.2	0.00002	12,000	1.200	ND(<0.2)	NA
OB-27-BR	---	---	7,400	0.74	---	---	14,000	1.4	1,500	0.1500	5,700	0.570	---	---	2,000	0.200
OB-28-BR	---	---	---	---	---	---	15	0.0015	---	---	ND(<0.2)	NA	---	---	0.5	0.00005
OB-32-DO	2,500	0.25	1,300	0.13	500	0.05	1,200	0.1	670	0.0670	630.0	0.063	470	0.047	300	0.030
OB-34-DO	24	0.0024	29	0.0029	41.3	0.00413	18	0.0018	ND(<0.2)	NA	31	0.0031	31.0	0.0031	18.0	0.0018
OB 35-DO	---	---	ND(<0.2)	NA	---	---	ND(<0.1)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA
OB-36-DO	ND(<0.2)	NA	---	---	---	---	ND(<0.1)	NA	---	---	0.3	0.00003	ND(<0.2)	NA	---	---
OB-37-DO	---	---	11,000	1.1	---	---	180,000	18.0	34.0	0.003	9,700	0.9700	60.0	0.006	84.0	0.0084

Notes:

Color Key:

	Sample Dark Purple
	Sample Medium Purple
	Sample Light Purple
	Sample Pink
	Pale Pink

No color indicates groundwater sample was clear

--- = sample not collected

ND (<0.2) = Not detected at estimated detection limit.

NA = Not applicable or value does not appear when reporting to 2 significant figures.

mg NaMnO4/L = milligrams of sodium permanganate per liter

Table 6
Permanganate Injection Volume
2013 Treatment Program
Former Varian Facility Site
150 Sohier Road
Beverly, MA

Location	Sodium Permanganate Injection Volume (in gallons of 20% solution)	
	Total Injection Volume This Reporting Period ¹	Planned Injection Volume for 2013 Treatment Program
AP31-DO	560	500
AP32-DO	1050	1200
AP26-DO	450	370
OB35-DO	70.5	90
OB36-DO	148.5	180
CL3-DO	455	1100
Total	2734	3440

1 - This injection period includes July 24, 2013 through September 31, 2013

Table 7
Soil Analytical Results
Building 3 - September 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Sample ID	AP33-DO	AP33-DO	AP34-DO	AP34-DO	AP35-DO
Date	9/10/2013	9/10/2013	9/11/2013	9/11/2013	9/12/2013
Starting Depth	22	24	21	34	33
Ending Depth	24	26	23	36	35
CONSTITUENT					
VOCs (mg/kg)					
1,1,1,2-Tetrachloroethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,1,1-Trichloroethane	2	1.7	ND(0.28)	ND(1.6)	ND(26)
1,1,2,2-Tetrachloroethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,1,2-Trichloroethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,1-Dichloroethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,1-Dichloroethene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,1-Dichloropropene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,2,3-Trichlorobenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,2,3-Trichloropropane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,2,4-Trichlorobenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,2,4-Trimethylbenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,2-Dibromoethane (EDB)	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,2-Dichlorobenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,2-Dichloroethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,2-Dichloropropane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,3,5-Trimethylbenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,3-Dichlorobenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,3-Dichloropropane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,4-Dichlorobenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
1,4-Dioxane	ND(6.2)	ND(3.3)	ND(5.6)	ND(31)	ND(530)
2,2-Dichloropropane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
2-Butanone	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
2-Hexanone	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
4-Isopropyltoluene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
4-Methyl-2-pentanone	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Acetone	ND(0.31)	0.19	ND(0.28)	12	ND(26)
Benzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Bromobenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Bromodichloromethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Bromoform	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Bromomethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Carbon Disulfide	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Carbontetrachloride	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Chlorobenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Chlorobromomethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Chlorodibromomethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Chloroethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Chloroform	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Chloromethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
cis-1,2-Dichloroethene	0.42	1.7	ND(0.28)	ND(1.6)	ND(26)
cis-1,3-Dichloropropene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
DBCP	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Dibromomethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Dichlorodifluoromethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Diethyl ether	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Diisopropyl Ether	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Ethylbenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Hexachlorobutadiene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Isopropylbenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
m/p-xylene	ND(0.62)	ND(0.33)	ND(0.56)	ND(3.1)	ND(53)
Methylene chloride	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)

Table 7
Soil Analytical Results
Building 3 - September 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Sample ID	AP33-DO	AP33-DO	AP34-DO	AP34-DO	AP35-DO
Date	9/10/2013	9/10/2013	9/11/2013	9/11/2013	9/12/2013
Starting Depth	22	24	21	34	33
Ending Depth	24	26	23	36	35
MTBE	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Naphthalene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
n-Butylbenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
n-Propylbenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
o-Chlorotoluene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
o-Xylene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
p-Chlorotoluene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
sec-Butylbenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Styrene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
tert-AmylMethyl Ether	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
tert-Butylbenzene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
tert-ButylEthyl Ether	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Tetrachloroethene	ND(0.31)	0.29	ND(0.28)	52	740
Tetrahydrofuran	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Toluene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
trans-1,2-Dichloroethene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Trans-1,3-Dichloropropene	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Trichloroethene	ND(0.31)	ND(0.17)	ND(0.28)	70D	450
Trichlorofluoromethane	ND(0.31)	ND(0.17)	ND(0.28)	ND(1.6)	ND(26)
Vinyl chloride	ND(0.31)	0.52	ND(0.28)	ND(1.6)	ND(26)
Xylene (total)	ND(0.62)	ND(0.33)	ND(0.56)	ND(3.1)	ND(53)

Notes:

D = Indicates that the result is reported from a secondary dilute sample.

ND = None Detected, detection limit provided in parentheses

mg/kg = milligrams per kilogram

Depths are in feet below grade.

Table 8
Groundwater Analytical Results
Building 3 - September 2013
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

SITE_ID	DATE	DEPTH	1,1,1-TCA (mg/l)	1,1-DCA (mg/l)	1,1-DCE (mg/l)	1,2-DCA (mg/l)	Acetone (mg/l)	Carbon tetrachloride (mg/l)	Chloro- benzene (mg/l)	Chloro- form (mg/l)	Chloro- ethane (mg/l)	Chloro- methane (mg/l)	PCE (mg/l)	TCE (mg/l)	Trichloro fluoro- methane (mg/l)	Vinyl chloride (mg/l)	cis-1,2- DCE (mg/l)	trans-1,2- DCE (mg/l)
AP-33-DO	9/11/2013	NA	19	ND(0.50)	0.85	ND(0.50)	ND(2.5)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	24	26	ND(0.50)	0.74	4.6	ND(0.50)
AP-34-DO	9/11/2013	NA	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(2.5)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	35	25	ND(0.50)	ND(0.50)	0.73	ND(0.50)
AP-35-DO	9/12/2013	NA	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(10)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	ND(2.0)	77	98	ND(2.0)	2.1	19	ND(2.0)

Notes:

Analytical results presented in milligrams per liter (mg/l).

Analytical results are reported by the laboratory in micrograms per liter (ug/l). Results are presented without changing the number of significant figures reported by the laboratory.

NA = sample was not collected at a discrete depth.

TCA = Trichloroethane

DCE = Dichloroethene

TCE = Trichloroethene

DCA = Dichloroethane

PCE = Tetrachloroethene

ND = None Detected, detection limit provided in parentheses.

Table 9
Operation and Maintenance Data
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Extraction Well BLDG3-SVE1		Extraction Well BLDG3-SVE2		Blgd3-VP1	Blgd3-VP2	Blgd3-VP3	Blgd3-VP5	Blgd3-VP6	Carbon Influent	Carbon Midpoint	Carbon Effluent		VOC Off-gas Reduction ⁽²⁾
Date	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	Vacuum ("wc)	Vacuum ("wc)	Vacuum ("wc)	Vacuum ("wc)	VOC (ppm)	VOC (ppm)	VOC (ppm)	Total Vapor Flow (cfm) ⁽¹⁾	
4/8/2013	7.048	2.3	6.739	11.9	0.693	0.066	0.032	0.039	0.083	10.3	ND	2.1	144	80%
4/8/2013	--	--	--	--	--	--	--	--	--	10.3	ND	ND ⁽³⁾	144	>99%
4/29/2013	6.582	0.5	6.207	20.4	0.664	0.063	0.932	0.041	0.078	5.9	ND	ND	150	>99%
5/10/2013	6.61	ND	6.333	12.9	0.682	0.06	0.031	0.043	0.079	6.0	ND	ND	150	>99%
5/24/2013	6.593	ND	6.172	ND	0.692	0.068	0.032	0.045	0.081	3.7	ND	ND	144	>99%
6/5/2013	3.857	ND	9.78	8.7	0.975	0.064	0.031	0.055	0.113	7.9	ND	ND	144	>99%
6/20/2013	8.732	1.0	3.857	5.1	0.512	0.066	0.046	0.026	0.059	3.0	ND	ND	144	>99%
7/12/2013	8.256	2.6	3.876	8.9	0.548	0.073	0.041	0.039	0.063	6.1	ND	ND	144	>99%
7/25/2013	11.63	2.6	10.29	8.9	0.301	0.068	0.037	0.02	0.033	4.3	ND	ND	144	>99%
8/9/2013	5.231	5.6	5.116	12.6	0.181	0.031	0.018	ND	0.023	8.0	2.1	0.6 ⁽⁴⁾	160	93%
8/23/2013	7.361	4.5	7.136	10.5	0.233	0.034	0.020	0.011	0.023	5.9	0.6	ND	155	>99%
9/17/2013	12.13	5.0	11.58	4.1	0.303	0.062	0.032	0.02	0.034	7.8	ND	ND	150	>99%
9/27/2013	13.68	6	13.02	5.4	0.318	0.067	0.038	0.024	0.036	10.2	0.5	ND	160	>99%

Notes:

"wc = inches of water column

VOC = volatile organic compounds measured with a photoionization detector

ppm = parts per million

cfm = cubic feet per minute

ND = non-detect

NA = not available or applicable

(1) = Not adjusted for temperature

(2) = target off-gas VOC reduction is 95% per MassDEP policy (MADEP, 1994)

(3) = second PID reading after primary carbon vessel was removed from service, secondary carbon switched to primary treatment, and new stand-by carbon vessel added as secondary treatment

(4) = carbon change out conducted on 8/19/13, system monitoring following change out indicated >95% reduction of VOCs

TABLE 10
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Sample Date	Vapor Influent Concentration (ppm(v))	Flow (scfm)	Days Operational	VOC Mass Removal Rate (lb/day)	Total VOC Mass Removed (lb)
12/10/2009	17.0	97	0	0.00	0.0
12/11/2009	15.1	97	1	0.93	0.9
12/14/2009	19.0	102	4	1.05	4.1
12/16/2009	27.5	120	6	1.67	7.4
12/18/2009	23.0	125	8	1.89	11.2
12/21/2009	6.6	125	11	1.11	14.5
12/23/2009	6.5	127	13	0.50	15.5
12/29/2009	6.6	125	19	0.49	18.5
1/6/2010	10.0	140	27	0.70	24.0
1/19/2010	58.0	133	28	2.72	26.7
2/4/2010	21.8	141	55	3.36	80.6
2/18/2010	21.8	140	69	1.83	106
3/5/2010	20.4	140	84	1.77	133
3/19/2010	9.7	138	98	1.25	150
3/29/2010	10.4	146	108	0.88	159
4/12/2010	9.5	146	120	0.87	169
4/27/2010	11.8	138	135	0.88	183
5/11/2010	2.4	133	149	0.57	191
5/27/2010	18.9	150	165	0.96	206
6/8/2010	29.6	150	177	2.18	232
6/25/2010	21.7	149	194	2.28	271
7/7/2010	21.7	149	206	1.93	294
7/9/2010	53.0	130	208	2.91	300
7/19/2010	32.6	129	218	3.32	333
8/2/2010	35.0	125	230	2.54	364
8/16/2010	0.0	131	244	1.38	383
8/30/2010	41.0	144	258	1.77	408
9/14/2010	27.1	145	273	2.97	452
9/28/2010	11.7	145	287	1.69	476
10/13/2010	21.0	147	302	1.44	498
10/26/2010	15.0	137	315	1.48	517
11/9/2010	34.0	138	329	2.03	545
11/24/2010	12.5	144	344	2.00	575
12/7/2010	19.0	139	355	1.31	590
12/22/2010	20.7	139	368	1.65	611
12/28/2010	12.7	160	374	1.60	621
1/3/2011	14.3	154	380	1.24	628
1/18/2011	15.4	160	395	1.42	650
2/4/2011	8.9	160	412	1.16	669
2/15/2011	3.0	160	423	0.57	676
2/22/2011	10.0	172	430	0.67	680
3/4/2011	7.2	172	440	0.89	689
3/15/2011	7.7	172	451	0.77	698

TABLE 10
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	Vapor Influent Concentration	Flow	Days	VOC Mass Removal Rate	Total VOC Mass Removed
3/29/2011	35.0	167	465	2.13	728
4/12/2011	9.0	165	479	2.18	758
4/25/2011	5.8	165	492	0.73	768
5/10/2011	10.8	165	507	0.82	780
5/27/2011	18.5	163	524	1.43	804
6/7/2011	10.7	163	535	1.43	820
6/20/2011	7.5	164	548	0.89	832
7/7/2011	6.5	162	565	0.68	843
7/22/2011	2.9	161	580	0.45	850
8/1/2011	0.2	162	590	0.15	852
8/15/2011	2.0	163	604	0.11	853
9/6/2011	11.0	164	626	0.64	867
9/20/2011	10.0	164	640	1.03	882
10/3/2011	3.5	164	653	0.66	890
10/20/2011	2.3	164	670	0.29	895
11/2/2011	6.5	161	683	0.43	901
11/15/2011	1.6	135	695	0.33	905
12/5/2011	6.6	122	714	0.30	910
12/15/2011	10.7	127	724	0.66	917
1/4/2012	0.1	149	742	0.48	926
1/24/2012	12.5	147	760	0.56	935
2/6/2012	0.0	143	772	0.54	942
2/21/2012	0.0	139	785	0.00	942
3/15/2012	5.5	144	795	0.45	946
3/28/2012	4.6	148	808	0.45	952
4/5/2012	4.4	149	816	0.40	955
4/17/2012	15.5	147	828	0.87	966
5/8/2012	11.5	157	849	1.27	992
5/22/2012	0.4	137	863	0.49	999
6/4/2012	0.0	156	876	0.02	1,000
6/19/2012	11.4	149	891	0.69	1,010
7/12/2012	18.5	149	914	1.33	1,041
7/24/2012	11.5	149	925	1.34	1,055
8/10/2012	6.3	149	942	0.79	1,069
8/22/2012	6.7	149	954	0.58	1,076
9/7/2012	7.7	135	970	0.58	1,085
9/18/2012	5.2	141	981	0.55	1,091
10/12/2012	5.7	152	1005	0.50	1,103
10/26/2012	5.6	152	1019	0.51	1,110
11/7/2012	5.8	152	1031	0.52	1,116
11/21/2012	2.2	152	1045	0.37	1,122
12/7/2012	3.4	153	1061	0.26	1,126
12/21/2012	9.4	152	1075	0.58	1,134
1/4/2013	3.8	139	1088	0.55	1,141

TABLE 10
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	Vapor Influent Concentration	Flow	Days	VOC Mass Removal Rate	Total VOC Mass Removed
1/17/2013	7.0	144	1101	0.47	1,147
2/7/2013	11.0	135	1122	0.73	1,162
2/27/2013	12.0	134	1142	0.92	1,181
3/15/2013	7.5	135	1158	0.79	1,193
3/29/2013	4.5	134	1172	0.48	1,200
4/8/2013	10.3	134	1182	0.59	1,206
4/29/2013	5.9	138	1203	0.67	1,220
5/10/2013	6.0	137	1214	0.49	1,226
5/24/2013	3.7	132	1228	0.38	1,231
6/5/2013	7.9	132	1240	0.46	1,237
6/20/2013	3.0	132	1255	0.43	1,243
7/12/2013	6.1	132	1277	0.36	1,251
7/17/2013	6.8	132	1282	0.51	1,253
7/25/2013	4.3	133	1290	0.44	1,257
8/9/2013	8.0	146	1305	0.54	1,265
8/23/2013	5.9	141	1319	0.59	1,273
9/17/2013	7.8	137	1344	0.56	1,287
9/27/2013	10.2	126	1354	0.68	1,294

Notes:

ppm = parts per million

scfm = standard cubic feet per minute (see note 6)

lbs/day = pounds per day

lbs = pounds

VOC = volatile organic compounds

1. Vapor influent concentrations as measured with a photoionization detector (PID).
2. Total VOC mass removed (lbs) is calculated by multiplying the VOC Mass Removal Rate (lbs/day) on the sampling date by the # of operating days between visits.
3. VOC mass removal rate (lbs/day) = average VOC level between current and previous monitoring (ppm)/
 $10E6 \times 1 \text{ lbmole}/379.4 \text{ cu ft} \times (158 \text{ lbs/lbmole}) \times \text{flow (ft}^3/\text{min)} \times (1440 \text{ min/day})$
4. 158 lbs/lbmole is the weighted average molecular weight of the primary contaminants in the soil vapor (80% Tetrachloroethene, 19% Trichloroethene, and 1% acetone based on analytical results from recovered soil vapor).
5. VOC concentration not monitored on 2/4/10, assumed concentration noted on 2/18/10.
6. Flow rate (scfm) is calculated with the following equation:
 $128.8 \times \text{Flow coefficient (K)} \times \text{pipe diameter}^2 \text{ (in)} \times \text{sqrt (psia} \times \text{differential pressure (IWC)/temperature / (Temp (F) + 460) } \times \text{Sp Gr @ 60°F)}$ to adjust for system operating

TABLE 11
SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS
Building 3 Area
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

	BLDG3-VP1									BLDG3-VP2			BLDG3-VP3					
CONSTITUENT (ug/m3)	8/5/2010	11/22/2010	2/22/2011	6/27/2011	1/24/2012	3/5/2012	11/7/2012	3/29/2013	8/5/2013	11/7/2012	3/29/2013	8/5/2013	8/5/2010	11/22/2010	2/22/2011	6/27/2011	10/6/2011	1/10/2012
1,1,1-Trichloroethane	<19	<4.2	<26	<14	<13	<30	<17	<5.7	<45	<13	<9.5	<1.8	<400	<39	<290	<260	<19	<67
1,1,2,2-Tetrachloroethane	<4.7	<1.1	<6.5	<3.4	<3.3	<7.4	<4.2	<1.4	<11	<3.2	<2.4	<0.44	<100	<9.8	<72	<65	<4.7	<17
1,1,2-Trichloroethane	<19	<4.2	<26	<14	<13	<30	<17	<5.7	<45	<13	<9.5	<1.8	<400	<39	<290	<260	<19	<67
1,1-Dichloroethane	<14	<3.2	<20	<10	<10	<22	<13	<4.3	<34	<9.7	<7.2	<1.3	<300	<29	<220	<200	<14	<50
1,1-Dichloroethene	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<9.5	<7.0	<1.3	<290	<29	<210	<190	<14	<49
1,2-Dibromoethane (EDB)	---	---	<7.4	<3.8	<3.8	<8.4	---	---	---	---	---	---	---	---	<81	<74	---	<19
1,2-Dichlorobenzene	---	---	<57	<30	<29	<66	---	---	---	---	---	---	---	---	<630	<570	---	<150
1,2-Dichloroethane	<14	<3.2	<20	<10	<10	<22	<13	<4.3	<34	<9.7	<7.2	<1.3	<300	<29	<220	<200	<14	<50
1,2-Dichloropropane	<16	<3.6	<22	<12	<11	<25	<14	<4.8	<38	<11	<8.1	<1.5	<340	<33	<240	<220	<16	<57
1,3-Dichlorobenzene	---	---	<57	<30	<29	<66	---	---	---	---	---	---	---	---	<630	<570	---	<150
1,4-Dichlorobenzene	---	---	<57	<30	<29	<66	---	---	---	---	---	---	---	---	<630	<570	---	<150
1,4-Dioxane	---	---	---	<110	<110	<250	---	---	---	---	---	---	---	---	---	<2200	---	<560
2-Butanone	---	---	<28	<15	15	<32	---	---	---	---	---	---	---	---	<310	<280	---	<73
2-Hexanone	---	---	<20	<10	<10	<22	---	---	---	---	---	---	---	---	<220	<200	---	<50
4-Methyl-2-pentanone	---	---	<39	<20	<20	<45	---	---	---	---	---	---	---	---	<430	<390	---	<100
Acetone	---	---	800	110	140	<250	150	120	<380	360	320	220D	---	---	<2400	<2200	1300	<560
Benzene	---	---	<15	<7.9	<7.8	<17	---	---	---	---	---	---	---	---	<170	<150	---	<39
Bromodichloromethane	<4.7	<1.1	<6.5	<3.4	<3.3	<7.4	<4.2	<1.4	<11	<3.2	<2.4	<0.44	<100	<9.8	<72	<65	<4.7	<17
Bromoform	<36	<8.0	<50	<26	<25	<57	<32	<11	<86	<25	<18	<3.4	<760	<74	<550	<490	<36	<130
Bromomethane	<14	<3.0	<19	<9.7	<9.5	<21	<12	<4.1	<32	<9.2	<6.8	<1.3	<290	<28	<210	<190	<14	<48
Carbondisulfide	---	---	<15	---	---	---	---	---	---	---	---	---	---	---	<160	---	---	---
Carbontetrachloride	<2.2	0.64	<3.0	<1.6	<1.6	<3.5	<2.0	<0.66	<5.3	<1.5	<1.1	0.52	<47	<4.6	<34	<30	<2.2	<7.8
Chlorobenzene	<16	<3.6	<22	<12	<11	<25	<14	<4.8	<38	<11	<8.1	<1.5	<340	<33	<240	<220	<16	<57
Chloroethane	<18	<4.1	<25	---	---	---	<16	<5.5	<44	<12	<9.2	2.5	<390	<38	<280	---	<18	---
Chloroform	<17	4.4	29	22	17	29	<15	9.5	<41	19	13	25	<360	<35	<260	<230	<17	<60
Chloromethane	<14	<3.2	<20	---	---	---	<13	<4.3	<34	<9.7	<7.2	<1.3	<300	<29	<220	---	<14	---
cis-1,2-Dichloroethene	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<9.5	<7.0	<1.3	<290	<29	<210	<190	<14	<49
cis-1,3-Dichloropropene	<31	<7.0	<44	<23	<22	<50	<28	<9.5	<75	<22	<16	<3.0	<670	<65	<480	<430	<31	<110
Dibromochloromethane	<6.0	<1.3	<8.3	<4.3	<4.2	<9.4	<5.3	<1.8	<14	<4.1	<3.0	<0.56	<130	<12	<91	<82	<6.0	<21
Dichloromethane	<12	<2.7	<17	<8.6	<8.4	<19	<11	<3.6	<29	<8.2	<6.0	<1.1	<250	<25	<180	<160	<12	<42
Ethylbenzene	---	---	160	240	150	120	79	26	---	24	<15	---	---	---	<460	<410	<30	<110
Freon 113	---	---	<7.4	---	---	---	---	---	---	---	---	---	---	---	130	---	---	---
Hexachlorobutadiene	---	---	---	<68	<66	<150	---	---	---	---	---	---	---	---	---	<1300	---	<340
Methyltert-butylether	---	---	<34	<18	<18	<39	---	---	---	---	---	---	---	---	<380	<340	---	<88
Naphthalene	---	---	---	<45	<44	<99	---	---	---	---	---	---	---	---	---	<870	---	<220
Styrene	---	---	<41	<21	<21	<47	---	---	---	---	---	---	---	---	<450	<410	---	<100
Tetrachloroethene	1600	480	2100	2100D	1100	2100	1300	500	3200	61	26	130	36000	3000	51000	27000	410	4800
Toluene	---	---	<18	<9.3	<9.1	<20	---	---	---	---	---	---	---	---	<200	<180	---	<46
trans-1,2-Dichloroethene	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<9.5	<7.0	<1.3	<290	<29	<210	<190	<14	<49
Trans-1,3-Dichloropropene	<16	<3.5	<22	<11	<11	<25	<14	<4.7	<38	<11	<8.0	<1.5	<330	<33	<240	<220	<16	<56
Trichloroethene	510	130	1500	630	350	810	320	150	670	12	11	25	3600	1000	4900	2100	42	640
Trichlorofluoromethane	<19	<4.4	<27	---	---	---	<17	<5.9	<47	<13	<9.9	<1.8	<410	<40	<300	---	<19	---
Vinyl acetate	---	---	<220	---	---	---	---	---	---	---	---	---	---	---	<2400	---	---	---
Vinyl chloride	<1.9	<0.42	<2.6	<1.4	<1.3	<3.0	<1.7	<0.57	<4.5	<1.3	<0.95	<0.18	<40	<3.9	<29	<26	<1.9	<6.7
m/p-xylene	---	---	610	990	600	480	340	100	---	86	<30	---	---	---	<920	<830	<60	<210
o-Xylene	---	---	57	87	57	<47	37	14	---	32	<15	---	---	---	<460	<410	<30	<110
Xylene (total)	---	---	670	1100	660	480	380	110	---	120	<30	---	---	---	<920	<830	<60	<210

TABLE 11
SUB-SLAB SOIL VAPOR ANALYTICAL RESULTS
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-VP3				BLDG3-VP5				BLDG3-VP6							BLDG3-VP7
	3/5/2012	11/7/2012	3/29/2013	8/5/2013	10/6/2011	1/10/2012	3/5/2012	11/7/2012	8/5/2010	8/30/2010	11/22/2010	2/22/2011	6/27/2011	10/6/2011	1/10/2012	3/27/2012
1,1,1-Trichloroethane	<71	<19	<10	<7.7	<3200	<1700	<1400	<180	<57	<17	<11	<1700	<990	<8600	<8200	<95
1,1,2,2-Tetrachloroethane	<18	<4.8	<2.6	<1.9	<810	<430	<340	<46	<14	<4.2	<2.8	<420	<250	<2200	<2000	<24
1,1,2-Trichloroethane	<71	<19	<10	<7.7	<3200	<1700	<1400	<180	<57	<17	<11	<1700	<990	<8600	<8200	<95
1,1-Dichloroethane	<53	<14	<7.9	<5.8	<2400	<1300	<1000	<140	<43	<13	<8.5	<1300	<740	<6500	<6100	<71
1,1-Dichloroethene	<52	<14	<7.7	<5.6	<2400	<1200	<1000	<140	<42	<12	<8.3	<1200	<730	<6300	<6000	<69
1,2-Dibromoethane (EDB)	<20	---	---	---	---	<480	<390	---	---	<4.8	---	<480	<280	---	<2300	<27
1,2-Dichlorobenzene	<160	---	---	---	---	<3700	<3000	---	---	<37	---	<3700	<2200	---	<18000	<210
1,2-Dichloroethane	<53	<14	<7.9	<5.8	<2400	<1300	<1000	<140	<43	<13	<8.5	<1300	<740	<6500	<6100	<71
1,2-Dichloropropane	<60	<16	<8.9	<6.5	<2800	<1400	<1200	<160	<48	<14	<9.7	<1400	<840	<7300	<6900	<80
1,3-Dichlorobenzene	<160	---	---	---	---	<3700	<3000	---	---	<37	---	<3700	<2200	---	<18000	<210
1,4-Dichlorobenzene	<160	---	---	---	---	<3700	<3000	---	---	<37	---	<3700	<2200	---	<18000	<210
1,4-Dioxane	<590	---	---	---	---	<14000	<11000	---	---	<140	---	---	<8300	---	<68000	<790
2-Butanone	<77	---	---	---	---	<1800	<1500	---	---	<18	---	<1800	<1100	---	<8800	<100
2-Hexanone	<53	---	---	---	---	<1300	<1000	---	---	<13	---	<1300	<740	---	<6100	<71
4-Methyl-2-pentanone	<110	---	---	---	---	<2600	<2000	---	---	<25	---	<2500	<1500	---	<12000	<140
Acetone	<590	260	140	160	<27000	<14000	<11000	<1500	---	410	---	24000	<130000D	150000	<68000	<790
Benzene	<41	---	---	---	---	<990	<790	---	---	<9.8	---	<980	<580	---	<4800	<55
Bromodichloromethane	<18	<4.8	<2.6	<1.9	<810	<430	<340	<46	<14	<4.2	<2.8	<420	<250	<2200	<2000	<24
Bromoform	<130	<36	<20	<15	<6200	<3200	<2600	<350	<110	<32	<22	<3200	<1900	<16000	<16000	<180
Bromomethane	<51	<14	<7.5	<5.5	<2300	<1200	<970	<130	<41	<12	<8.1	<1200	<710	<6200	<5800	<68
Carbondisulfide	---	---	---	---	---	---	---	---	---	---	---	<950	---	---	---	---
Carbontetrachloride	<8.3	<2.2	<1.2	1	<380	<200	<160	<22	<6.6	<2.0	<1.3	<200	<120	<1000	<950	<11
Chlorobenzene	<60	<16	<8.9	<6.5	<2800	<1400	<1200	<160	<48	<14	<9.7	<1400	<840	<7300	<6900	<80
Chloroethane	---	<19	<10	<7.4	<3100	---	---	<180	<55	---	<11	<1600	---	<8400	---	---
Chloroform	<64	20	17	14	<2900	<1500	<1200	<170	<51	<15	<10	<1500	<890	<7800	<7300	<85
Chloromethane	---	<14	<7.9	<5.8	<2400	---	---	<140	<43	---	69	<1300	---	<6500	---	---
cis-1,2-Dichloroethene	<52	32	22	19	<2400	<1200	<1000	<140	<42	<12	<8.3	<1200	<730	<6300	<6000	<69
cis-1,3-Dichloropropene	<120	<32	<17	<13	<5400	<2800	<2300	<310	<94	<28	<19	<2800	<1700	<14000	<14000	<160
Dibromochloromethane	<22	<6.1	<3.3	<2.4	<1000	<540	<430	<59	<18	<5.3	<3.6	<530	<310	<2700	<2600	<30
Dichloromethane	<45	<12	<6.6	<4.9	<2100	<1100	<860	<120	<36	<11	<7.2	<1100	<630	<5500	<5200	<60
Ethylbenzene	<110	<30	<17	---	120000	60000	36000	8100	---	40	---	190000D	300000D	200000	180000	4700
Freon 113	---	---	---	---	---	---	---	---	---	---	---	<480	---	---	---	---
Hexachlorobutadiene	<360	---	---	---	---	<8500	<6800	---	---	<84	---	---	<5000	---	<41000	<470
Methyltert-butylether	<93	---	---	---	---	<2200	<1800	---	---	<22	---	<2200	<1300	---	<11000	<120
Naphthalene	<240	---	---	---	---	<5700	<4500	---	---	<56	---	---	<3300	---	<27000	<320
Styrene	<110	---	---	---	---	<2700	<2100	---	---	<26	---	<2600	<1600	---	<13000	<150
Tetrachloroethene	5000	2200	960	1200D	<430	<230	350	62	8.9J	<2.2	<1.5	<220	<130	<1200	<1100	210
Toluene	<49	---	---	---	---	<1200	<930	---	---	<11	---	<1100	1000	---	<5600	<65
trans-1,2-Dichloroethene	<52	<14	<7.7	<5.6	<2400	<1200	<1000	<140	<42	<12	<8.3	<1200	<730	<6300	<6000	<69
Trans-1,3-Dichloropropene	<59	<16	<8.7	<6.4	<2700	<1400	<1100	<150	<47	<14	<9.5	<1400	<830	<7200	<6800	<79
Trichloroethene	620	600	390	380	<320	<170	<140	<18	<5.7	<1.7	1.2	<170	<99	<860	<820	170
Trichlorofluoromethane	---	<20	<11	<7.9	<3300	---	---	<190	<59	---	<12	<1700	---	<8900	---	---
Vinyl acetate	---	---	---	---	---	---	---	---	---	---	---	<14000	---	---	---	---
Vinyl chloride	<7.1	<1.9	<1.0	<0.77	<320	<170	<140	<18	<5.7	<1.7	<1.1	<170	<99	<860	<820	<9.5
m/p-xylene	<230	110	<33	---	470000	240000	140000	40000D	---	240	---	680000D	1100000D	700000	640000	150000D
o-Xylene	<110	38	<17	---	47000	29000	18000	5700	---	<27	---	68000	100000D	62000	61000	1200
Xylene (total)	<110	150	<33	---	520000	270000	158000	46000D	---	240	---	748000D	1200000D	760000	700000	160000D

Notes:

Detections are shown in **bold**.

ug/m3 = Micrograms per cubic meter.

D = Result from a diluted sample.

J = Estimated value.

--- = Not analyzed

<3.1 = not detected above listed detection limit.

TABLE 12
INDOOR AIR ANALYTICAL RESULTS
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG2-6 ⁽¹⁾												
	6/1/2009	10/8/2009	2/9/2010	5/19/2010	8/5/2010	11/22/2010	2/22/2011	6/27/2011	10/6/2011	1/10/2012	3/5/2012 ^(R)	11/7/2012	8/5/2013
1,1,1-Trichloroethane	<39	<0.88	<1.5	<1.2	<0.94	<1.1	0.87	<0.92	<1.4	<7.7	<1.1	<5.2	<1.1
1,1,2,2-Tetrachloroethane	<9.8	<0.22	<0.38	<0.31	<0.23	<0.28	<0.22	<0.23	<0.36	<1.9	<0.27	<1.3	<0.28
1,1,2-Trichloroethane	<39	<0.88	<1.5	<1.2	<0.94	<1.1	<0.86	<0.92	<1.4	<7.7	<1.1	<5.2	<1.1
1,1-Dichloroethane	<30	<0.66	<1.1	<0.93	<0.70	<0.84	<0.65	<0.69	<1.1	<5.8	<0.82	<3.9	<0.84
1,1-Dichloroethene	<29	<0.65	<1.1	<0.91	<0.69	<0.83	<0.63	<0.68	<1.0	<5.6	<0.80	<3.8	<0.82
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---	<0.31	---	---
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---
1,2-Dichloroethane	<30	<0.66	<1.1	<0.93	<0.70	<0.84	<0.65	<0.69	<1.1	<5.8	<0.82	<3.9	<0.84
1,2-Dichloropropane	<33	<0.75	<1.3	<1.1	<0.80	<0.96	<0.73	<0.79	<1.2	<6.5	<0.93	<4.4	<0.95
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---
1,4-Dioxane	---	---	---	---	---	---	---	---	---	---	<9.1	---	---
2-Butanone	---	---	---	---	---	---	---	---	---	---	3.2	---	---
2-Hexanone	---	---	---	---	---	---	---	---	---	---	<0.82	---	---
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	<1.6	---	---
Acetone	---	---	---	---	---	---	---	330	290	240	210D	160	340D
Benzene	---	---	---	---	---	---	---	---	---	---	<0.64	---	---
Bromodichloromethane	<9.8	<0.22	<0.38	<0.31	<0.23	<0.28	<0.22	<0.23	<0.36	<1.9	<0.27	<1.3	<0.28
Bromoform	<75	<1.7	<2.9	<2.4	<1.8	<2.1	<1.6	<1.8	<2.7	<15	<2.1	<9.9	<2.1
Bromomethane	<28	<0.63	<1.1	<0.89	<0.67	<0.81	<0.62	<0.66	<1.0	<5.5	<0.78	<3.7	<0.80
Carbontetrachloride	<4.6	0.33	0.52	0.64	0.61	0.62	0.55	0.57	0.59	<0.90	0.57	<0.61	0.51
Chlorobenzene	<33	<0.75	<1.3	<1.1	<0.80	<0.96	<0.73	<0.79	<1.2	<6.5	<0.93	<4.4	<0.95
Chloroethane	<38	<0.85	<1.5	<1.2	<0.90	<1.1	<0.84	<0.89	<1.4	<7.4	---	<5.0	<1.1
Chloroform	<35	<0.79	<1.4	<1.1	<0.84	<1.0	<0.78	<0.83	<1.3	<6.9	<0.98	<4.7	<1.0
Chloromethane	<30	0.89	1.1	1.2	1.1	1.1	1.2	1.1	1.1	<5.8	---	<3.9	<0.84
cis-1,2-Dichloroethene	<29	<0.65	<1.1	<0.91	<0.69	<0.83	<0.63	<0.68	<1.0	<5.6	<0.80	<3.8	<0.82
cis-1,3-Dichloropropene	<66	<1.5	<2.6	<2.1	<1.6	<1.9	<1.4	<1.5	<2.4	<13	<1.8	<8.7	<1.9
Dibromochloromethane	<12	<0.28	<0.48	<0.39	<0.30	<0.36	<0.27	<0.29	<0.45	<2.4	<0.35	<1.7	<0.35
Dichloromethane	<25	<0.56	<0.97	0.9	1.2	1.5	<0.55	0.64	<0.90	<4.9	<0.62	<3.3	<0.71
Ethylbenzene	---	---	---	---	---	---	---	<1.5	<2.3	<12	<1.7	<8.3	---
Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	<5.5	---	---
m/p-xylene	---	---	---	---	---	---	---	<2.9	<4.5	<24	<3.5	<17	---
Methyltert-butylether	---	---	---	---	---	---	---	---	---	---	<1.4	---	---
Naphthalene	---	---	---	---	---	---	---	---	---	---	<3.6	---	---
o-Xylene	---	---	---	---	---	---	---	<1.5	<2.3	<12	<1.7	<8.3	---
Styrene	---	---	---	---	---	---	---	---	---	---	<1.7	---	---
Tetrachloroethene	12	3.3	40	12	9	8.9	9.3	13	3.1	1.7	2.9	5.4	7.5
Toluene	---	---	---	---	---	---	---	---	---	---	1.8	---	---
trans-1,2-Dichloroethene	<29	<0.65	2.9	<0.91	<0.69	<0.83	<0.63	<0.68	<1.0	<5.6	2.5	<3.8	1.4
Trans-1,3-Dichloropropene	<33	<0.74	<1.3	<1.0	<0.78	<0.94	<0.72	<0.77	<1.2	<6.4	<0.91	<4.4	<0.93
Trichloroethene	<3.9	1.1	3.1	2.6	2.2	3.1	2	2.7	1.5	1.2	1.9	1.9	2.3
Trichlorofluoromethane	<41	1.1	1.7	2.1	2	1.6	1.4	1.9	1.7	<7.9	---	<5.4	1.8
Vinyl chloride	<3.9	<0.088	<0.15	<0.12	<0.094	<0.090	<0.086	<0.092	<0.14	<0.77	<0.11	<0.52	<0.11
Xylene (total)	---	---	---	---	---	---	---	<2.9	<4.5	<24	<1.7	<17	---

TABLE 12
INDOOR AIR ANALYTICAL RESULTS
Building 3 Area
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

	BLDG3-1 ⁽²⁾								BLDG3-2 ⁽³⁾												
	6/1/2009	10/8/2009	2/9/2010	5/19/2010	8/5/2010	11/22/2010	2/22/2011	3/5/2012 ⁽⁸⁾	6/1/2009	10/8/2009	2/9/2010	5/19/2010	8/5/2010	11/22/2010	2/22/2011	6/27/2011	10/6/2011	1/10/2012	3/5/2012 ⁽⁸⁾	8/5/2013	
CONSTITUENT (ug/m3)																					
1,1,1-Trichloroethane	<75	<3.0	<4.6	<2.8	<1.5	<0.88	<0.91	<1.1	<100	<4.5	<9.2	<6.1	<1.8	<1.0	<1.5	<3.4	<1.5	<18	<1.1	<3.6	
1,1,2,2-Tetrachloroethane	<19	<0.74	<1.2	<0.70	<0.38	<0.22	<0.23	<0.27	<25	<1.1	<2.3	<1.5	<0.46	<0.26	<0.38	<0.85	<0.37	<4.6	<0.28	<0.90	
1,1,2-Trichloroethane	<75	<3.0	<4.6	<2.8	<1.5	<0.88	<0.91	<1.1	<100	<4.5	<9.2	<6.1	<1.8	<1.0	<1.5	<3.4	<1.5	<18	<1.1	<3.6	
1,1-Dichloroethane	<56	<2.2	<3.5	<2.1	<1.1	<0.66	<0.68	<0.82	<75	<3.4	<6.9	<4.6	<1.4	<0.78	<1.1	<2.6	<1.1	<14	<0.83	<2.7	
1,1-Dichloroethene	<55	<2.2	<3.4	<2.0	<1.1	<0.65	<0.67	<0.80	<73	<3.3	<6.7	<4.5	<1.4	<0.77	<1.1	<2.5	<1.1	<13	<0.81	<2.6	
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	<0.31	---	---	---	---	---	---	---	---	---	---	<0.31	---	
1,2-Dichlorobenzene	---	---	---	---	---	---	---	<2.4	---	---	---	---	---	---	---	---	---	---	<2.4	---	
1,2-Dichloroethane	<56	<2.2	<3.5	<2.1	<1.1	<0.66	<0.68	<0.82	<75	<3.4	<6.9	<4.6	<1.4	<0.78	<1.1	<2.6	<1.1	<14	<0.83	<2.7	
1,2-Dichloropropane	<63	<2.5	<3.9	<2.4	<1.3	<0.75	<0.78	<0.93	<85	<3.8	<7.8	<5.2	<1.6	<0.89	<1.3	<2.9	<1.2	<16	<0.94	<3.0	
1,3-Dichlorobenzene	---	---	---	---	---	---	---	<2.4	---	---	---	---	---	---	---	---	---	---	<2.4	---	
1,4-Dichlorobenzene	---	---	---	---	---	---	---	<2.4	---	---	---	---	---	---	---	---	---	---	<2.4	---	
1,4-Dioxane	---	---	---	---	---	---	---	<9.1	---	---	---	---	---	---	---	---	---	---	<9.2	---	
2-Butanone	---	---	---	---	---	---	---	2.2	---	---	---	---	---	---	---	---	---	---	3.6	---	
2-Hexanone	---	---	---	---	---	---	---	<0.82	---	---	---	---	---	---	---	---	---	---	<0.83	---	
4-Methyl-2-pentanone	---	---	---	---	---	---	---	<1.6	---	---	---	---	---	---	---	---	---	---	<1.7	---	
Acetone	---	---	---	---	---	---	---	300D	---	---	---	---	---	---	---	1900	400	550	410D	2900D	
Benzene	---	---	---	---	---	---	---	<0.64	---	---	---	---	---	---	---	---	---	---	<0.64	---	
Bromodichloromethane	<19	<0.74	<1.2	<0.70	<0.38	<0.22	<0.23	<0.27	<25	<1.1	<2.3	<1.5	<0.46	<0.26	<0.38	<0.85	<0.37	<4.6	<0.28	<0.90	
Bromoform	<140	<5.6	<8.8	<5.3	<2.9	<1.7	<1.7	<2.1	<190	<8.6	<17	<12	<3.5	<2.0	<2.9	<6.5	<2.8	<35	<2.1	<6.8	
Bromomethane	<53	<2.1	<3.3	<2.0	<1.1	<0.63	<0.65	<0.78	<72	<3.2	<6.6	<4.4	<1.3	<0.75	<1.1	<2.4	<1.0	<13	<0.79	<2.6	
Carbon tetrachloride	<8.7	0.36	<0.54	0.58	0.3	0.55	0.58	0.56	<12	<0.53	<1.1	<0.71	0.4	0.63	0.54	0.53	0.62	<2.1	0.56	0.58	
Chlorobenzene	<63	<2.5	<3.9	<2.4	<1.3	<0.75	<0.78	<0.93	<85	<3.8	<7.8	<5.2	<1.6	<0.89	<1.3	<2.9	<1.2	<16	<0.94	<3.0	
Chloroethane	<72	<2.9	<4.5	<2.7	<1.5	<0.85	<0.88	---	<97	<4.4	<8.9	<5.9	<1.8	<1.0	<1.5	<3.3	<1.4	<18	---	<3.5	
Chloroform	<67	<2.7	<4.2	<2.5	<1.4	<0.79	<0.82	<0.98	<90	<4.1	<8.3	<5.5	<1.7	<0.94	<1.4	<3.1	<1.3	<17	<0.99	<3.2	
Chloromethane	<56	<2.2	<3.5	<2.1	<1.1	1.1	1.2	---	<75	<3.4	<6.9	<4.6	<1.4	1.2	1.2	<2.6	<1.1	<14	---	<2.7	
cis-1,2-Dichloroethene	<55	<2.2	<3.4	<2.0	<1.1	<0.65	<0.67	<0.80	<73	<3.3	<6.7	<4.5	<1.4	<0.77	<1.1	<2.5	<1.1	<13	<0.81	<2.6	
cis-1,3-Dichloropropene	<120	<4.9	<7.7	<4.7	<2.5	<1.5	<1.5	<1.8	<170	<7.5	<15	<10	<3.1	<1.7	<2.5	<5.7	<2.4	<31	<1.8	<6.0	
Dibromochloromethane	<24	<0.94	<1.5	<0.88	<0.48	<0.28	<0.29	<0.35	<32	<1.4	<2.9	<1.9	<0.59	<0.33	<0.48	<1.1	<0.46	<5.8	<0.35	<1.1	
Dichloromethane	<47	<1.9	<2.9	<1.8	0.96	2.5	<0.58	<0.59	<63	<2.9	<5.8	<3.9	<1.2	0.82	<0.96	<2.2	<0.92	<12	<0.59	<2.3	
Ethylbenzene	---	---	---	---	---	---	---	<1.7	---	---	---	---	---	---	---	<5.4	<2.3	<29	<1.7	---	
Hexachlorobutadiene	---	---	---	---	---	---	---	<5.5	---	---	---	---	---	---	---	---	---	---	<5.5	---	
m/p-xylene	---	---	---	---	---	---	---	<3.5	---	---	---	---	---	---	---	<11	<4.6	<58	<3.5	---	
Methyl tert-butylether	---	---	---	---	---	---	---	<1.4	---	---	---	---	---	---	---	---	---	---	<1.4	---	
Naphthalene	---	---	---	---	---	---	---	<3.6	---	---	---	---	---	---	---	---	---	---	<3.7	---	
o-Xylene	---	---	---	---	---	---	---	<1.7	---	---	---	---	---	---	---	<5.4	<2.3	<29	<1.7	---	
Styrene	---	---	---	---	---	---	---	<1.7	---	---	---	---	---	---	---	---	---	---	<1.7	---	
Tetrachloroethene	18	23	3.8	0.72	2	1.1	1.3	3	46	6.4	3.7	2	2.3	3.1	1.3	1.2	1	<2.4	1.7	1.6	
Toluene	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	1.4	---
trans-1,2-Dichloroethene	<55	<2.2	<3.4	<2.0	<1.1	0.67	<0.67	1.4	<73	<3.3	<6.7	<4.5	<1.4	<0.77	<1.1	<2.5	<1.1	<13	3	<2.6	
Trans-1,3-Dichloropropene	<62	<2.5	<3.9	<2.3	<1.3	<0.74	<0.76	<0.91	<83	<3.8	<7.7	<5.1	<1.5	<0.87	<1.3	<2.8	<1.2	<15	<0.92	<3.0	
Trichloroethene	<75	8.2	4.4	<0.28	0.61	0.37	0.13	0.31	19	3.2	5.3	0.79	0.6	1.6	0.42	0.93	1.3	<1.8	1.2	0.58	
Trichlorofluoromethane	<77	<3.1	<4.8	<2.9	<1.6	1.6	1.4	---	<100	<4.7	<9.5	<6.3	<1.9	1.6	<1.6	<3.5	1.7	<19	---	<3.7	
Vinyl chloride	<7.5	<0.30	<0.46	<0.28	<0.15	<0.088	0.16	<0.11	<10	<0.45	<0.92	<0.61	<0.18	<0.10	<0.15	<0.34	<0.15	<1.8	<0.11	<0.36	
Xylene (total)	---	---	---	---	---	---	---	<1.7	---	---	---	---	---	---	---	<11	<4.6	<58	<1.7	---	

TABLE 12
INDOOR AIR ANALYTICAL RESULTS
Building 3 Area
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-3 ⁽⁴⁾															
	6/1/2009	10/8/2009	11/2/2009	11/12/2009	12/21/2009	2/9/2010	5/19/2010	8/5/2010	11/22/2010	2/22/2011	6/27/2011	10/6/2011	1/10/2012	3/5/2012 ⁽⁸⁾	11/7/2012	8/5/2013
1,1,1-Trichloroethane	<9.5	<10	<8.8	<8.5	<4.6	<6.2	<0.91	<1.9	<0.85	<2.2	<1.7	<1.6	<11	<1.1	<2.2	<1.9
1,1,2,2-Tetrachloroethane	<2.4	<2.5	<2.2	<2.1	<1.2	<1.6	<0.23	<0.47	<0.21	<0.55	<0.43	<0.39	<2.7	<0.28	<0.54	<0.48
1,1,2-Trichloroethane	<9.5	<10	<8.8	<8.5	<4.6	<6.2	<0.91	<1.9	<0.85	<2.2	<1.7	<1.6	<11	<1.1	<2.2	<1.9
1,1-Dichloroethane	<7.1	<7.5	<6.6	<6.4	<3.5	<4.7	<0.68	<1.4	<0.64	<1.6	<1.3	<1.2	<8.1	<0.84	<1.6	<1.4
1,1-Dichloroethene	<7.0	<7.3	<6.5	<6.2	<3.4	<4.6	<0.67	<1.4	<0.62	<1.6	<1.3	<1.2	<7.9	<0.82	<1.6	<1.4
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.32	---	---
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	<2.5	---	---
1,2-Dichloroethane	<7.1	<7.5	<6.6	<6.4	<3.5	<4.7	<0.68	<1.4	<0.64	<1.6	<1.3	<1.2	<8.1	<0.84	<1.6	<1.4
1,2-Dichloropropane	<8.1	<8.5	<7.5	<7.2	<3.9	<5.3	<0.78	<1.6	<0.72	<1.9	<1.5	<1.3	<9.2	<0.95	<1.8	<1.6
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	<2.5	---	---
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	<2.5	---	---
1,4-Dioxane	---	---	---	---	---	---	---	---	---	---	---	---	---	<9.4	---	---
2-Butanone	---	---	---	---	---	---	---	---	---	---	---	---	---	4	---	---
2-Hexanone	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.84	---	---
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	---	---	---	<1.4	---	---
Acetone	---	---	---	---	---	---	---	---	---	---	810	340	240	370D	1400D	860D
Benzene	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.65	---	---
Bromodichloromethane	<2.4	<2.5	<2.2	<2.1	<1.2	<1.6	<0.23	<0.47	<0.21	<0.55	<0.43	<0.39	<2.7	<0.28	<0.54	<0.48
Bromoform	<18	<19	<17	<16	<8.8	<12	<1.7	<3.6	<1.6	<4.2	<3.3	<3.0	<20	<2.1	<4.1	<3.6
Bromomethane	<6.8	<7.2	<6.3	<6.1	<3.3	<4.5	<0.65	<1.3	<0.61	<1.6	<1.2	<1.1	<7.7	<0.80	<1.5	<1.4
Carbontetrachloride	<1.1	<1.2	<1.0	<0.99	<0.54	<0.73	0.5	0.52	0.57	0.54	0.54	0.55	<1.3	0.56	<0.25	0.52
Chlorobenzene	<8.1	<8.5	<7.5	<7.2	<3.9	<5.3	<0.78	<1.6	<0.72	<1.9	<1.5	<1.3	<9.2	<0.95	<1.8	<1.6
Chloroethane	<9.2	<9.6	<8.5	<8.2	<4.5	<6.0	<0.88	<1.8	<0.82	<2.1	<1.7	<1.5	<10	---	<2.1	<1.9
Chloroform	<8.5	<9.0	<7.9	<7.7	<4.2	<5.6	<0.82	<1.7	<0.77	<2.0	<1.6	<1.4	<9.7	<1.0	<1.9	<1.7
Chloromethane	<7.1	<7.5	<6.6	<6.4	<3.5	<4.7	0.96	<1.4	1.1	<1.6	<1.3	<1.2	<8.1	---	<1.6	<1.4
cis-1,2-Dichloroethene	<7.0	<7.3	<6.5	<6.2	<3.4	<4.6	<0.67	<1.4	<0.62	<1.6	<1.3	<1.2	<7.9	<0.82	<1.6	<1.4
cis-1,3-Dichloropropene	<16	<17	<15	<14	<7.7	<10	<1.5	<3.1	<1.4	<3.7	<2.9	<2.6	<18	<1.9	<3.6	<3.2
Dibromochloromethane	<3.0	<3.2	<2.8	<2.7	<1.5	<2.0	<0.29	<0.59	<0.27	<0.69	<0.55	<0.50	<3.4	<0.36	<0.68	<0.61
Dichloromethane	<6.0	<6.3	<5.6	<5.4	<2.9	<4.0	<0.58	<1.2	0.58	<1.4	<1.1	<1.0	<6.8	<0.60	<1.4	<1.2
Ethylbenzene	---	---	---	---	---	---	---	---	---	---	<2.7	<2.5	<17	<1.8	<3.4	---
Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.6	---	---
m/p-xylene	---	---	---	---	---	---	---	---	---	---	<5.5	<5.0	<34	<3.6	<6.9	---
Methyltert-butylether	---	---	---	---	---	---	---	---	---	---	---	---	---	<1.5	---	---
Naphthalene	---	---	---	---	---	---	---	---	---	---	---	---	---	<3.7	---	---
o-Xylene	---	---	---	---	---	---	---	---	---	---	<2.7	<2.5	<17	<1.8	<3.4	---
Styrene	---	---	---	---	---	---	---	---	---	---	---	---	---	<1.8	---	---
Tetrachloroethene	23	750	520	470	2.1	3.7	0.63	1.2	1	0.86	0.83	0.83	<1.4	65	1.1	0.89
Toluene	---	---	---	---	---	---	---	---	---	---	---	---	---	2.8	---	---
trans-1,2-Dichloroethene	<7.0	<7.3	<6.5	<6.2	<3.4	<4.6	<0.67	<1.4	<0.62	<1.6	<1.3	<1.2	<7.9	2.4	<1.6	<1.4
Trans-1,3-Dichloropropene	<7.9	<8.3	<7.4	<7.1	<3.9	<5.2	<0.76	<1.6	<0.71	<1.8	<1.4	<1.3	<9.0	<0.94	<1.8	<1.6
Trichloroethene	8.6	360	220	180	0.69	4.4	0.42	0.32	0.41	0.34	0.35	0.7	<1.1	4	0.32	0.39
Trichlorofluoromethane	<9.8	<10	<9.1	<8.8	<4.8	<6.4	1.7	<1.9	1.5	<2.3	<1.8	<1.6	<11	---	<2.2	<2.0
Vinyl chloride	<0.95	<1.0	<0.88	<0.85	<0.46	<0.62	<0.091	<0.19	<0.085	<0.22	<0.17	<0.16	<1.1	<0.11	<0.22	<0.19
Xylene (total)	---	---	---	---	---	---	---	---	---	---	<5.5	<5.0	<34	<1.8	<6.9	---

TABLE 12
INDOOR AIR ANALYTICAL RESULTS
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-4 ⁽⁵⁾											BLDG3-5 ⁽⁶⁾								BLDG3-6 ⁽⁷⁾
	6/1/2009	7/16/2009	10/8/2009	2/9/2010	5/19/2010	8/5/2010	11/22/2010	2/22/2011	3/5/2012 ⁽⁸⁾	11/7/2012	8/5/2013	6/1/2009	10/8/2009	2/9/2010	5/19/2010	8/5/2010	11/22/2010	2/22/2011	3/5/2012 ⁽⁸⁾	6/27/2011
1,1,1-Trichloroethane	<110	21	12	<18	<3.5	<1.9	<5.4	<8.9	<1.1	<2.8	<2.6	<0.91	<0.91	<0.88	<0.89	<1.8	<1.1	<0.88	<1.1	<1.8
1,1,2,2-Tetrachloroethane	<27	<1.2	<1.1	<4.6	<0.88	<0.48	<1.4	<2.2	<0.28	<0.70	<0.65	<0.23	<0.23	<0.22	<0.22	<0.46	<0.26	<0.22	<0.26	<0.45
1,1,2-Trichloroethane	<110	<4.6	<4.5	<18	<3.5	<1.9	<5.4	<8.9	<1.1	<2.8	<2.6	<0.91	<0.91	<0.88	<0.89	<1.8	<1.1	<0.88	<1.1	<1.8
1,1-Dichloroethane	<80	<3.5	<3.4	<14	<2.6	<1.4	<4.1	<6.7	<0.84	<2.1	<1.9	<0.68	<0.68	<0.66	<0.67	<1.4	<0.79	<0.66	<0.79	<1.4
1,1-Dichloroethene	<78	<3.4	<3.3	<14	<2.6	<1.4	<4.0	<6.6	<0.82	<2.1	<1.9	<0.66	<0.66	<0.65	<0.66	<1.3	<0.78	<0.65	<0.77	<1.3
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	<0.32	---	---	---	---	---	---	---	---	---	<0.30	---
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---	---	---	---	---	---	---	<2.3	---
1,2-Dichloroethane	<80	<3.5	<3.4	<14	<2.6	<1.4	<4.1	<6.7	<0.84	<2.1	<1.9	<0.68	<0.68	<0.66	<0.67	<1.4	<0.79	<0.66	<0.79	<1.4
1,2-Dichloropropane	<90	<3.9	<3.8	<16	<3.0	<1.6	<4.6	<7.6	<0.95	<2.4	<2.2	<0.77	<0.77	<0.75	<0.76	<1.6	<0.90	<0.75	<0.90	<1.5
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---	---	---	---	---	---	---	<2.3	---
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---	---	---	---	---	---	---	<2.3	---
1,4-Dioxane	---	---	---	---	---	---	---	---	<9.3	---	---	---	---	---	---	---	---	---	<8.8	---
2-Butanone	---	---	---	---	---	---	---	---	2.5	---	---	---	---	---	---	---	---	---	<1.1	---
2-Hexanone	---	---	---	---	---	---	---	---	<0.84	---	---	---	---	---	---	---	---	---	<0.79	---
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	<1.7	---	---	---	---	---	---	---	---	---	<1.6	---
Acetone	---	---	---	---	---	---	---	---	870D	2100D	1000D	---	---	---	---	---	---	---	200D	800
Benzene	---	---	---	---	---	---	---	---	<0.65	---	---	---	---	---	---	---	---	---	<0.61	---
Bromodichloromethane	<27	<1.2	<1.1	<4.6	<0.88	<0.48	<1.4	<2.2	<0.28	<0.70	<0.65	<0.23	<0.23	<0.22	<0.22	<0.46	<0.26	<0.22	<0.26	<0.45
Bromoform	<200	<8.8	<8.6	<35	<6.7	<3.7	<10	<17	<2.1	<5.3	<4.9	<1.7	<1.7	<1.7	<1.7	<3.5	<2.0	<1.7	<2.0	<3.4
Bromomethane	<76	<3.3	<3.2	<13	<2.5	<1.4	<3.9	<6.4	<0.80	<2.0	<1.8	<0.65	<0.65	<0.63	<0.64	<1.3	<0.76	<0.63	<0.75	<1.3
Carbontetrachloride	<12	<0.54	<0.53	<2.2	0.52	0.56	<0.63	<1.0	0.55	0.41	0.56	0.77	0.46	0.65	0.45	0.46	0.64	0.59	0.55	0.55
Chlorobenzene	<90	<3.9	<3.8	<16	<3.0	<1.6	<4.6	<7.6	<0.95	<2.4	<2.2	<0.77	<0.77	<0.75	<0.76	<1.6	<0.90	<0.75	<0.90	<1.5
Chloroethane	<100	<4.5	<4.4	<18	<3.4	<1.9	<5.3	<8.6	---	<2.7	<2.5	<0.88	<0.88	<0.85	<0.86	<1.8	<1.0	<0.85	---	<1.8
Chloroform	<95	<4.2	<4.1	<17	<3.2	<1.7	<4.9	<8.0	<1.0	<2.5	<2.3	<0.82	<0.82	<0.79	<0.80	<1.7	<0.95	<0.79	<0.95	<1.6
Chloromethane	<80	<3.5	<3.4	<14	<2.6	<1.4	<4.1	<6.7	---	<2.1	<1.9	0.95	1	1.1	0.86	<1.4	1.3	1.2	---	<1.4
cis-1,2-Dichloroethene	<78	<3.4	<3.3	<14	<2.6	<1.4	<4.0	<6.6	<0.82	<2.1	<1.9	<0.66	<0.66	<0.65	<0.66	<1.3	<0.78	<0.65	<0.77	<1.3
cis-1,3-Dichloropropene	<180	<7.7	<7.5	<31	<5.9	<3.2	<9.1	<15	<1.9	<4.7	<4.3	<1.5	<1.5	<1.5	<1.5	<3.1	<1.8	<1.5	<1.8	<3.0
Dibromochloromethane	<34	<1.5	<1.4	<5.9	<1.1	<0.61	<1.7	<2.8	<0.35	<0.89	<0.82	<0.29	<0.29	<0.28	<0.28	<0.58	<0.33	<0.28	<0.33	<0.57
Dichloromethane	<67	<2.9	<2.9	<12	<2.2	<1.2	<3.4	<5.7	<0.60	<1.8	<1.6	<0.57	<0.57	<0.56	<0.57	1.9	<0.67	<0.56	<0.60	<1.1
Ethylbenzene	---	---	---	---	---	---	---	<14	<1.8	<4.5	---	---	---	---	---	---	---	---	<1.7	<2.9
Hexachlorobutadiene	---	---	---	---	---	---	---	---	<5.6	---	---	---	---	---	---	---	---	---	<5.3	---
m/p-xylene	---	---	---	---	---	---	---	<28	<3.6	<8.9	---	---	---	---	---	---	---	---	<3.4	<5.8
Methyltert-butylether	---	---	---	---	---	---	---	---	<1.5	---	---	---	---	---	---	---	---	---	<1.4	---
Naphthalene	---	---	---	---	---	---	---	---	<3.7	---	---	---	---	---	---	---	---	---	<3.5	---
o-Xylene	---	---	---	---	---	---	---	<14	<1.8	<4.5	---	---	---	---	---	---	---	---	<1.7	<2.9
Styrene	---	---	---	---	---	---	---	---	<1.7	---	---	---	---	---	---	---	---	---	<1.7	---
Tetrachloroethene	72	25	8.2	3	0.9	2.1	1.8	1.2	5.9	1.8	0.9	7	1.1	5.2	0.9	4.2	1.1	1.1	1.9	0.67
Toluene	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	0.88	---
trans-1,2-Dichloroethene	<78	<3.4	<3.3	<14	<2.6	<1.4	<4.0	<6.6	2.4	<2.1	<1.9	<0.66	<0.66	<0.65	<0.66	<1.3	<0.78	<0.65	0.98	<1.3
Trans-1,3-Dichloropropene	<88	<3.9	<3.8	<15	<2.9	<1.6	<4.5	<7.5	<0.93	<2.3	<2.2	<0.76	<0.76	<0.74	<0.75	<1.5	<0.88	<0.74	<0.88	<1.5
Trichloroethene	30	10	5.4	2.1	0.4	0.25	0.7	<0.89	0.7	0.4	<0.26	2.5	0.38	5	<0.089	0.19	0.12	<0.088	0.22	0.4
Trichlorofluoromethane	<110	<4.8	<4.7	<19	<3.6	<2.0	<5.6	<9.2	---	<2.9	<2.7	1.7	1.2	1.7	1.6	<1.9	1.7	1.4	---	<1.9
Vinyl chloride	<11	<0.46	<0.45	<1.8	<0.35	<0.19	<0.54	<0.89	<0.11	<0.28	<0.26	<0.091	<0.091	<0.088	<0.089	<0.18	<0.11	<0.088	<0.11	<0.18
Xylene (total)	---	---	---	---	---	---	---	<28	<1.8	<8.9	---	---	---	---	---	---	---	---	<1.7	<5.8

Notes

Detections are shown in **bold**.

< indicates chemical not detected, and concentration is less than reporting limit (value shown).

ug/m³ = micrograms per cubic meter.

--- = Not Sampled

D = Result is from a diluted sample.

(1) Environmental Testing Room Building 2 Basement

(2) Main Chemical Laboratory

(3) Chemical Laboratory Bench Testing Room

(4) MID Stockroom

(5) Building 3 Machine Shop

(6) Boiler room, Building 3 Basement

(7) Building 3 Storage Room

(8) = sample collected following scheduled temporary SVE system shutdown from 2/27/12 to 3/5/12

Table 13
Soil Analytical Results
Building 3 - July 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Sample ID	BLDG3-SB104-01	BLDG3-SB104-02	BLDG3-SB105-01	BLDG3-SB105-02	BLDG3-SB106-01	BLDG3-SB106-02	BLDG3-SB107-01	BLDG3-SB107-02	BLDG3-SB108-01	BLDG3-SB108-02
Date	7/24/2013	7/24/2013	7/25/2013	7/25/2013	7/26/2013	7/26/2013	7/26/2013	7/26/2013	7/29/2013	7/29/2013
Starting Depth	5	8	5	11	4	7	5	7	4	9
Ending Depth	6	9	7	11.8	5	9	7	8.5	5	9.6
CONSTITUENT (mg/kg)										
1,1,1-Trichloroethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
1,1,2,2-Tetrachloroethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
1,1,2-Trichloroethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
1,1-Dichloroethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
1,1-Dichloroethene	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
1,2-Dichloroethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
1,2-Dichloropropane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Acetone	0.0076	0.0037	0.0081	ND(0.31)	0.0055	0.0045	0.0042	0.0093	ND(0.0022)	0.0032
Bromodichloromethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Bromoform	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Bromomethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Carbontetrachloride	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Chlorobenzene	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Chloroethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Chloroform	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Chloromethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
cis-1,2-Dichloroethene	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
cis-1,3-Dichloropropene	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Dibromochloromethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Dichloromethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Tetrachloroethene	ND(0.0034)	ND(0.0026)	0.018	22D	ND(0.0021)	0.01	0.045	0.0085	ND(0.0022)	0.021
trans-1,2-Dichloroethene	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Trans-1,3-Dichloropropene	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Trichloroethene	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	0.0027	ND(0.0024)	ND(0.0022)	ND(0.0022)
Trichlorofluoromethane	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)
Vinyl chloride	ND(0.0034)	ND(0.0026)	ND(0.0022)	ND(0.31)	ND(0.0021)	ND(0.0025)	ND(0.0018)	ND(0.0024)	ND(0.0022)	ND(0.0022)

Notes:

Detections are shown in **bold**.

mg/kg = milligrams per kilogram.

D = Result from a diluted sample.

<3.1 - not detected above listed detection limit.

Depths are feet below concrete floor

Table 14
Operation and Maintenance Data
Building 5 SVE System
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Extraction Well BLDG5-SVE1		Extraction Well BLDG5-SVE2		Extraction Well BLDG5-SVE3		Bldg5-SV1	Bldg5-SV2	Bldg5-SV3	Bldg5-SV5	Bldg5-SV6	Carbon Influent	Carbon Midpoint	Carbon Effluent		VOC Off- gas Reduction (2)
Date	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	Vacuum ("wc)	Vacuum ("wc)	Vacuum ("wc)	Vacuum ("wc)	Vacuum ("wc)	VOC (ppm)	VOC (ppm)	VOC (ppm)	Total Vapor Flow (cfm) ⁽¹⁾	
3/11/2013	18	9	ND	7.5	ND	8.8	0.4	0.1	ND	---	---	5	ND	ND	192	>99%
3/13/2013	ND	10.9	ND	10.8	45	10.4	0.452	0.13	0.004	---	---	45	ND	ND	184	>99%
3/18/2013	11	11.07	ND	11.03	ND	10.501	0.52	0.19	0.004	---	---	3.9	ND	ND	187	>99%
3/25/2013	ND	---	ND	---	ND	---	---	---	---	---	---	2.8	ND	ND	---	>99%
4/8/2013	ND	10.87	ND	10.83	ND	10.248	0.478	0.247	0.004	---	---	0.9	ND	ND	214	>99%
4/29/2013	3.8	11.03	ND	10.99	ND	10.36	0.489	0.268	0.004	0.009	0.073	ND	ND	ND	209	>99%
5/10/2013	11.9	14.37	ND	14.37	ND	13.475	0.621	0.362	0.006	0.094	0.099	ND	ND	ND	198	>99%
5/24/2013	ND	18.79	ND	18.7	ND	18.01	0.867	0.686	0.009	0.167	0.318	ND	ND	ND	191	>99%
6/5/2013	8.1	22.27	ND	22.23	ND	15.879	0.729	0.578	0.008	0.189	0.181	ND	ND	ND	187	>99%
6/20/2013	4.2	---	ND	---	ND	---	0.743	0.591	0.008	0.196	0.181	ND	ND	ND	187	>99%
7/12/2013	11.7	22.18	1	22.12	1.3	16.57	0.792	0.603	ND	0.213	0.208	0.9	ND	ND	187	>99%
7/25/2013	7.3	28.48	ND	12.14	ND	20.94	0.958	0.757	0.011	0.122	0.11	4.9	1.4	ND	179	>99%
8/9/2013	11.3	27.8	ND	12.03	0.2	20.54	0.82	0.733	0.01	0.124	0.102	0.8	ND	ND	140	>99%
8/23/2013	1.1	27.93	1.3	12.05	1.7	20.81	1.009	0.73	0.01	0.107	0.11	3.7	2.5	ND	137	>99%
9/17/2013	20.6	28.13	1.1	28.04	1.6	10.49	0.493	0.39	0.011	0.232	0.251	3.8	1.9	ND	143	>99%
9/27/2013	27.4	19.81	0.5	19.76	0.9	19.12	0.894	0.655	0.009	0.181	0.185	1.5	ND	ND	198	>99%

Notes:

"wc = inches of water column

VOC = volatile organic compounds measured with a photoionization detector

ppm = parts per million

cfm = cubic feet per minute

ND = non-detect

NA = not available or applicable

(1) = Not adjusted for temperature

(2) = target off-gas VOC reduction is 95% per MassDEP policy (MADEP, 1994)

--- = Not collected

TABLE 15
VOC Mass Removal Estimate Summary
Building 5 SVE System
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Sample Date	Vapor Influent Concentration (ppm(v))	Flow (scfm)	Days Operational	VOC Mass Removal Rate (lb/day)	Total VOC Mass Removed (lb)
3/11/2013	5.0	185	0	0.00	0.0
3/13/2013	45.0	178	2	2.26	4.5
3/18/2013	3.9	182	7	2.26	15.8
3/25/2013	2.8	182	14	0.31	18.0
4/8/2013	0.9	192	28	0.18	20.5
4/29/2013	0.7	192	49	0.08	22.1
5/10/2013	0.7	189	60	0.07	22.9
5/20/2013	0.7	177	70	0.06	23.5
5/24/2013	0.7	177	74	0.06	23.8
6/5/2013	0.7	174	86	0.06	24.6
6/20/2013	0.7	174	101	0.06	25.5
7/12/2013	0.9	173	123	0.07	27.1
7/25/2013	4.9	163	136	0.24	30.2
8/9/2013	0.8	148	151	0.21	33.4
8/23/2013	3.7	147	165	0.17	35.8
9/17/2013	3.8	151	190	0.29	43.0
9/27/2013	1.5	179	200	0.24	45.4

Notes:

ppm = parts per million

scfm = standard cubic feet per minute (see note 5)

lbs/day = pounds per day

lbs = pounds

VOC = volatile organic compounds

- Vapor influent concentrations as measured with a photoionization detector (PID).
- Total VOC mass removed (lbs) is calculated by multiplying the VOC Mass Removal Rate (lbs/day) on the sampling date by the # of operating days between visits.
- VOC mass removal rate (lbs/day) = average VOC level between current and previous monitoring (ppm)/
 $10E6 \times 1 \text{ lbmole}/379.4 \text{ cu ft} \times (134 \text{ lbs/lbmole}) \times \text{flow (ft}^3/\text{min)} \times (1440 \text{ min/day})$
- 134 lbs/lbmole is the weighted average molecular weight of the primary contaminants in the soil vapor (93% Trichloroethene and 7% Tetrachloroethene based on analytical results from recovered soil vapor).
- Flow rate (scfm) is calculated with the following equation: $128.8 \times \text{Flow coefficient (K)} \times \text{pipe diameter}^2 \text{ (in)} \times \sqrt{\text{psia} \times \text{differential pressure (IWC)}}/(\text{Temp (F)} + 460) \times \text{Sp Gr @ } 60^\circ\text{F}$ to adjust for system operating temperature
- 4/29-6/20/13 vapor influent concentration = estimated VOC concentration based on June 20, 2013 EPA Method TO15 sample results from system influent

TABLE 16
Sub-Slab Soil Vapor Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG5-SV1							BLDG5-SV2						
	QA Area							Paint Mixing Storage Room						
	2/21/2011	6/4/2011	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	2/21/2011	6/4/2011	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013
1,1,1-Trichloroethane	<31	<350	<290	<66	<80	<43	<3.0	<44	<25	<5.0	<3.5	<16	<1.2	<1.1
1,1,2,2-Tetrachloroethane	<7.8	<88	<72	<16	<20	<11	<0.76	<11	<6.2	<1.2	<0.87	<4.0	<0.30	<0.27
1,1,2-Trichloroethane	<31	<350	<290	<66	<80	<43	<3.0	<44	<25	<5.0	<3.5	<16	<1.2	<1.1
1,1-Dichloroethane	<24	<260	<220	<49	<60	<33	<2.3	<33	<19	<3.7	<2.6	<12	<0.90	<0.81
1,1-Dichloroethene	<23	<260	<210	<48	<59	<32	<2.2	<32	<18	<3.6	<2.5	<12	<0.88	<0.79
1,2-Dibromoethane (EDB)	<8.9	---	---	---	<23	---	---	<12	---	---	---	<4.5	---	---
1,2-Dichlorobenzene	<69	---	---	---	<180	---	---	<97	---	---	---	<35	---	---
1,2-Dichloroethane	<24	<260	<220	<49	<60	<33	<2.3	<33	<19	<3.7	<2.6	<12	<0.90	<0.81
1,2-Dichloropropane	<27	<300	<250	<56	<68	<37	<2.6	<37	<21	<4.2	<2.9	<14	<1.0	<0.92
1,3-Dichlorobenzene	<69	---	---	---	<180	---	---	<97	---	---	---	<35	---	---
1,4-Dichlorobenzene	<69	---	---	---	<180	---	---	<97	---	---	---	<35	---	---
1,4-Dioxane	---	---	---	---	<670	---	---	---	---	---	---	<130	---	---
2-Butanone	60	---	---	---	<86	---	---	<48	---	---	---	300	---	---
2-Hexanone	<24	---	---	---	<60	---	---	<33	---	---	---	110	---	---
4-Methyl-2-pentanone	<47	---	---	---	<120	---	---	<66	---	---	---	24	---	---
Acetone	<260	<2900	---	670	<670	1300	1500D	<370	<210	---	840	320	68D	45D
Benzene	<18	---	---	---	<47	---	---	<26	---	---	---	<9.3	---	---
Bromodichloromethane	<7.8	<88	<72	<16	<20	<11	<0.76	<11	<6.2	<1.2	<0.87	<4.0	<0.30	<0.27
Bromoform	<60	<670	<550	<120	<150	<82	<5.8	<84	<47	<9.4	<6.6	<30	<2.3	<2.1
Bromomethane	<22	<250	<210	<47	<57	<31	<2.2	<32	<18	<3.6	<2.5	<11	<0.86	<0.77
Carbondisulfide	<18	---	---	---	---	---	---	<25	---	---	---	---	---	---
Carbontetrachloride	<3.7	<41	<34	<7.7	<9.3	<5.1	0.57	<5.1	<2.9	<0.58	0.64	<1.9	0.62	0.52
Chlorobenzene	<27	<300	<250	<56	<68	<37	<2.6	<37	<21	<4.2	<2.9	<14	<1.0	<0.92
Chloroethane	<30	<340	<280	<64	---	<42	<2.9	<43	<24	<4.8	<3.4	---	<1.2	<1.0
Chloroform	<28	<320	<260	<59	<72	<39	<2.7	<40	<22	<4.5	<3.1	<14	<1.1	<0.97
Chloromethane	<24	<260	<220	<49	---	<33	<2.3	<33	<19	<3.7	<2.6	---	<0.90	<0.81
cis-1,2-Dichloroethene	47	420	400	130	96	<32	<2.2	<32	<18	6.6	5.1	<12	<0.88	<0.79
cis-1,3-Dichloropropene	<52	<580	<480	<110	<130	<72	<5.1	<74	<41	<8.3	<5.8	<27	<2.0	<1.8
Dibromochloromethane	<9.9	<110	<92	<21	<25	<14	<0.96	<14	<7.8	<1.6	<1.1	<5.1	<0.38	<0.34
Dichloromethane	<20	<220	<180	<42	<51	<27	<1.9	<28	<16	<3.1	<2.2	<10	<0.76	<0.68
Ethylbenzene	<50	---	<460	<100	<130	<69	---	<70	---	<7.9	8.1	<25	2.5	---
Freon 113	<8.9	---	---	---	---	---	---	<12	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	---	<400	---	---	---	---	---	---	<80	---	---
m/p-xylene	<100	---	<920	<210	<250	<140	---	<140	---	17	28	<51	9.5	---
Methyltert-butylether	<41	---	---	---	<110	---	---	<58	---	---	---	<21	---	---
Naphthalene	---	---	---	---	<270	---	---	---	---	---	---	<53	---	---
o-Xylene	<50	---	<460	<100	<130	<69	---	<70	---	<7.9	11	<25	2.3	---
Styrene	<49	---	---	---	<130	---	---	<69	---	---	---	<25	---	---
Tetrachloroethene	390	9900	5200	790	2700	<5.8	2.9	150	230	47	25	140	22	6
Toluene	44	---	---	---	<55	---	---	<30	---	---	---	24	---	---
trans-1,2-Dichloroethene	<23	<260	<210	<48	<59	<32	<2.2	<32	<18	<3.6	<2.5	<12	<0.88	<0.79
Trans-1,3-Dichloropropene	<26	<290	<240	<55	<67	<36	<2.5	<37	<21	<4.1	<2.9	<13	<1.0	<0.90
Trichloroethene	2100	31000	26000	5100	5800	5.1	5.9	2300	2000	1200D	410D	1300D	80	17
Trichlorofluoromethane	<32	<360	<300	<68	---	<45	4	<46	<26	<5.1	<3.6	---	2.6	3.3
Vinyl acetate	<260	---	---	---	---	---	---	<370	---	---	---	---	---	---
Vinyl chloride	<3.1	<35	<29	<6.6	<8.0	<4.3	<0.30	<4.4	<2.5	0.51	1.2	<1.6	<0.12	<0.11
Xylene (total)	<100	---	<920	<210	<250	<140	---	<140	---	17	39	<51	12	---

TABLE 16
Sub-Slab Soil Vapor Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG5-SV3							BLDG5-SV5		BLDG5-SV6	
	Sanding Room							Shipping Area		Shipping Area	
	2/21/2011	6/4/2011	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	4/18/2013	8/5/2013	4/18/2013	8/5/2013
1,1,1-Trichloroethane	<2600	<8400	<5700	<220	<330	<24	<2.9	<1.2	<3.6	2000	1200
1,1,2,2-Tetrachloroethane	<640	<2100	<1400	<55	<84	<6.0	<0.74	<0.31	<0.90	<25	<9.4
1,1,2-Trichloroethane	<2600	<8400	<5700	<220	<330	<24	<2.9	<1.2	<3.6	<100	<38
1,1-Dichloroethane	<1900	<6300	<4300	<170	<250	<18	<2.2	<0.93	<2.7	2700	1500
1,1-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	<0.91	<2.6	480	340
1,2-Dibromoethane (EDB)	<730	---	---	---	<95	---	---	---	---	---	---
1,2-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	---	---	---
1,2-Dichloroethane	<1900	<6300	<4300	<170	<250	<18	<2.2	<0.93	<2.7	<76	<28
1,2-Dichloropropane	<2200	<7100	<4900	<190	<280	<20	<2.5	<1.1	<3.1	<86	<32
1,3-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	---	---	---
1,4-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	---	---	---
1,4-Dioxane	---	---	---	---	<2800	---	---	---	---	---	---
2-Butanone	<2800	---	---	---	<360	---	---	---	---	---	---
2-Hexanone	<1900	---	---	---	<250	---	---	---	---	---	---
4-Methyl-2-pentanone	<3800	---	---	---	<500	---	---	---	---	---	---
Acetone	<21000	<70000	---	<1800	<2800	840	190D	44	56	<850	<310
Benzene	<1500	---	---	---	<190	---	---	---	---	---	---
Bromodichloromethane	<640	<2100	<1400	<55	<84	<6.0	<0.74	<0.31	<0.90	<25	<9.4
Bromoform	<4900	<16000	<11000	<420	<630	<46	<5.6	<2.4	<6.8	<190	<71
Bromomethane	<1800	<6000	<4100	<160	<240	<17	<2.1	<0.89	<2.6	<73	<27
Carbondisulfide	<1500	---	---	---	---	---	---	---	---	---	---
Carbontetrachloride	<300	<980	<670	<26	<39	<2.8	0.56	0.57	0.62	<12	<4.4
Chlorobenzene	<2200	<7100	<4900	<190	<280	<20	<2.5	<1.1	<3.1	<86	<32
Chloroethane	<2500	<8100	<5500	<210	---	<23	<2.9	<1.2	<3.5	<98	<36
Chloroform	<2300	<7600	<5100	<200	<300	<22	<2.7	<1.1	<3.2	<92	<34
Chloromethane	<1900	<6300	<4300	<170	---	<18	<2.2	<0.93	<2.7	<76	<28
cis-1,2-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	2.1	<2.6	3200	1800
cis-1,3-Dichloropropene	<4300	<14000	<9500	<370	<560	<40	<4.9	<2.1	<6.0	<170	<63
Dibromochloromethane	<810	<2700	<1800	<70	<110	<7.6	<0.93	<0.39	<1.1	<32	<12
Dichloromethane	<1600	<5300	<3600	<140	<210	<15	<1.9	<0.78	<2.3	<64	<24
Ethylbenzene	<4100	---	<9100	<350	<530	<38	---	11	---	<160	---
Freon 113	<730	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	---	<1700	---	---	---	---	---	---
m/p-xylene	<8100	---	<18000	<700	<1100	<76	---	35	---	<320	---
Methyltert-butylether	<3400	---	---	---	<440	---	---	---	---	---	---
Naphthalene	---	---	---	---	<1100	---	---	---	---	---	---
o-Xylene	<4100	---	<9100	<350	<530	<38	---	15	---	<160	---
Styrene	<4000	---	---	---	<520	---	---	---	---	---	---
Tetrachloroethene	5300	33000	14000	1400	2100	160	200	3.1	270	570	1200
Toluene	<1700	---	---	---	<230	---	---	---	---	---	---
trans-1,2-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	<0.91	<2.6	<75	<28
Trans-1,3-Dichloropropene	<2100	<7000	<4800	<180	<280	<20	<2.5	<1.0	<3.0	<85	<31
Trichloroethene	130000	470000	340000	20000	22000	1100	720D	3.5	5.9	9000	3300
Trichlorofluoromethane	<2600	<8700	<5900	<230	---	<25	<3.0	2.7	<3.7	<110	<39
Vinyl acetate	<21000	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	<260	<840	<570	<22	<33	<2.4	<0.29	0.18	<0.36	85	81
Xylene (total)	<8100	---	<18000	<700	<1100	<76	---	50	---	<320	---

Notes:

Detections are shown in bold.

ug/m3 = Micrograms per cubic meter.

D = Result reported from a diluted sample.

--- = not analyzed

<31 = not detected above listed detection limit.

Table 17
Indoor Air Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG5-1					BLDG5-2					BLDG5-3				
	QA Area					Shipping Area					Sanding Room				
	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013
1,1,1-Trichloroethane	<3.1	<6.6	<9.3	<91	<41	<1.4	<1.6	<94	<45	<16	<1.7	<1.6	<3.6	<29	<1.2
1,1,2,2-Tetrachloroethane	<0.78	<1.7	<2.3	<23	<10	<0.34	<0.40	<24	<11	<4.1	<0.44	<0.41	<0.91	<7.2	<0.30
1,1,2-Trichloroethane	<3.1	<6.6	<9.3	<91	<41	<1.4	<1.6	<94	<45	<16	<1.7	<1.6	<3.6	<29	<1.2
1,1-Dichloroethane	<2.3	<5.0	<7.0	<68	<31	<1.0	<1.2	<71	<34	<12	<1.3	<1.2	<2.7	<22	<0.91
1,1-Dichloroethene	<2.3	<4.8	<6.8	<66	<30	<1.0	<1.2	<69	<33	<12	<1.3	<1.2	<2.7	<21	<0.89
1,2-Dichloroethane	<2.3	<5.0	<7.0	<68	<31	<1.0	<1.2	<71	<34	<12	<1.3	<1.2	<2.7	<22	<0.91
1,2-Dichloropropane	<2.7	<5.6	<7.9	<77	<35	<1.2	<1.4	<80	<38	<14	<1.5	<1.4	<3.1	<25	<1.0
Acetone	---	9700	10000D	3300	1000	---	2000	3300	1400	640	---	1200	3400D	1000	400D
Bromodichloromethane	<0.78	<1.7	<2.3	<23	<10	<0.34	<0.40	<24	<11	<4.1	<0.44	<0.41	<0.91	<7.2	<0.30
Bromoform	<5.9	<13	<18	<170	<78	<2.6	<3.1	<180	<85	<31	<3.3	<3.1	<6.9	<55	<2.3
Bromomethane	<2.2	<4.7	<6.7	<65	<29	<0.97	<1.2	<68	<32	<12	<1.3	<1.2	<2.6	<21	<0.87
Carbontetrachloride	0.61	<0.77	<1.1	<11	<4.8	0.59	0.63	<11	<5.2	<1.9	0.55	0.58	0.58	<3.4	0.53
Chlorobenzene	<2.7	<5.6	<7.9	<77	<35	<1.2	<1.4	<80	<38	<14	<1.5	<1.4	<3.1	<25	<1.0
Chloroethane	<3.0	<6.4	<9.0	<88	<39	<1.3	<1.6	<91	<43	<16	<1.7	<1.6	<3.5	<28	<1.2
Chloroform	<2.8	<5.9	<8.4	<81	<37	<1.2	<1.5	<85	<40	<15	<1.6	<1.5	<3.3	<26	<1.1
Chloromethane	<2.3	<5.0	<7.0	<68	<31	<1.0	<1.2	<71	<34	<12	<1.3	<1.2	<2.7	1.71	<0.91
cis-1,2-Dichloroethene	<2.3	<4.8	<6.8	<66	<30	2.4	1.3	<69	<33	<12	1.5	<1.2	<2.7	<21	<0.89
cis-1,3-Dichloropropene	<5.2	<11	<16	<150	<68	<2.3	<2.7	<160	<75	<27	<2.9	<2.7	<6.0	<48	<2.0
Dibromochloromethane	<0.99	<2.1	<2.9	<29	<13	<0.43	<0.51	<30	<14	<5.2	<0.55	<0.52	<1.1	<9.2	<0.39
Dichloromethane	<2.0	<4.2	<5.9	6.51	<26	<0.86	<1.0	<60	3.61	<10	<1.1	<1.0	<2.3	5.61	<0.77
Ethylbenzene	<4.9	<10	<15	<140	---	<2.1	<2.6	<150	1.91	---	<2.8	<2.6	<5.7	1.51	---
m/p-xylene	<9.9	<21	<30	4.91	---	5.6	8	<300	7.71	---	7.1	<5.2	<12	5.91	---
o-Xylene	<4.9	<10	<15	<140	---	<2.1	<2.6	<150	2.31	---	<2.8	<2.6	<5.7	2.11	---
Tetrachloroethene	3.1	3.7	7.4	<12	6.3	12	7.5	14	2.91	8.2	3.8	3.1	4.2	<3.9	1.8
trans-1,2-Dichloroethene	<2.3	<4.8	<6.8	<66	<30	<1.0	<1.2	<69	<33	<12	<1.3	<1.2	<2.7	<21	<0.89
Trans-1,3-Dichloropropene	<2.6	<5.5	<7.8	<75	<34	<1.1	<1.3	<79	<37	<14	<1.5	<1.4	<3.0	<24	<1.0
Trichloroethene	5.6	5.1	8.9	4.11	11	14	8.4	17	4.41	12	12	17	18	1.71	8.5
Trichlorofluoromethane	<3.2	<6.8	<9.6	<94	<42	8.2	4	<97	4.11	<17	2.9	2.1	<3.7	2.21	2.5
Vinyl chloride	<0.31	<0.66	<0.93	<9.1	<4.1	<0.14	<0.16	<9.4	<4.5	<1.6	<0.17	<0.16	<0.36	<2.9	<0.12
Xylene (total)	<9.9	<21	<15	4.91	---	5.6	8	<300	101	---	7.1	<5.2	<5.7	8.01	---

Table 17
Indoor Air Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG5-4		
	Production Area		
	8/22/2011	10/7/2011	1/9/2012
1,1,1-Trichloroethane	<1.1	<1.8	<26
1,1,2,2-Tetrachloroethane	<0.28	<0.44	<6.6
1,1,2-Trichloroethane	<1.1	<1.8	<26
1,1-Dichloroethane	<0.83	<1.3	<20
1,1-Dichloroethene	<0.81	<1.3	<19
1,2-Dichloroethane	<0.83	<1.3	<20
1,2-Dichloropropane	<0.94	<1.5	<22
Acetone	---	1000	670
Bromodichloromethane	<0.28	<0.44	<6.6
Bromoform	<2.1	<3.3	<50
Bromomethane	<0.79	<1.3	<19
Carbontetrachloride	0.59	0.63	<3.1
Chlorobenzene	<0.94	<1.5	<22
Chloroethane	<1.1	<1.7	<25
Chloroform	<1.0	<1.6	<24
Chloromethane	1	<1.3	<20
cis-1,2-Dichloroethene	<0.81	<1.3	<19
cis-1,3-Dichloropropene	<1.8	<2.9	<44
Dibromochloromethane	<0.35	<0.56	<8.3
Dichloromethane	<0.70	<1.1	<17
Ethylbenzene	<1.8	<2.8	<42
m/p-xylene	<3.5	<5.6	<83
o-Xylene	<1.8	<2.8	<42
Tetrachloroethene	0.78	1	<3.5
trans-1,2-Dichloroethene	<0.81	<1.3	<19
Trans-1,3-Dichloropropene	<0.92	<1.5	<22
Trichloroethene	2.9	2.1	<2.6
Trichlorofluoromethane	1.7	<1.8	<27
Vinyl chloride	<0.11	<0.18	<2.6
Xylene (total)	<3.5	<5.6	<83

Notes:

Detections are shown in **bold**.

ug/m3 = Micrograms per cubic meter.

D = Result from a diluted sample.

J = Estimated value.

--- = not analyzed

<3.1 = not detected above listed detection limit.

Table 18
Sub-Slab Soil Vapor and Indoor Air Analytical Results
32 Tozer Road
Former Varian Facility
150 Sohier Road
Beverly, MA

CONSTITUENT (ug/m3)	32 TOZER-1 5/28/2013 Indoor Air	32 TOZER-2 5/28/2013 Indoor Air	32 TOZER-3 5/28/2013 Indoor Air	MassDEP Commercial/ Industrial Indoor Air Threshold Value (1)	32 TOZER-SV3 5/28/2013 Soil Vapor	32 TOZER-SV4 5/28/2013 Soil Vapor	32 TOZER-SV5 5/28/2013 Soil Vapor	MassDEP Commercial/ Industrial Sub-Slab Soil Gas Screening Value (2)
1,1,1-Trichloroethane	<0.94	<1.0	<0.98	4600	<270	<20	<20	320,000
1,1-Dichloroethane	<0.71	<0.76	<0.74	440	<210	<15	<15	31,000
1,1-Dichloroethene	<0.69	<0.74	<0.72	180	<200	<15	<15	13,000
cis-1,2-Dichloroethene	1.5	1.8	<0.72	31	8900	130	38	2,200
Tetrachloroethene	6.5	12	<0.13	4.1	8600	300	32	290
trans-1,2-Dichloroethene	<0.69	<0.74	<0.72	62	<200	<15	<15	4,300
Trichloroethene	0.96	1.3	<0.098	1.8	6100	150	15	130
Vinyl chloride	<0.094	<0.10	<0.098	1.3	<27	<2.0	<2.0	91

Notes:

(1) Massachusetts DEP December 2011 Interim Final Vapor Intrusion Guidance (WSC-11-435) Table I.2 Commercial/Industrial Indoor Air Treshhold Values (updated 3/7/13)

(2) Massachusetts DEP December 2011 Interim Final Vapor Intrusion Guidance (WSC-11-435) Table II.2 Commercial/Industrial Sub-Slab Soil Gas Screening Values (updated 3/7/13).

Detections are shown in bold.

ug/m3 = Micrograms per cubic meter.

<3.1 = not detected above listed detection limit.

Shaded = Result exceeds applicable Massachusetts DEP threshold or screening value

Table 19
Risk Evaluation - Indoor Air Exposures - Site Workers - 32 Tozer Road
May 28, 2013 Sampling
Former Varian Facility Site
150 Sohler Road
Beverly, MA

EXPOSURE ESTIMATES:							
Inhalation of Volatiles							
ADE	=	$\frac{OHM_{air} * EF * ET * ED * C1}{AP_{nc}}$					
LADE	=	$\frac{OHM_{air} * EF * ET * ED}{AP_c}$					
HI	=	ADE/RfC	<div>Cumulative ELCR = 7E-07 Cumulative HI = 0.283</div> <div>MassDEP Limit = 1E-05 MassDEP Limit = 1</div>				
ELCR	=	LADE * UR					
Parameter		Description	Units	Value	Reference		
ADE	=	Average daily exposure	m³/mg	See below	Calculated		
LADE	=	Lifetime average daily exposure	µg/m³	See below	Calculated		
HI	=	Hazard Index	unitless	See below	Calculated		
ELCR	=	Excess lifetime cancer risk	unitless	See below	Calculated		
RfC	=	Inhalation reference concentration	mg/m³	See below	EPA (2013), MassDEP (2013)		
UR	=	Inhalation Unit Risk	m³/µg	See below	EPA (2013)		
OHM _{air}	=	Concentration in air	µg/m³	See below	Measured		
EF	=	Exposure frequency	days/year	250	5 days/week, 2 weeks vacation		
ET	=	Exposure time	days/day	0.330	8 hours per day		
ED	=	Exposure duration	years	27.0	MassDEP 2013		
AP _{nc}	=	Averaging period, noncarcinogens	days	9,855	ED*365		
AP _c	=	Averaging period, carcinogens	days	25,550	Lifetime		
C1	=	Conversion factor	mg/µg	1.00E-03	Constant		
Compound	OHM _{air} (1)	RfC <i>Chronic</i>	UR	ADE	HI	LADE	ELCR
Volatile Organic Compounds							
Tetrachloroethene	1.20E+01	4.00E-02	2.60E-07	2.71E-03	6.78E-02	1.05E+00	2.72E-07
Trichloroethene	1.30E+00	2.00E-03	4.10E-06	2.94E-04	1.47E-01	1.13E-01	4.65E-07
cis-1,2-Dichloroethene	1.80E+00	6.00E-03	--	4.07E-04	6.78E-02	1.57E-01	NC
TOTAL RISK				2.83E-01		7.37E-07	

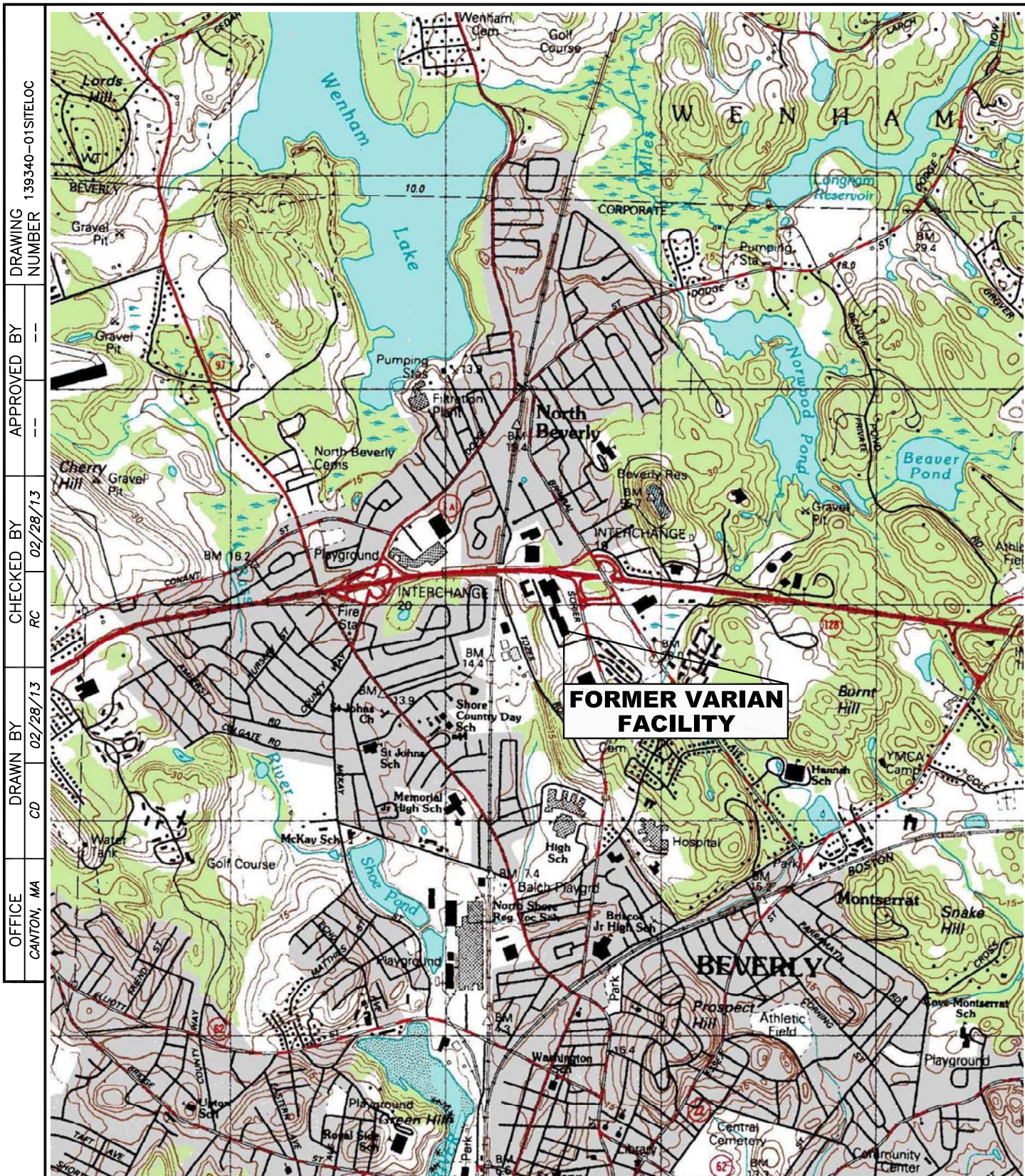
Notes:

(1) OHM_{air} is maximum indoor air result from 5/2013 sampling

EPA 2013 - Integrated Risk Information System (IRIS)

MassDEP 2013 - Massachusetts Contingency Plan Public Hearing Draft; Derivation of Method 1 Standards.

FIGURES



MASSACHUSETTS

SOURCE:
 USGS 7.5 MIN. SERIES TARGET QUAD, 1985
 SCALE: 1:25,000
 X = 250750 m
 Y = 925017 m
 MA STATE PLANE GRID (meters)

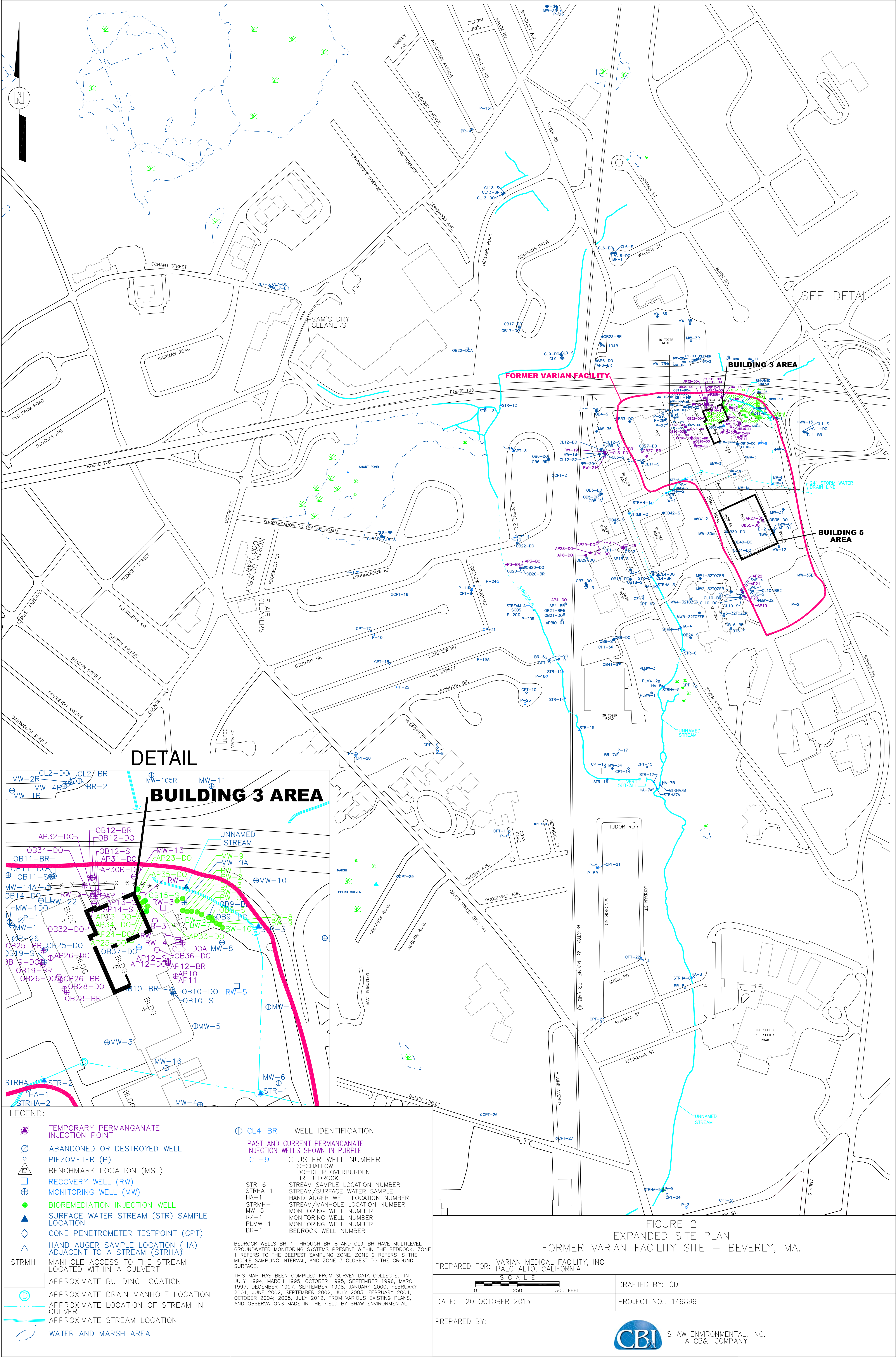


SHAW ENVIRONMENTAL, INC.
 A CB&I COMPANY
 150 ROYALL STREET
 CANTON, MASSACHUSETTS
 (617) 589-5111

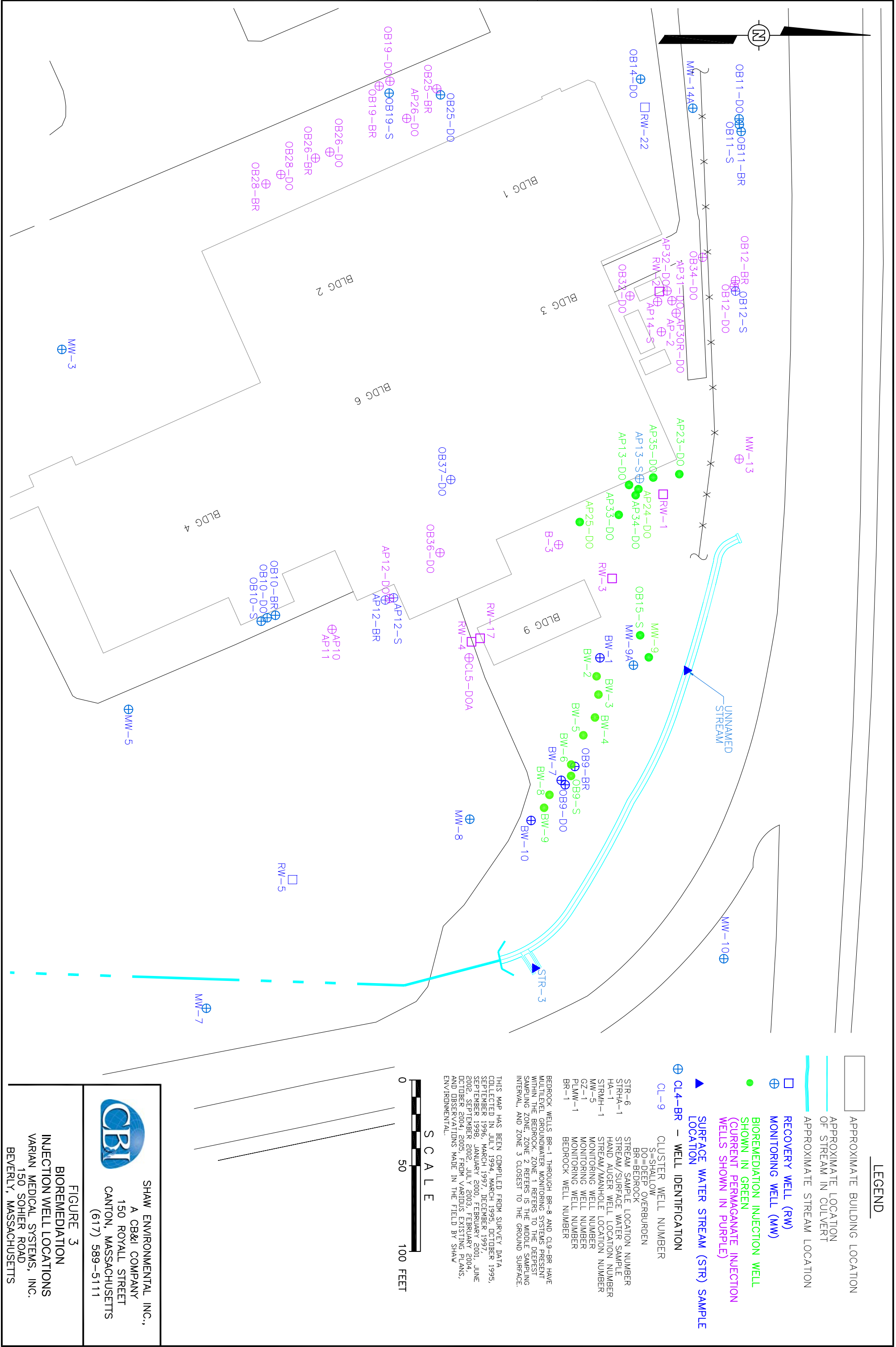
FIGURE 1
 SITE LOCATION MAP

FORMER VARIAN FACILITY
 150 SOHIER ROAD
 BEVERLY, MASSACHUSETTS

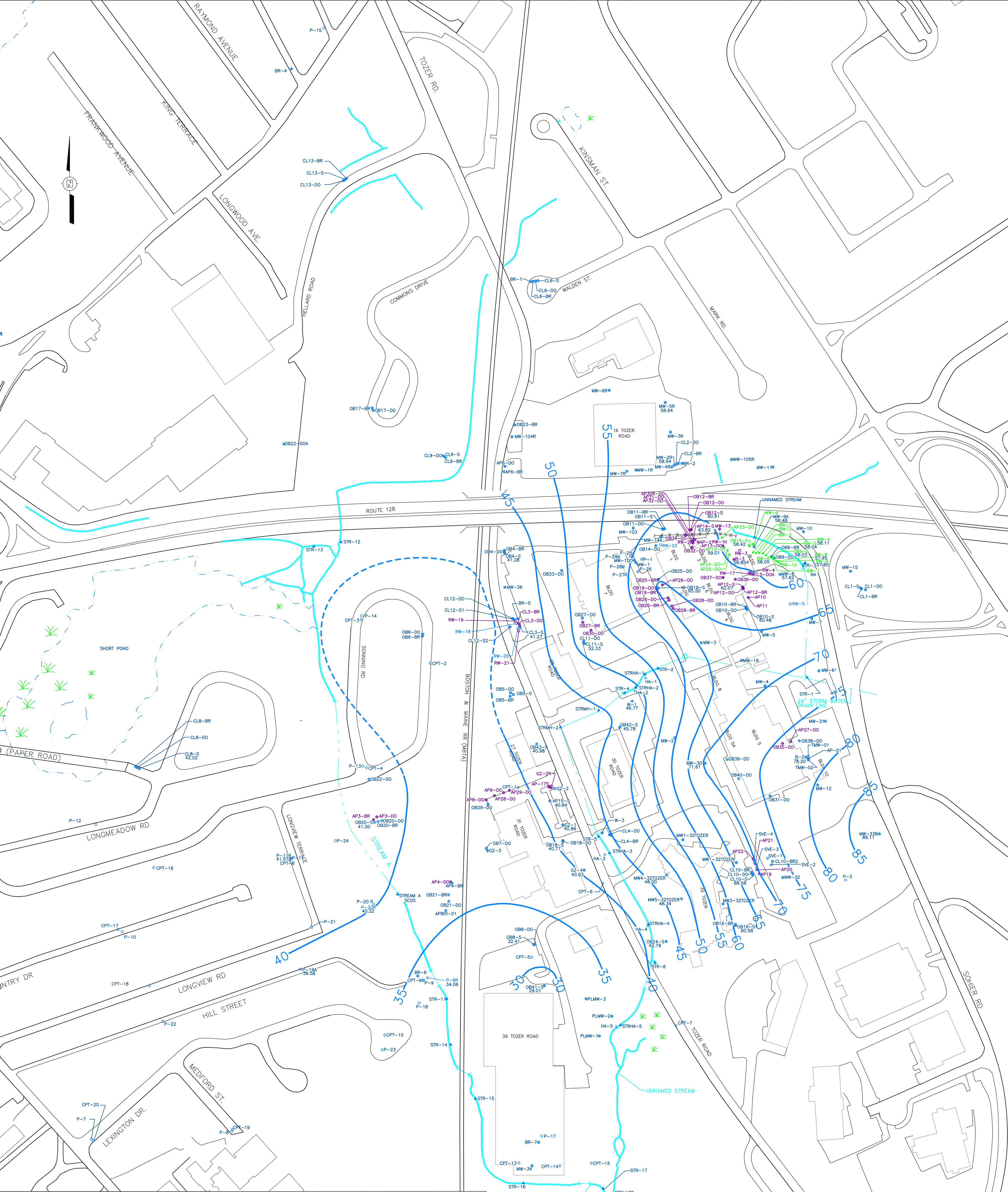
DRAWN BY	CD	CHECKED BY	RC	10/20/13	DRAWING NAME
	10/20/13	APPROVED BY	RC	10/20/13	



OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
CANTON, MA	CD	10/20/13	RC	10/20/13	--	--	



DRAWN BY	CD	CHECKED BY	RC	09/26/13	DRAWING NAME
	09/26/13	APPROVED BY	RC	09/26/13	SH GWC-APR13



LEGEND:

- RAILROAD TRACK
- TEMPORARY INJECTION POINT
- ABANDONED OR DESTROYED WELL
- PIEZOMETER (P)
- BENCHMARK LOCATION (MSL)
- RECOVERY WELL (RW)
- MONITORING WELL (MW)
- SURFACE WATER STREAM (STR) SAMPLE LOCATION
- CONE PENETROMETER TESTPOINT (CPT)
- HAND AUGER SAMPLE LOCATION (HA) ADJACENT TO A STREAM (STRHA)
- BIOREMEDIATION INJECTION WELLS INJECTION LOCATIONS SHOWN IN GREEN
- SHALLOW BIOREMEDIATION BARRIER WELL (BW)
- MANHOLE ACCESS TO THE STREAM LOCATED WITHIN A CULVERT
- APPROXIMATE BUILDING LOCATION
- APPROXIMATE DRAIN MANHOLE LOCATION
- APPROXIMATE LOCATION OF STREAM IN CULVERT
- APPROXIMATE STREAM LOCATION
- WATER AND MARSH AREA

- OB18-S 40.77 — WELL IDENTIFICATION
— GROUNDWATER ELEVATION — ELEVATION IN FEET
— GAUGING DATES 04/11/2013 THROUGH 04/18/2013
— DASHED WHERE INFERRED
- PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE
- CL-9 CLUSTER WELL NUMBER
S=SHALLOW
DO=DEEP OVERBURDEN
BR=BEDROCK
- STR-6 STREAM SAMPLE LOCATION NUMBER
STRHA-1 STREAM/SURFACE WATER SAMPLE
HA-1 HAND AUGER WELL LOCATION NUMBER
STRMH-1 STREAM/MANHOLE LOCATION NUMBER
MW-5 MONITORING WELL NUMBER
CZ-1 MONITORING WELL NUMBER
PLMW-1 MONITORING WELL NUMBER
BR-1 BEDROCK WELL NUMBER

BEDROCK WELLS BR-1 THROUGH BR-8 AND CL9-BR HAVE MULTILEVEL GROUNDWATER MONITORING SYSTEMS PRESENT WITHIN THE BEDROCK. ZONE 1 REFERS TO THE DEEPEST SAMPLING ZONE, ZONE 2 REFERS TO IS THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE. THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JUNE 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY SHAW ENVIRONMENTAL.

SCALE IN FEET

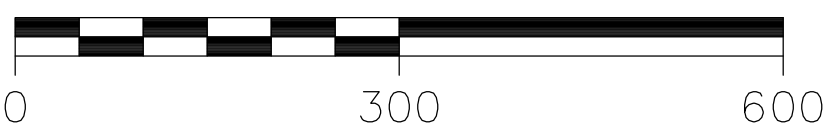


FIGURE 4
GROUNDWATER ELEVATION CONTOURS IN
SHALLOW OVERBURDEN AQUIFER

PREPARED FOR: VARIAN MEDICAL SYSTEMS, INC.
PALO ALTO, CALIFORNIA

SCALE: 1" = 150'

DATE: 26 SEPTEMBER 2013

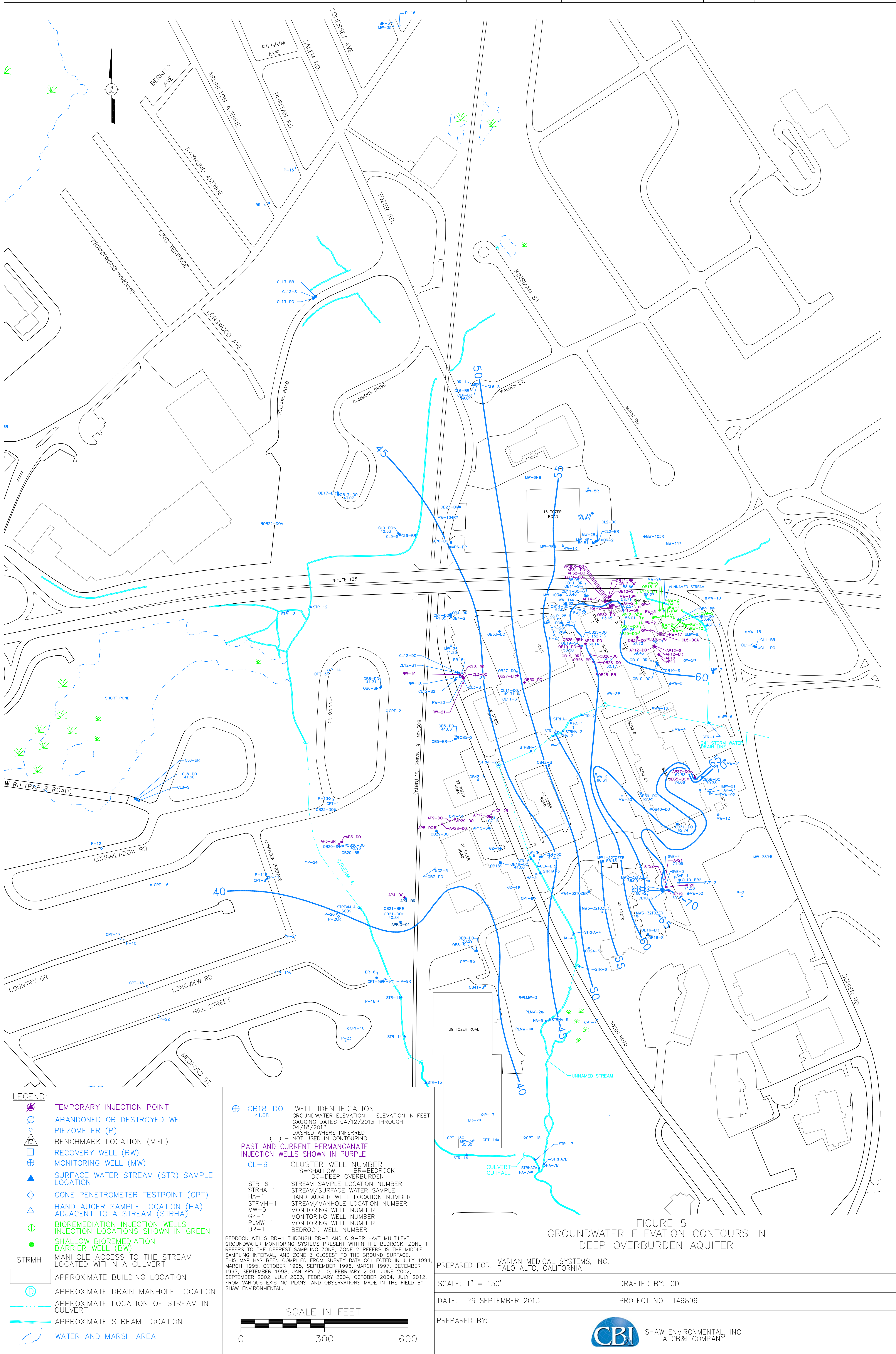
PREPARED BY:

DRAFTED BY: CD

PROJECT NO.: 146899



SHAW ENVIRONMENTAL, INC.
A CBI COMPANY



DRAWN BY	CD	CHECKED BY	RC	09/26/13	DRAWING NAME
	09/26/13	APPROVED BY	RC	09/26/13	BEDROCK-GWC-APR13

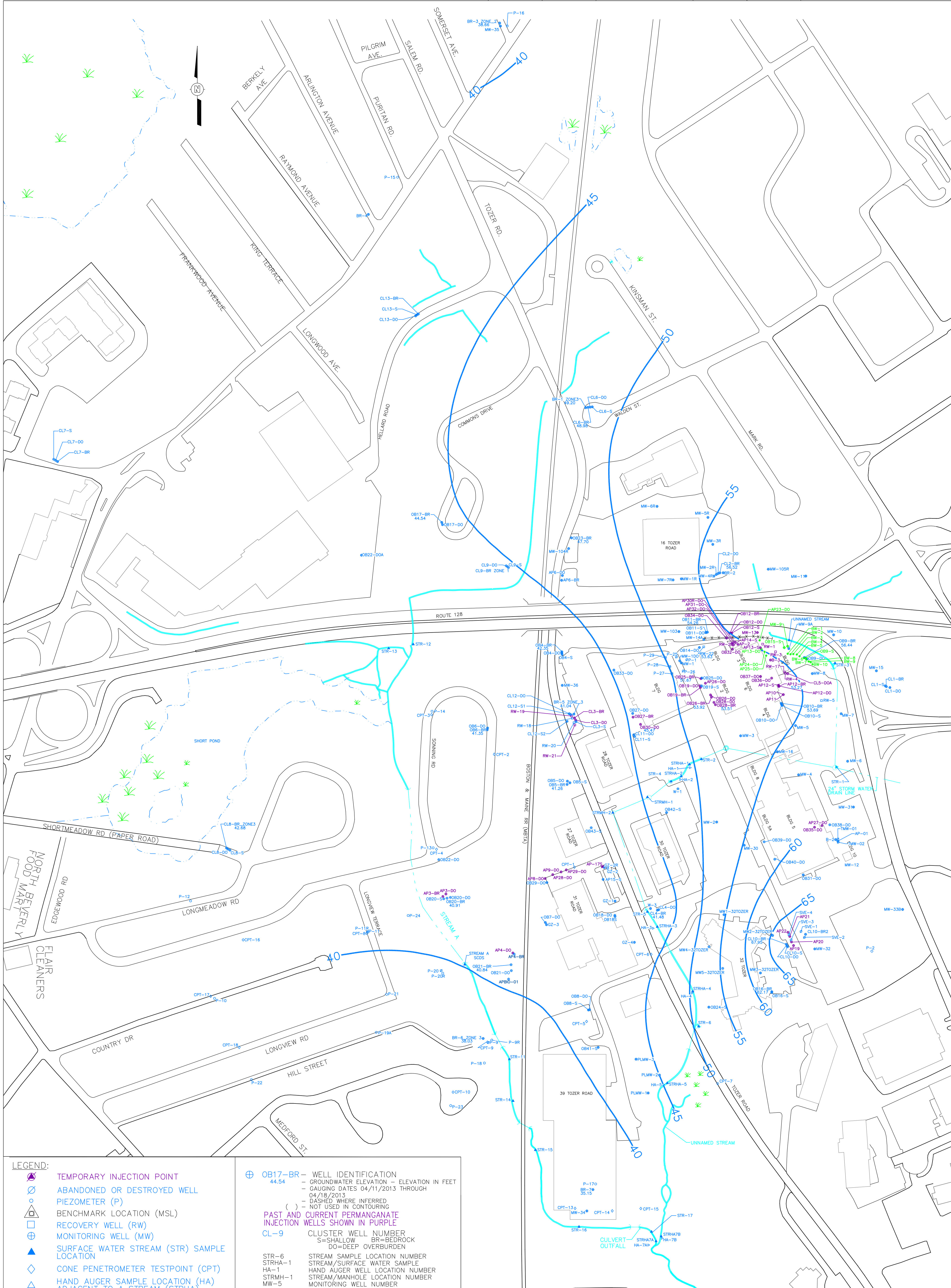


FIGURE 6
GROUNDWATER ELEVATION CONTOURS
IN BEDROCK AQUIFER

PREPARED FOR: VARIAN MEDICAL SYSTEMS, INC.
PALO ALTO, CALIFORNIA

SCALE: 1" = 170'

DATE: 26 SEPTEMBER 2013

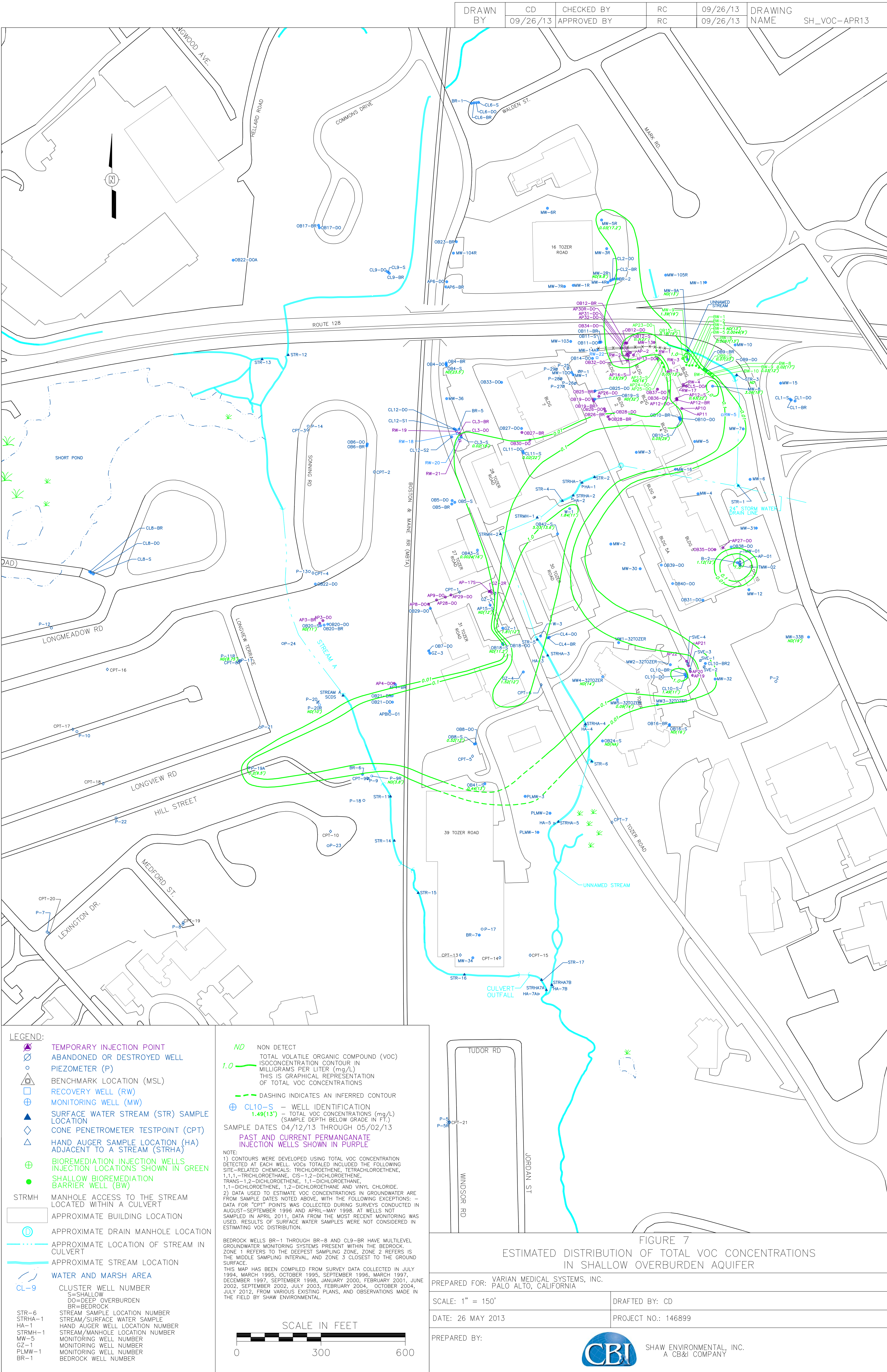
PREPARED BY:

DRAFTED BY: CD

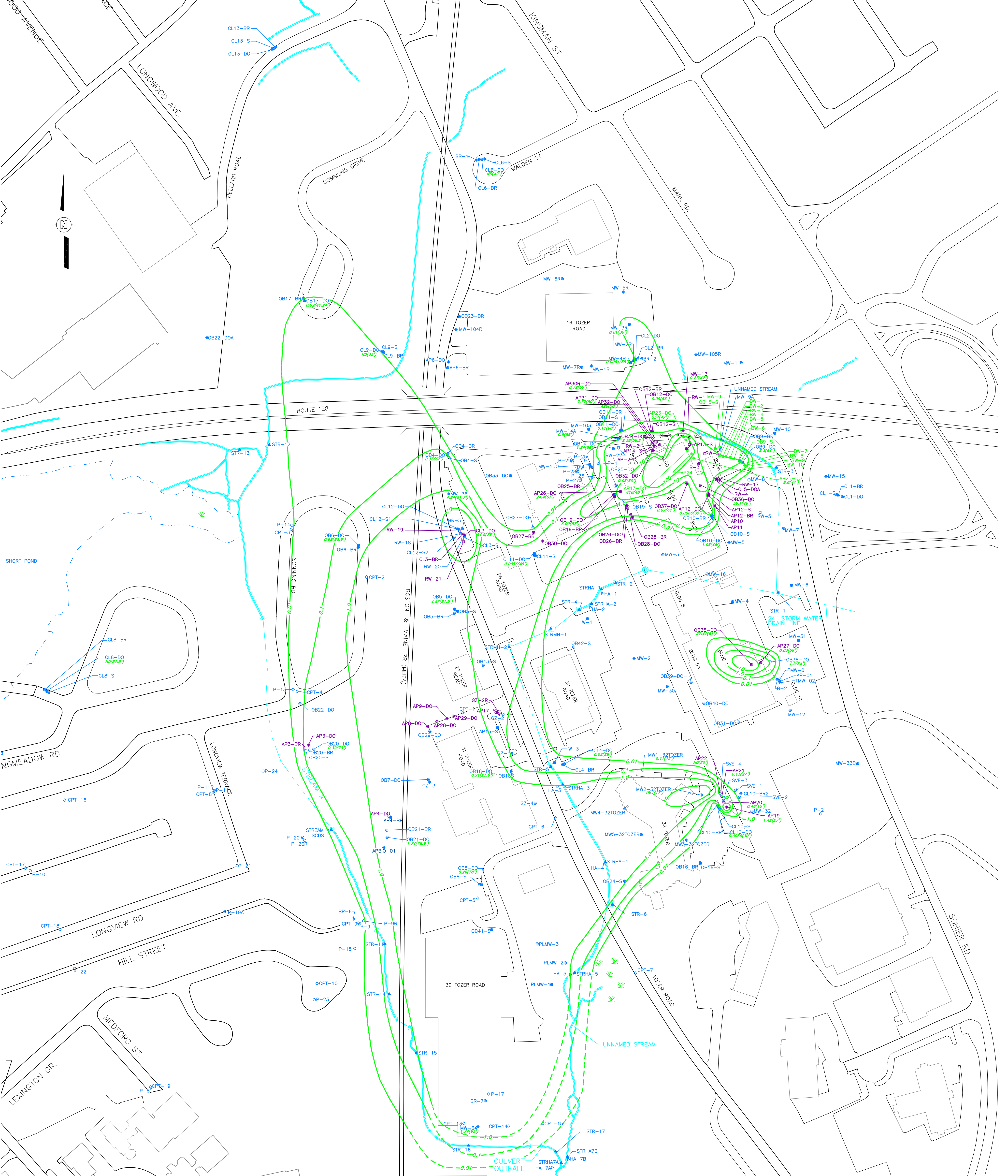
PROJECT NO.: 146899



SHAW ENVIRONMENTAL, INC.
A CBI COMPANY



DRAWN BY	CD	CHECKED BY	RC	09/26/13	DRAWING NAME	DO_VOC-APR13
	09/26/13	APPROVED BY	RC	09/26/13		



- LEGEND:
- TEMPORARY INJECTION POINT
 - ABANDONED OR DESTROYED WELL
 - PIEZOMETER (P)
 - BENCHMARK LOCATION (MSL)
 - RECOVERY WELL (RW)
 - MONITORING WELL (MW)
 - SURFACE WATER STREAM (STR) SAMPLE LOCATION
 - CONE PENETROMETER TESTPOINT (CPT)
 - HAND AUGER SAMPLE LOCATION (HA) ADJACENT TO A STREAM (STRHA)
 - BIOREMEDIATION INJECTION WELLS
 - INJECTION LOCATIONS SHOWN IN GREEN
 - SHALLOW BIOREMEDIATION BARRIER WELL (BW)
 - MANHOLE ACCESS TO THE STREAM LOCATED WITHIN A CULVERT
 - APPROXIMATE BUILDING LOCATION
 - APPROXIMATE DRAIN MANHOLE LOCATION
 - APPROXIMATE LOCATION OF STREAM IN CULVERT
 - APPROXIMATE STREAM LOCATION
 - WATER AND MARSH AREA
 - CL-9
 - CLUSTER WELL NUMBER
 - S=SHALLOW
 - DO=DEEP OVERBURDEN
 - BR=BEDROCK

ND NON DETECT

1.0 TOTAL VOLATILE ORGANIC COMPOUND (VOC) ISOCONCENTRATION CONTOUR IN MILLIGRAMS PER LITER (mg/L)

THIS IS A GRAPHICAL REPRESENTATION OF TOTAL VOC CONCENTRATIONS

DASHING INDICATES AN INFERRED CONTOUR

CL4-DO - WELL IDENTIFICATION

0.03(27.3) - TOTAL VOC CONCENTRATION (mg/L) (SAMPLE DEPTH BELOW GRADE IN FEET)

(NA) - SAMPLE NOT COLLECTED AT DISCRETE DEPTH (E.G. GRAB SAMPLE COLLECTED FOLLOWING WELL PURGING IN LIEU OF PDB SAMPLER)

SAMPLE DATES 04/04/13 THROUGH 04/06/13

PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE

NOTE:

1) CONTOURS WERE DEVELOPED USING TOTAL VOC CONCENTRATION DETECTED AT EACH WELL. VOCs TOTALED INCLUDED THE FOLLOWING SITE-RELATED CHEMICALS: TRICHLOROETHENE, TETRACHLOROETHENE, 1,1,1-TRICHLOROETHANE, CIS-1,2-DICHLOROETHENE, TRANS-1,2-DICHLOROETHENE, 1,1-DICHLOROETHENE, 1,2-DICHLOROETHANE AND VINYL CHLORIDE.

2) DATA USED TO ESTIMATE VOC CONCENTRATIONS IN GROUNDWATER ARE FROM SAMPLE DATES NOTED ABOVE, WITH THE FOLLOWING EXCEPTIONS: - DATA FROM MW1-32TOZER, MW2-32TOZER, MW3-32TOZER WERE COLLECTED IN FEBRUARY 2011. DATA FOR "CPT" POINTS WAS COLLECTED DURING SURVEYS CONDUCTED IN AUGUST-SEPTEMBER 1996 AND APRIL-MAY 1998. AT WELLS NOT SAMPLED IN APRIL 2011, DATA FROM THE MOST RECENT MONITORING WAS USED.

3) BEDROCK WELLS BR-1 THROUGH BR-8 AND CL-9-BR HAVE MULTILEVEL GROUNDWATER MONITORING SYSTEMS PRESENT WITHIN THE BEDROCK. ZONE 1 REFERS TO THE DEEPEST SAMPLING ZONE, ZONE 2 REFERS TO THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE.

THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JULY 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY SHAW ENVIRONMENTAL.

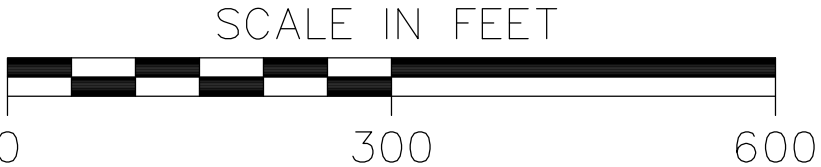


FIGURE 8
ESTIMATED DISTRIBUTION OF TOTAL VOC CONCENTRATIONS
IN DEEP OVERBURDEN AQUIFER

PREPARED FOR: VARIAN MEDICAL SYSTEMS, INC.
PALO ALTO, CALIFORNIA

SCALE: 1" = 150'

DATE: 26 SEPTEMBER 2013

PREPARED BY:

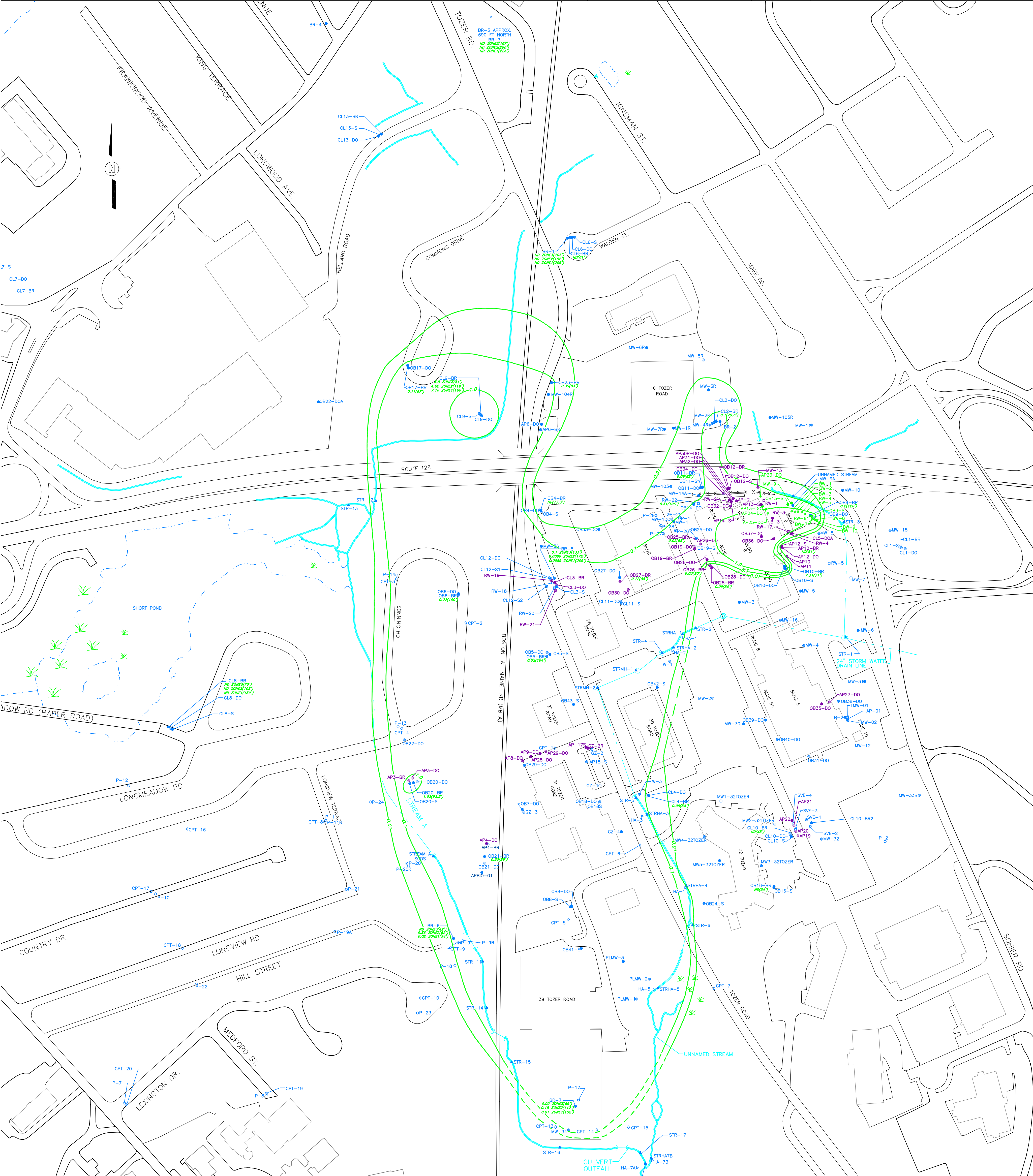
DRAFTED BY: CD

PROJECT NO.: 146899



SHAW ENVIRONMENTAL, INC.
A CB&I COMPANY

DRAWN BY	CD	CHECKED BY	RC	09/26/13	DRAWING NAME:
	09/26/13	APPROVED BY	RC	09/26/13	BEDROCK_VOC-APR13



LEGEND:

- TEMPORARY INJECTION POINT
- ABANDONED OR DESTROYED WELL
- PIEZOMETER (P)
- BENCHMARK LOCATION (MSL)
- RECOVERY WELL (RW)
- MONITORING WELL (MW)
- SURFACE WATER STREAM (STR) SAMPLE LOCATION
- CONE PENETROMETER TESTPOINT (CPT)
- HAND AUGER SAMPLE LOCATION (HA) ADJACENT TO A STREAM (STRHA)
- BIOREMEDIATION INJECTION WELLS
- INJECTION LOCATIONS SHOWN IN GREEN
- SHALLOW BIOREMEDIATION BARRIER WELL (BW)
- MANHOLE ACCESS TO THE STREAM LOCATED WITHIN A CULVERT
- APPROXIMATE BUILDING LOCATION
- APPROXIMATE DRAIN MANHOLE LOCATION
- APPROXIMATE LOCATION OF STREAM IN CULVERT
- APPROXIMATE STREAM LOCATION
- WATER AND MARSH AREA
- CL-9 CLUSTER WELL NUMBER
S=SHALLOW
DO=DEEP OVERBURDEN
BR=BEDROCK
- STR-6 STREAM SAMPLE LOCATION NUMBER
STRHA-1 STREAM/SURFACE WATER SAMPLE
HA-1 HAND AUGER WELL LOCATION NUMBER
STRMH-1 STREAM/MANHOLE LOCATION NUMBER
MW-5 MONITORING WELL NUMBER
GZ-1 MONITORING WELL NUMBER
PLMW-1 MONITORING WELL NUMBER
BR-1 BEDROCK WELL NUMBER

ND NON DETECT
1.0 TOTAL VOLATILE ORGANIC COMPOUND (VOC) ISOCONCENTRATION CONTOUR IN MILLIGRAMS PER LITER (mg/L)
THIS IS A GRAPHICAL REPRESENTATION OF TOTAL VOC CONCENTRATIONS
DASHING INDICATES AN INFERRED CONTOUR

CL4-BR - WELL IDENTIFICATION
0.05(54.5') - TOTAL VOC CONCENTRATION (mg/L) (SAMPLE DEPTH BELOW GRADE IN FEET)
(NA) - SAMPLE NOT COLLECTED AT DISCRETE DEPTH (E.G. GRAB SAMPLE COLLECTED FOLLOWING WELL PURGING IN LIEU OF PDB SAMPLER)

SAMPLE DATES 04/12/13 THROUGH 05/02/13
PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE

NOTE:
1) CONTOURS WERE DEVELOPED USING TOTAL VOC CONCENTRATION DETECTED AT EACH WELL. VOCs TOTALED INCLUDED THE FOLLOWING SITE-RELATED CHEMICALS: TRICHLOROETHENE, TETRACHLOROETHENE, 1,1,1-TRICHLOROETHANE, CIS-1,2-DICHLOROETHENE, TRANS-1,2-DICHLOROETHENE, 1,1-DICHLOROETHANE, 1,1-DICHLOROETHENE, 1,2-DICHLOROETHANE AND VINYL CHLORIDE.
2) DATA USED TO ESTIMATE VOC CONCENTRATIONS IN GROUNDWATER ARE FROM SAMPLE DATES NOTED ABOVE, WITH THE FOLLOWING EXCEPTIONS: - DATA FOR "CPT" POINTS WAS COLLECTED DURING SURVEYS CONDUCTED IN AUGUST-SEPTEMBER 1996 AND APRIL-MAY 1998. AT WELLS NOT SAMPLED IN APRIL 2011, DATA FROM THE MOST RECENT MONITORING WAS USED.

BEDROCK WELLS BR-1 THROUGH BR-8 AND CL9-BR HAVE MULTILEVEL GROUNDWATER MONITORING SYSTEMS PRESENT WITHIN THE BEDROCK. ZONE 1 REFERS TO THE DEEPEST SAMPLING ZONE, ZONE 2 REFERS TO THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE.

THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JULY 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY SHAW ENVIRONMENTAL.

SCALE IN FEET

0 300 600

FIGURE 9
ESTIMATED DISTRIBUTION OF TOTAL VOC CONCENTRATIONS
IN BEDROCK AQUIFER APRIL

PREPARED FOR: VARIAN MEDICAL SYSTEMS, INC.
PALO ALTO, CALIFORNIA

SCALE: 1" = 150'

DATE: 26 SEPTEMBER 2013

PREPARED BY:

DRAFTED BY: CD

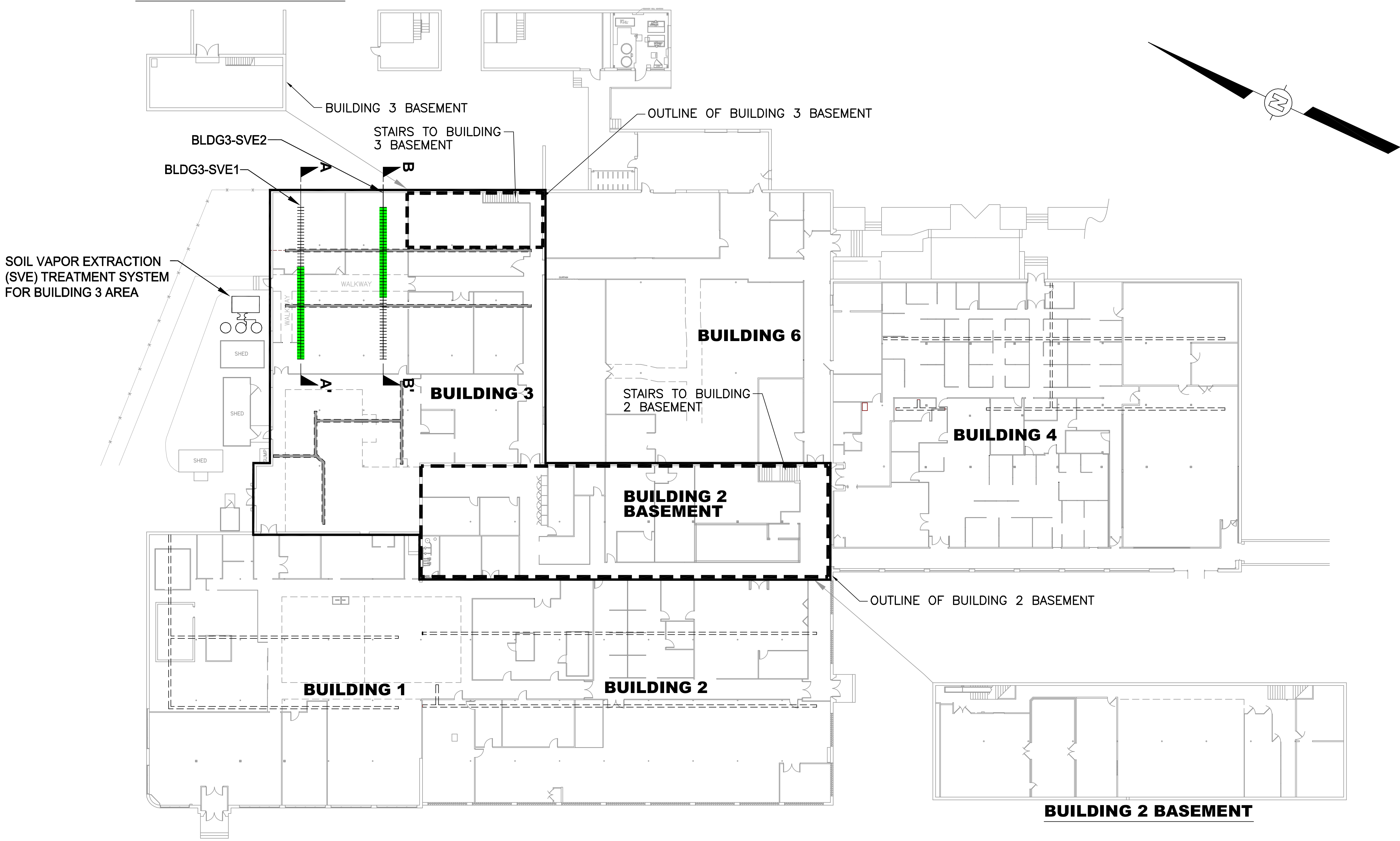
PROJECT NO.: 146899

SHAW ENVIRONMENTAL, INC.
A CBI&I COMPANY

FILE: Q:\Project\150148\150148-D1.dwg
Date: Oct 17, 2013 1:19pm
Plotted By: greg.jones

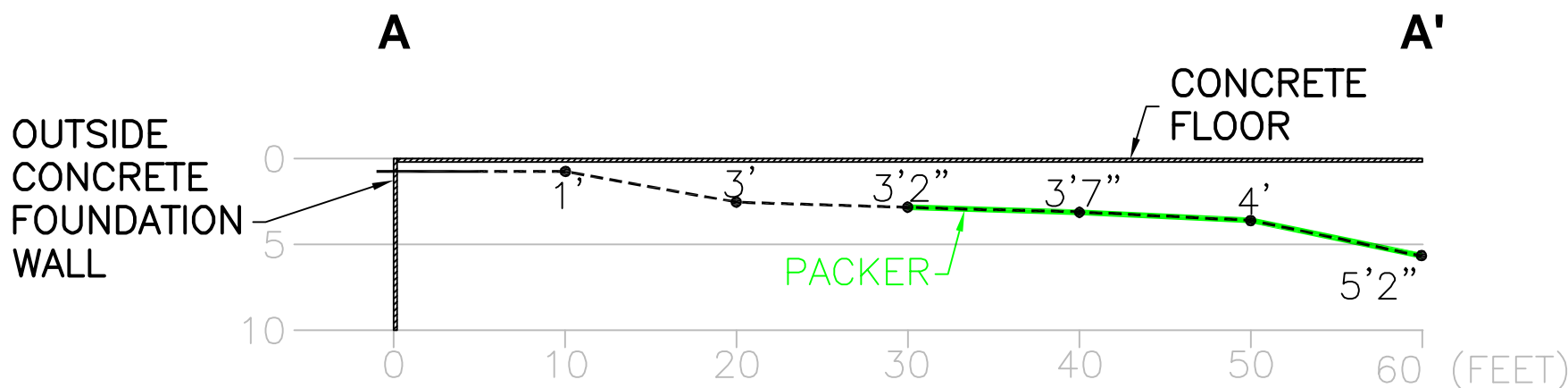
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CANTON	CD	RC	-	150148-D1

BUILDING 3 BASEMENT



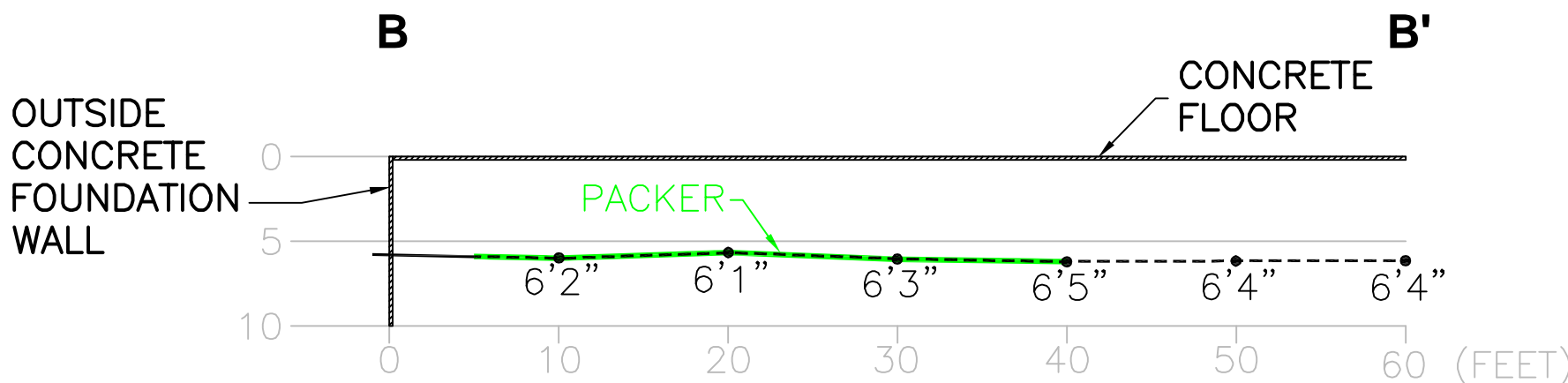
LEGEND

- BUILDING 3 TREATMENT AREA (INCLUDES BUILDING 2 BASEMENT)
- HORIZONTAL SOIL VAPOR EXTRACTION (SVE) WELL OPEN TO EXTRACTION
- PORTION OF HORIZONTAL SOIL VAPOR EXTRACTION (SVE) WELL SEALED WITH PACKERS
- BUILDING COLUMNS
- UTILITY TRENCH
- FORMER UTILITY TRENCH— FILLED WITH CONCRETE
- BUILDING WALLS
- FENCE LINE
- PSL POTENTIAL SOURCE AREA AS DESCRIBED IN PHASE II CSA FOR RTN 3-0485



BUILDING 3-SVE1 CROSS SECTION WELL CONSTRUCTION

55' OF 2" 0.010 SLOT SCHEDULE 80 PVC
5' OF 2" SCHEDULE 80 PVC
(3'7") DEPTH OF WELL BENEATH FLOOR
PACKER INSTALLED 30'-60' FROM WELL HEAD



BUILDING 3-SVE2 CROSS SECTION WELL CONSTRUCTION

55' OF 2" 0.010 SLOT SCHEDULE 80 PVC
5' OF 2" SCHEDULE 80 PVC
(6'3") DEPTH OF WELL BENEATH FLOOR
PACKER INSTALLED 21'-41' FROM WELL HEAD



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150 ROYALL STREET
CANTON, MASSACHUSETTS
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FIGURE 10
BUILDING 3 REMEDIAL TREATMENT AREA
AND BUILDING 3 SVE SYSTEM
FORMER VARIAN FACILITY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

REFERENCE:
PLAN DERIVED FROM CPI COMMUNICATIONS & POWER
INDUSTRIES, BEVERLY MICROWAVE DIVISION, AND SHAW
ENVIRONMENTAL FIELD RECONNAISSANCE.

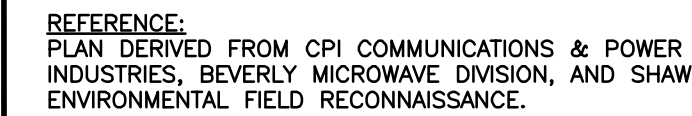
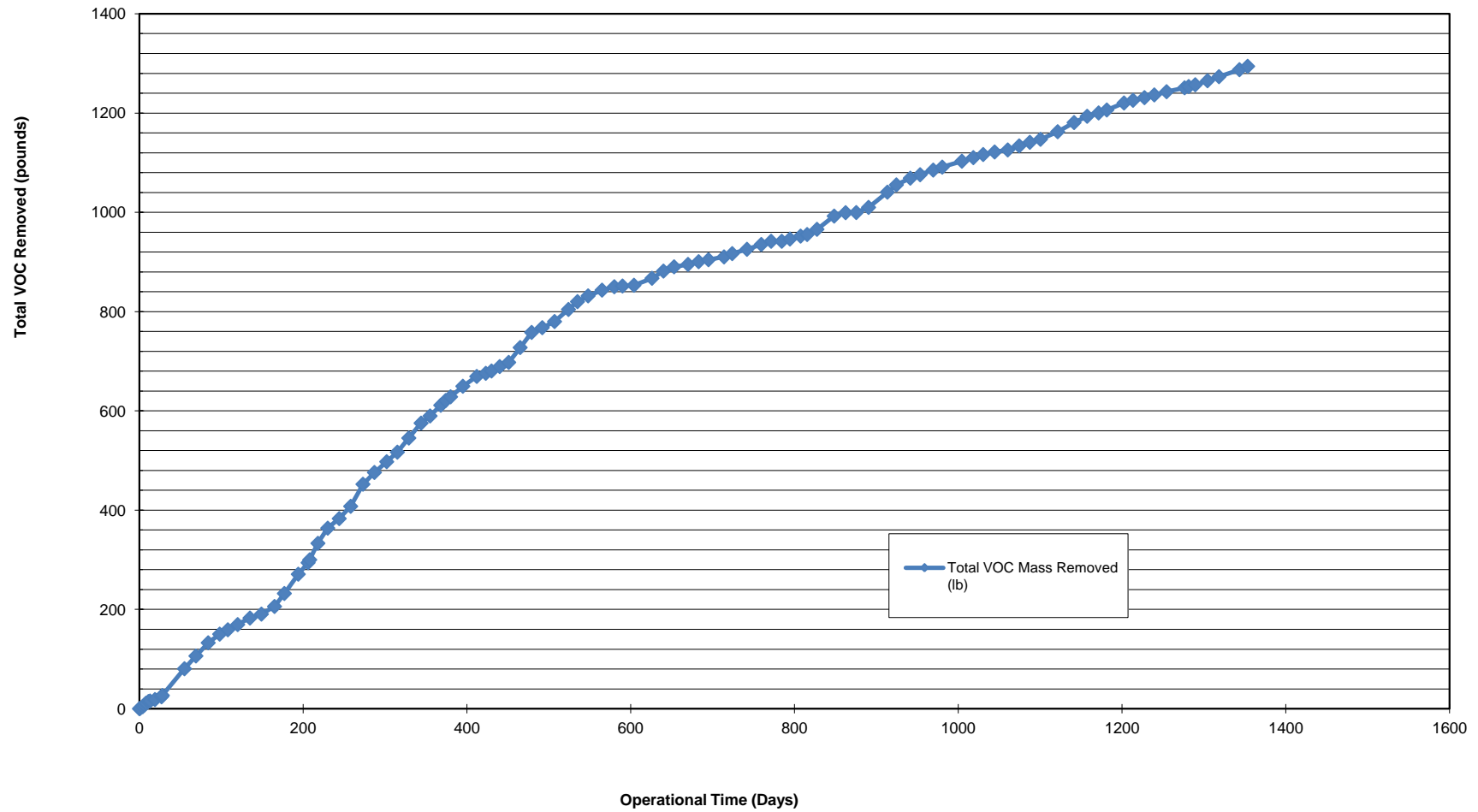


FIGURE 11
BUILDING 3 REMEDIAL TREATMENT AREA
SAMPLE LOCATIONS
FORMER VARIAN FACILITY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

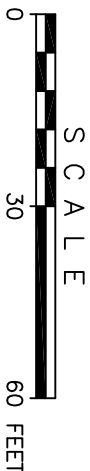
FIGURE 11
BUILDING 3 REMEDIAL TREATMENT AREA
SAMPLE LOCATIONS
FORMER VARIAN FACILITY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

Figure 12
VOC Mass Removal Estimate
Building 3 Sub-slab SVE System

Former Varian Facility
150 Sohler Road
Beverly, MA



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CANTON, MA	CD	10/23/13	RC	10/23/13	--	--	



◆	SUB-SLAB SOIL VAPOR SAMPLE LOCATION (2011-2013)
◎	INDOOR AIR SAMPLE LOCATION (2011-2013)
●	SUB-SLAB SOIL VAPOR SAMPLE LOCATION (1995)
⊕	MONITORING WELL
◆	SOIL BORING
=====	FORMER UTILITY TRENCH FILLED WITH CONCRETE
=====	UTILITY TRENCH
+-----+	SVE TRENCH WELL INSTALLED JULY/AUGUST 2012
INDOOR AIR <u>SAMPLE ID</u> RTN 3--0485	<u>ROOM</u>
BLDG 5-1	QA AREA
BLDG 5-2	SHIPPING AREA
BLDG 5-3	SANDING AREA ROOM
BLDG 5-4	PRODUCTION AREA

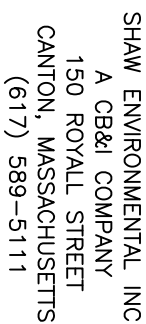


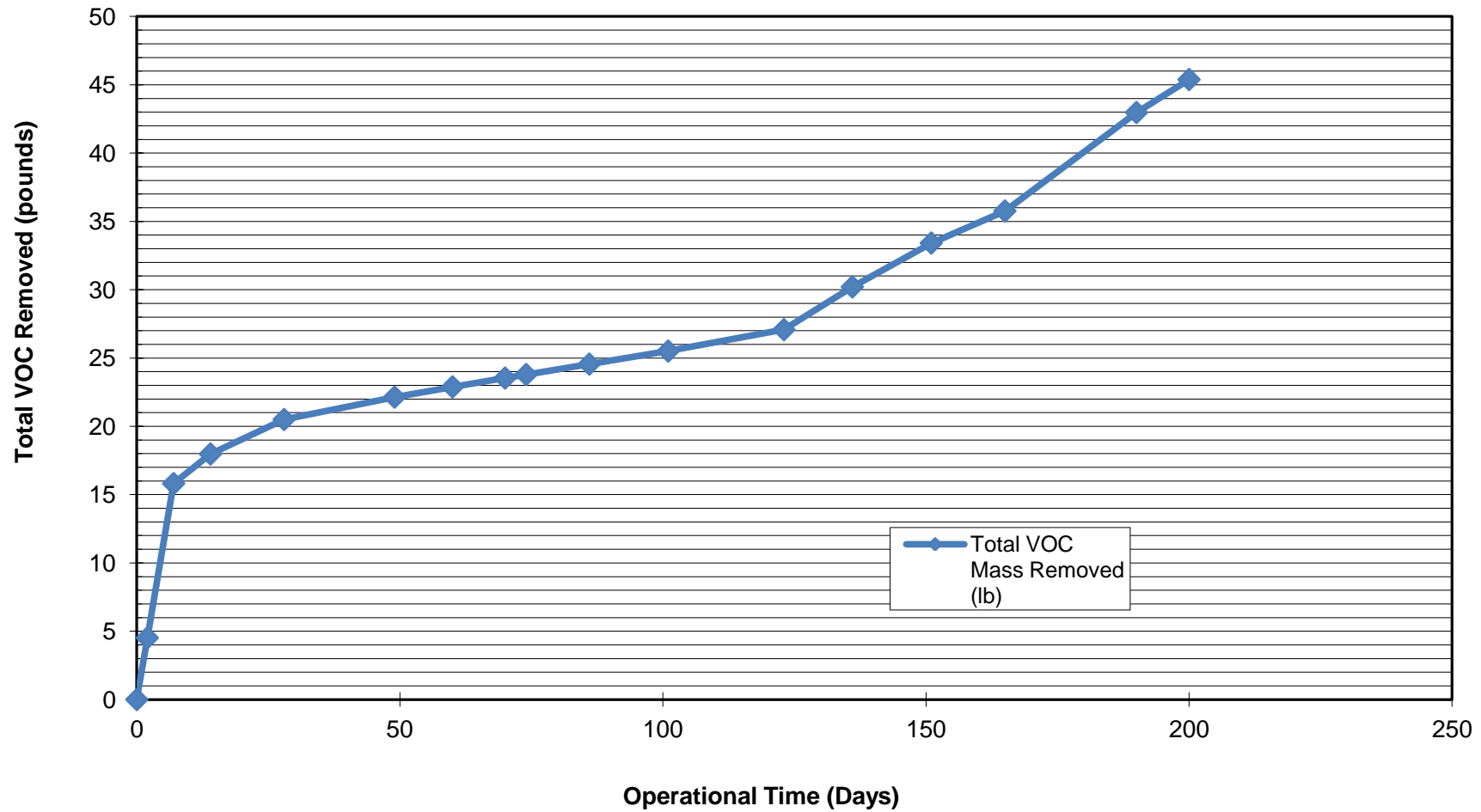
FIGURE 13

BUILDING 5 REMEDIAL TREATMENT AREA

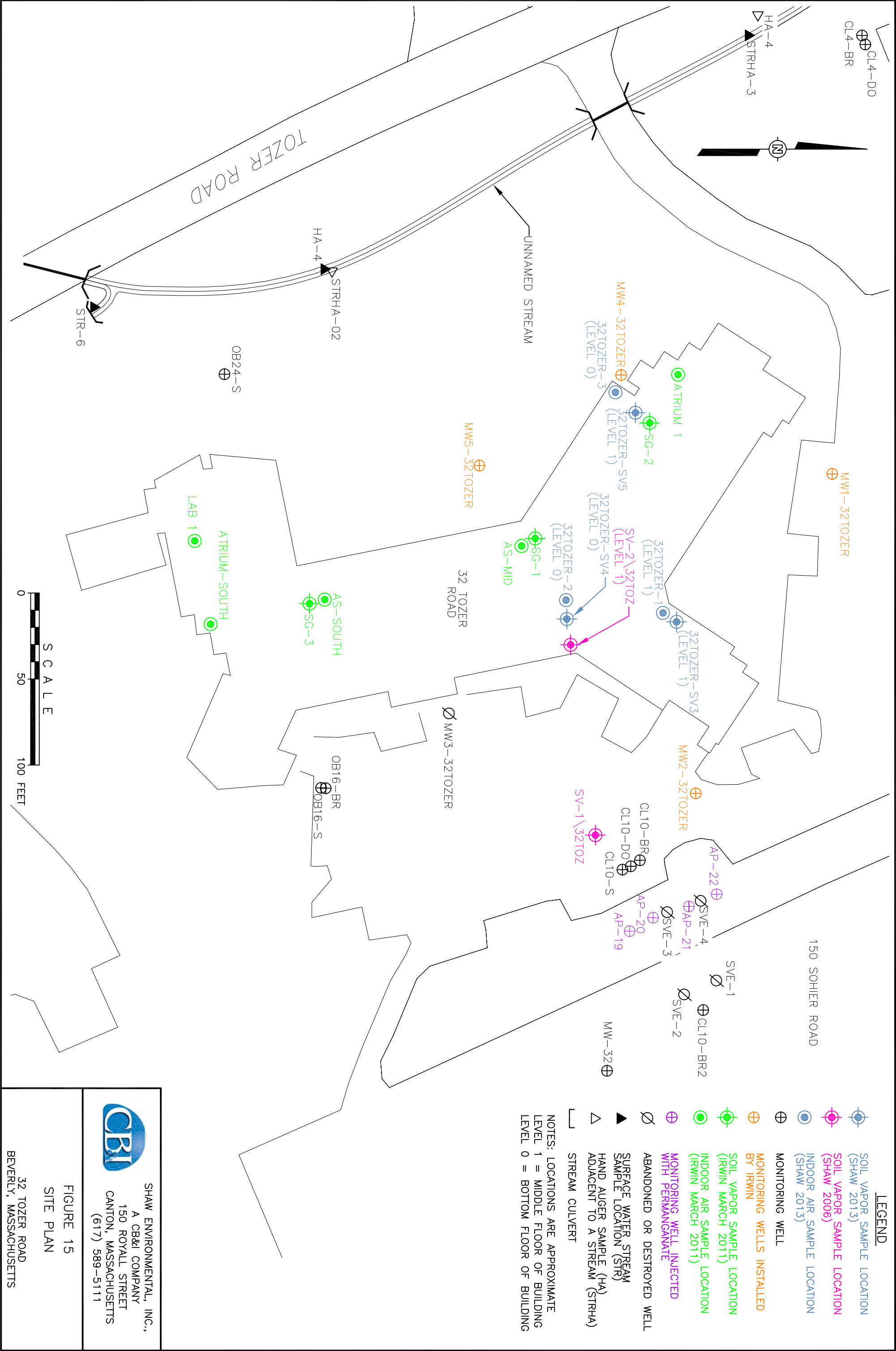
FORMER VARIAN FACILITY
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

Figure 14
VOC Mass Removal Estimate
Building 5 Sub-slab SVE System

Former Varian Facility Site
150 Sohier Road
Beverly, MA



OFFICE		DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER	32TOZERROAD
CANTON, MA		CD	10/20/13	RC	10/20/13	--	--		



APPENDIX A

**MADEP COMPREHENSIVE RESPONSE ACTION
TRANSMITTAL FORM (BWSC108) AND
REMEDIAL MONITORING REPORT (RMR) CHECKLIST**



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC108

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number

3 - 485

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: **VARIAN-MICROWAVE DIV**

2. Street Address: **150 SOHIER RD**

3. City/Town: **BEVERLY**

4. ZIP Code: **019150000**

☒ 5. Check here if a Tier Classification Submittal has been provided to DEP for this disposal site.

☐ a. Tier IA ☒ b. Tier IB ☐ c. Tier IC ☐ d. Tier II

6. If applicable, provide the Permit Number: **P23730**

B. THIS FORM IS BEING USED (check all that apply)

- ☐ 1. Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484.
- ☐ 2. Submit a **Revised Phase I Completion Statement**, pursuant to 310 CMR 40.0484.
- ☐ 3. Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834.
- ☐ 4. Submit an **Interim Phase II Report**. This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.
- ☐ 5. Submit a **final Phase II Report and Completion Statement**, pursuant to 310 CMR 40.0836.
- ☐ 6. Submit a **Revised Phase II Report and Completion Statement**, pursuant to 310 CMR 40.0836.
- ☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862.
- ☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862.
- ☐ 9. Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874.
- ☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874.
- ☒ 11. Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875.
- ☐ 12. Submit a **Phase IV Status Report**, pursuant to 310 CMR 40.0877.
- ☒ 13. Submit a **Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

- ☒ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Response Action Outcome.
- ☐ b. The requirements of a Class A Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.
- ☐ c. The requirements of a Class C Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) has been or will be submitted to DEP.
- ☐ d. The requirements of a Class C Response Action Outcome have been met. Further Operation, Maintenance or Monitoring of the remedial action is necessary to ensure that conditions are maintained and that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement and Report (BWSC104) has been or will be submitted to DEP.



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Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

- ☒ 14. Submit a **Revised Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.
- ☐ 15. Submit a **Phase V Status Report**, pursuant to 310 CMR 40.0892.
- ☒ 16. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)
- a. Type of Report: (check one) ☐ i. Initial Report ☒ ii. Interim Report ☐ iii. Final Report
- b. Frequency of Submittal: (check all that apply)
- ☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.
- ☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.
- ☒ iii. A Remedial Monitoring Report(s) submitted concurrent with a Status Report.
- c. Status of Site: (check one) ☐ i. Phase IV ☐ ii. Phase V ☒ iii. Remedy Operation Status ☐ iv. Class C RAO
- d. Number of Remedial Systems and/or Monitoring Programs: 3
- A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.
- ☐ 17. Submit a **Remedy Operation Status**, pursuant to 310 CMR 40.0893.
- ☒ 18. Submit a **Status Report to maintain a Remedy Operation Status**, pursuant to 310 CMR 40.0893(2).
- ☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS)**, pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).
- ☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").
- ☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").
- c. Number of Persons Maintaining an ROS not including the primary representative: _____
- ☐ 20. Submit a **Termination of a Remedy Operation Status**, pursuant to 310 CMR 40.0893(6). (check one)
- ☐ a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.
- ☐ b. Submit a notice of Termination of ROS.
- ☐ 21. Submit a **Phase V Completion Statement**, pursuant to 310 CMR 40.0894.
- Specify the outcome of Phase V activities: (check one)
- ☐ a. The requirements of a Class A Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement (BWSC104) will be submitted to DEP.
- ☐ b. The requirements of a Class C Response Action Outcome have been met. No additional Operation, Maintenance or Monitoring is necessary to ensure the integrity of the Response Action Outcome. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.
- ☐ c. The requirements of a Class C Response Action Outcome have been met. Further Operation, Maintenance or Monitoring of the remedial action is necessary to ensure that conditions are maintained and/or that further progress is made toward a Permanent Solution. A completed Response Action Outcome Statement and Report (BWSC104) will be submitted to DEP.
- ☐ 22. Submit a **Revised Phase V Completion Statement**, pursuant to 310 CMR 40.0894.
- ☐ 23. Submit a **Post-Class C Response Action Outcome Status Report**, pursuant to 310 CMR 40.0898.



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Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B indicates that a **Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement** and/or a **Termination of a Remedy Operation Status** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that a **Phase II Scope of Work** or a **Phase IV Remedy Implementation Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that an **As-Built Construction Report**, a **Remedy Operation Status**, a **Phase IV, Phase V or Post-Class C RAO Status Report**, a **Status Report to Maintain a Remedy Operation Status**, a **Transfer or Modification of Persons Maintaining a Remedy Operation Status** and/or a **Remedial Monitoring Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP #: 9070

2. First Name: TIMOTHY W

3. Last Name: KEMPER

4. Telephone: 6175896162

5. Ext.:

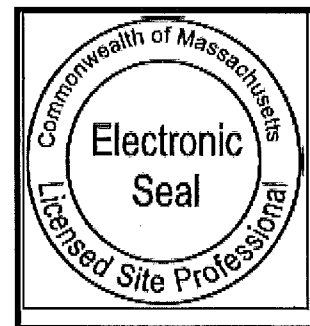
6. FAX: 6175892223

7. Signature: Timothy W Kemper

8. Date: 11/4/2013

(mm/dd/yyyy)

9. LSP Stamp:





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Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions
2. Name of Organization: **VARIAN MEDICAL SYSTEMS INC**
3. Contact First Name: **JOHN R** 4. Last Name: **BUCHANAN**
5. Street: **3120 HANSEN WAY M/S G-100** 6. Title: **ENVIRONMENTAL AFFAIRS MANAGER**
7. City/Town: **PALO ALTO** 8. State: **CA** 9. ZIP Code: **943041030**
10. Telephone: **6504246103** 11. Ext.: 12. FAX:

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS:

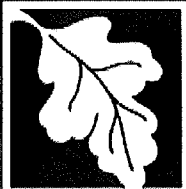
☐ Check here to change relationship

- ☒ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter
- ☒ e. Other RP or PRP Specify: **OTHER PRPS**

- ☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- ☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- ☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

- ☒ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
- ☐ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.
- ☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.
- ☐ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.
- ☐ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.
- ☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.
- ☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.
- ☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Site Name.
Send corrections to: BWSC.eDEP@state.ma.us.
- ☒ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



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Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, **John R Buchanan**, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>If Section B indicates that this is a **Modification of a Remedy Operation Status (ROS)**, I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: **John R Buchanan** Signature 3. Title: **ENVIRONMENTAL AFFAIRS M**

4. For: **VARIAN MEDICAL SYSTEMS INC** 5. Date: **11/4/2013**
(Name of person or entity recorded in Section D) (mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

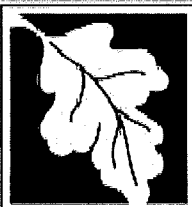
11. Telephone: _____ 12. Ext.: _____ 13. FAX: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Received by DEP on

11/4/2013 3:58:53 PM



Massachusetts Department of Environmental Protection
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CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

3 - 485

Remedial System or Monitoring Program: 1 of: 3

A. DESCRIPTION OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM:

1. Type of Active Remedial System or Active Remedial Monitoring Program: (check all that apply)

- ☐ a. Active Remedial System: (check all that apply)
- | | | |
|---------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------|
| <input type="checkbox"/> i. NAPL Recovery | <input type="checkbox"/> ii. Soil Vapor Extraction/Bioventing | <input type="checkbox"/> iii. Vapor-phase Carbon Adsorption |
| <input type="checkbox"/> iv. Groundwater Recovery | <input type="checkbox"/> v. Dual/Multi-phase Extraction | <input type="checkbox"/> vi. Aqueous-phase Carbon Adsorption |
| <input type="checkbox"/> vii. Air Stripping | <input type="checkbox"/> viii. Sparging/Biosparging | <input type="checkbox"/> ix. Cat/Thermal Oxidation |
| <input type="checkbox"/> x. Other Describe: _____ | | |

- ☒ b. Application of Remedial Additives: (check all that apply)
- | | | |
|-----------------------------------------------|--------------------------------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> i. To the Subsurface | <input checked="" type="checkbox"/> ii. To Groundwater (Injection) | <input type="checkbox"/> iii. To the Surface |
|-----------------------------------------------|--------------------------------------------------------------------|----------------------------------------------|

- ☐ c. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section F5)
- | | | |
|-------------------------------------------|--------------------------------------------------|-----------------------------------------------------|
| <input type="checkbox"/> i. Reactive Wall | <input type="checkbox"/> ii. Natural Attenuation | <input type="checkbox"/> iii. Other Describe: _____ |
|-------------------------------------------|--------------------------------------------------|-----------------------------------------------------|

2. Mode of Operation: (check one)

- ☐ a. Continuous ☒ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other: _____

3. System Effluent/Discharge: (check all that apply)

- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☐ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☒ f. Other Describe: **NOT APPLICABLE**

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 4/1/2013 To: 9/30/2013
(mm/dd/yyyy) (mm/dd/yyyy)

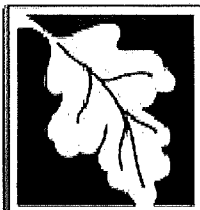
2. Number of monitoring events during the reporting period: (check one)

- ☐ a. System Startup: (if applicable)
- | |
|--------------------------------------------------------------------------------------------|
| <input type="checkbox"/> i. Days 1, 3, 6, and then weekly thereafter, for the first month. |
| <input type="checkbox"/> ii. Other Describe: _____ |
- ☒ b. Post-system Startup (after first month) or Monitoring Program:
- | |
|---------------------------------------------------------------------------|
| <input type="checkbox"/> i. Monthly |
| <input type="checkbox"/> ii. Quarterly |
| <input checked="" type="checkbox"/> iii. Other Describe: BI-WEEKLY |

☒ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

- ☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: _____
(mm/dd/yyyy)
- ☐ 2. MCP Performance Standard MCP Citations(s): _____
- ☐ 3. DEP Approval Letter Date of Letter: _____
(mm/dd/yyyy)
- ☒ 4. Other Describe: **NOT APPLICABLE**



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CRA REMEDIAL MONITORING REPORT

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Remedial System or Monitoring Program: 1 of 3

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

- ☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: b. Grade:
c. License No.: d. License Exp. Date:
(mm/dd/yyyy)
- ☐ 2. Not Required
- ☒ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD:
(check all that apply)

- ☐ 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: b. GW Recovered (gals):
c. NAPL Recovered (gals): d. GW Discharged (gals):
e. Avg. Soil Gas Recovery Rate (scfm): f. Avg. Sparging Rate (scfm):

- ☒ 2. Remedial Additives: (check all that apply)
- ☐ a. No Remedial Additives applied during the Reporting Period.
- ☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

- ☒ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☒ i. Permanganates:

Name of Additive	Date	Quantity	Units
SODIUM PERMANGANATE	7/24/2013	2734	GALS

☐ ii. Peroxides:

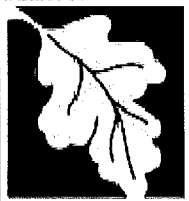
Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units



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Remedial System or Monitoring Program: 1 of 3

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)
(check all that apply)

- ☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

- ☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

- ☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

- ☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

- ☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

- ☐ b. No Further Effluent Discharges.

- ☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

- ☐ d. No Further Submittals Planned.

- ☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

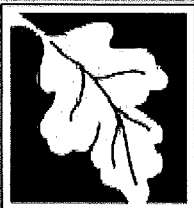
- ☐ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

- ☐ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

- ☒ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

- ☒ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.



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CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

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Remedial System or Monitoring Program: 2 of 3

A. DESCRIPTION OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM:

1. Type of Active Remedial System or Active Remedial Monitoring Program: (check all that apply)

- ☒ a. Active Remedial System: (check all that apply)
- | | | |
|---------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------|
| <input type="checkbox"/> i. NAPL Recovery | <input checked="" type="checkbox"/> ii. Soil Vapor Extraction/Bioventing | <input checked="" type="checkbox"/> iii. Vapor-phase Carbon Adsorption |
| <input type="checkbox"/> iv. Groundwater Recovery | <input type="checkbox"/> v. Dual/Multi-phase Extraction | <input type="checkbox"/> vi. Aqueous-phase Carbon Adsorption |
| <input type="checkbox"/> vii. Air Stripping | <input type="checkbox"/> viii. Sparging/Biosparging | <input type="checkbox"/> ix. Cat/Thermal Oxidation |
- ☒ x. Other Describe: **BLDG 3 SUB-SLAB SVE SYSTEM**
- ☐ b. Application of Remedial Additives: (check all that apply)
- | | | |
|-----------------------------------------------|---------------------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> i. To the Subsurface | <input type="checkbox"/> ii. To Groundwater (Injection) | <input type="checkbox"/> iii. To the Surface |
|-----------------------------------------------|---------------------------------------------------------|----------------------------------------------|
- ☐ c. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section F5)
- | | | |
|-------------------------------------------|--------------------------------------------------|-----------------------------------------------------|
| <input type="checkbox"/> i. Reactive Wall | <input type="checkbox"/> ii. Natural Attenuation | <input type="checkbox"/> iii. Other Describe: _____ |
|-------------------------------------------|--------------------------------------------------|-----------------------------------------------------|

2. Mode of Operation: (check one)

- ☒ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other: _____

3. System Effluent/Discharge: (check all that apply)

- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☒ c. Vapor-phase Discharge to Ambient Air: (check one) ☒ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe: _____

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: **4/1/2013** To: **9/30/2013**
(mm/dd/yyyy) (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

- ☐ a. System Startup: (if applicable)
- | |
|--------------------------------------------------------------------------------------------|
| <input type="checkbox"/> i. Days 1, 3, 6, and then weekly thereafter, for the first month. |
| <input type="checkbox"/> ii. Other Describe: _____ |
- ☒ b. Post-system Startup (after first month) or Monitoring Program:
- | |
|---------------------------------------------------------------------------|
| <input type="checkbox"/> i. Monthly |
| <input type="checkbox"/> ii. Quarterly |
| <input checked="" type="checkbox"/> iii. Other Describe: BI-WEEKLY |

☒ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

- ☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: _____
(mm/dd/yyyy)
- ☒ 2. MCP Performance Standard MCP Citations(s): **MADEP POLICY #WSC94-150**
- ☐ 3. DEP Approval Letter Date of Letter: _____
(mm/dd/yyyy)
- ☐ 4. Other Describe: _____



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CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

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Remedial System or Monitoring Program: 2 of: 3

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

- ☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: b. Grade:
c. License No.: d. License Exp. Date: (mm/dd/yyyy)
- ☐ 2. Not Required
- ☒ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD:

(check all that apply)

- ☒ 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: 183 b. GW Recovered (gals):
c. NAPL Recovered (gals): d. GW Discharged (gals):
e. Avg. Soil Gas Recovery Rate (scfm): 150 f. Avg. Sparging Rate (scfm):

☐ 2. Remedial Additives: (check all that apply)

- ☐ a. No Remedial Additives applied during the Reporting Period.
- ☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

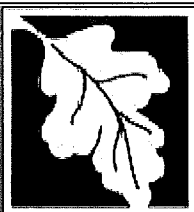
Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units



Massachusetts Department of Environmental Protection
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CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

3 - 485

Remedial System or Monitoring Program: 2 of 3

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)
(check all that apply)

- ☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

- ☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

- ☒ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: 1 b. Total Number of Days of Unscheduled Shutdowns: 0

c. Reason(s) for Unscheduled Shutdowns: **POWER OUTAGE. SYSTEM SHUTDOWN WAS APPROXIMATELY 4 HOURS**

- ☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: b. Total Number of Days of Scheduled Shutdowns:

c. Reason(s) for Scheduled Shutdowns:

- ☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: (mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe:

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

- ☒ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

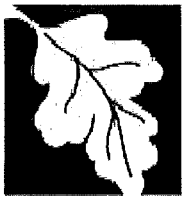
- ☒ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

- ☐ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

VOC REDUCTION IN AIR DISCHARGE TEMPORARILY < 95% DUE TO SPENT CARBON

- ☒ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.



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Remedial System or Monitoring Program: 3 of: 3

A. DESCRIPTION OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM:

1. Type of Active Remedial System or Active Remedial Monitoring Program: (check all that apply)

- ☒ a. Active Remedial System: (check all that apply)
- | | | |
|---------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------|
| <input type="checkbox"/> i. NAPL Recovery | <input checked="" type="checkbox"/> ii. Soil Vapor Extraction/Bioventing | <input type="checkbox"/> iii. Vapor-phase Carbon Adsorption |
| <input type="checkbox"/> iv. Groundwater Recovery | <input type="checkbox"/> v. Dual/Multi-phase Extraction | <input type="checkbox"/> vi. Aqueous-phase Carbon Adsorption |
| <input type="checkbox"/> vii. Air Stripping | <input type="checkbox"/> viii. Sparging/Biosparging | <input type="checkbox"/> ix. Cat/Thermal Oxidation |

☒ x. Other Describe: **BLDG 5 SUB-SLAB SVE SYSTEM**

☐ b. Application of Remedial Additives: (check all that apply)

- ☐ i. To the Subsurface ☐ ii. To Groundwater (Injection) ☐ iii. To the Surface

☐ c. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section F5)

- ☐ i. Reactive Wall ☐ ii. Natural Attenuation ☐ iii. Other Describe: _____

2. Mode of Operation: (check one)

- ☒ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other: _____

3. System Effluent/Discharge: (check all that apply)

- ☐ a. Sanitary Sewer/POTW
- ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
- ☒ c. Vapor-phase Discharge to Ambient Air: (check one) ☒ i. Off-gas Controls ☐ ii. No Off-gas Controls
- ☐ d. Drinking Water Supply
- ☐ e. Surface Water (including Storm Drains)
- ☐ f. Other Describe: _____

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: **4/1/2013** To: **9/30/2013**
(mm/dd/yyyy) (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

- ☒ a. System Startup: (if applicable)
- ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
- ☒ ii. Other Describe: **DAY 1, 3, 7, 14 & 28 STARTUP, THEN BI-WEEKLY O&M**
- ☐ b. Post-system Startup (after first month) or Monitoring Program:
- ☐ i. Monthly
- ☐ ii. Quarterly
- ☐ iii. Other Describe: _____

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

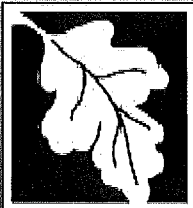
C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

- ☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion Effective Date of Permit: _____
(mm/dd/yyyy)

☒ 2. MCP Performance Standard MCP Citations(s): **MADEP POLICY #WSC94-150**

☐ 3. DEP Approval Letter Date of Letter: _____
(mm/dd/yyyy)

☐ 4. Other Describe: _____



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Remedial System or Monitoring Program: 3 of 3

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

- ☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: b. Grade:
c. License No.: d. License Exp. Date: (mm/dd/yyyy)
☐ 2. Not Required
☒ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD:
(check all that apply)

- ☒ 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: 183 b. GW Recovered (gals):
c. NAPL Recovered (gals): d. GW Discharged (gals):
e. Avg. Soil Gas Recovery Rate (scfm): 182 f. Avg. Sparging Rate (scfm):

☐ 2. Remedial Additives: (check all that apply)

- ☐ a. No Remedial Additives applied during the Reporting Period.
☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

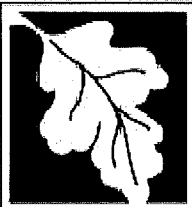
Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units



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Remedial System or Monitoring Program: 3 of 3

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)
(check all that apply)

- ☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

- ☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

- ☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

- ☐ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

- ☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

- ☐ b. No Further Effluent Discharges.

- ☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

- ☐ d. No Further Submittals Planned.

- ☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

- ☒ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

- ☒ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

- ☒ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

- ☒ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

APPENDIX B

GROUNDWATER GAUGING RESULTS, PHYSICAL PARAMETER DATA

WATER LEVEL MONITORING DATA

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
AP-12-BR	04/18/13	71.32	18.05	53.27	
AP-12-BR	07/19/13	71.32	18.49	52.83	
AP-12-BR	08/06/13	71.32	18.72	52.60	
AP-12-BR	08/20/13	71.32	18.91	52.41	
AP-12-BR	09/06/13	71.32	19.05	52.27	
AP-12-BR	09/18/13	71.32	19.03	52.29	
AP-12-BR	10/08/13	71.32	19.41	51.91	
AP-12-BR	10/23/13	71.32	19.58	51.74	
AP-12-DO	04/18/13	71.30	11.85	59.45	
AP-12-DO	07/19/13	71.30	12.18	59.12	
AP-12-DO	08/06/13	71.30	12.25	59.05	
AP-12-DO	08/20/13	71.30	12.50	58.80	
AP-12-DO	09/06/13	71.30	12.60	58.70	
AP-12-DO	09/18/13	71.30	12.53	58.77	
AP-12-DO	10/08/13	71.30	13.08	58.22	
AP-12-DO	10/23/13	71.30	13.75	57.55	
AP-12-S	04/12/13	71.44	9.37	62.07	
AP-13-DO	04/11/13	68.86	12.85	56.01	
AP-13-DO	05/02/13	68.86	14.98	53.88	
AP-13-DO	08/06/13	68.86	15.70	53.16	
AP-13-DO	08/20/13	68.86	12.33	56.53	
AP-13-DO	09/06/13	68.86	16.10	52.76	
AP-13-DO	09/18/13	68.86	15.82	53.04	
AP-13-S	04/15/13	68.98	9.97	59.01	
AP-14-S	04/18/13	74.97	11.15	63.82	
AP-14-S	05/02/13	74.97	12.63	62.34	
AP-15-S	04/12/13	45.88	5.04	40.84	
AP-15-S	10/08/13	45.88	6.19	39.69	
AP-15-S	10/23/13	45.88	4.88	41.00	
AP-19	04/11/13	81.30	11.35	69.95	
AP-19	05/02/13	81.30	11.83	69.47	
AP-19	10/08/13	81.30	14.38	66.92	
AP-19	10/24/13	81.30	14.76	66.54	
AP-20	04/11/13	81.43	9.93	71.50	
AP-20	05/02/13	81.43	10.83	70.60	
AP-20	10/08/13	81.43	14.78	66.65	
AP-20	10/24/13	81.43	15.08	66.35	
AP-21	04/11/13	81.50	10.45	71.05	
AP-21	05/02/13	81.50	11.55	69.95	
AP-21	10/08/13	81.50	16.02	65.48	
AP-21	10/24/13	81.50	16.41	65.09	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
AP-22	10/08/13	81.96	19.02	62.94	
AP-22	10/24/13	81.96	19.48	62.48	
AP-23-DO	04/11/13	69.46	11.19	58.27	
AP-23-DO	05/02/13	69.46	11.83	57.63	
AP-24-DO	04/18/13	69.56	10.30	59.26	
AP-25-DO	10/22/13	65.58	8.67	56.91	
AP-26-DO	04/15/13	73.99	13.85	60.14	
AP-26-DO	07/19/13	73.99	14.60	59.39	
AP-26-DO	08/06/13	73.99	NM	NA	
AP-26-DO	08/20/13	73.99	16.63	57.36	
AP-26-DO	09/06/13	73.99	NM	NA	
AP-26-DO	09/18/13	73.99	15.64	58.35	
AP-26-DO	10/08/13	73.99	16.14	57.85	
AP-26-DO	10/23/13	73.99	16.37	57.62	
AP-27-DO	04/16/13	77.34	14.81	62.53	
AP-27-DO	07/19/13	77.34	15.81	61.53	
AP-27-DO	08/06/13	77.34	16.35	60.99	
AP-27-DO	08/20/13	77.34	17.58	59.76	
AP-27-DO	09/06/13	77.34	18.00	59.34	
AP-27-DO	09/18/13	77.34	18.24	59.10	
AP-27-DO	10/08/13	77.34	18.70	58.64	
AP-27-DO	10/23/13	77.34	19.06	58.28	
AP-30-DO	04/18/13	NA	21.51	NA	
AP-30R-DO	07/19/13	NA	21.68	NA	
AP-30R-DO	10/24/13	NA	23.42	NA	
AP-31-DO	04/18/13	NA	19.09	NA	
AP-31-DO	07/19/13	NA	19.27	NA	
AP-31-DO	08/06/13	NA	NM	NA	
AP-31-DO	08/20/13	NA	NM	NA	
AP-31-DO	09/06/13	NA	NM	NA	
AP-31-DO	09/18/13	NA	21.85	NA	
AP-31-DO	10/24/13	NA	23.52	NA	
AP-32-DO	04/18/13	NA	19.03	NA	
AP-32-DO	07/19/13	NA	19.40	NA	
AP-32-DO	08/06/13	NA	NM	NA	
AP-32-DO	08/20/13	NA	NM	NA	
AP-32-DO	09/06/13	NA	NM	NA	
AP-32-DO	09/18/13	NA	22.79	NA	
AP-32-DO	10/24/13	NA	22.71	NA	
APBIO-01	04/12/13	42.19	1.40	40.79	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
B-2	04/16/13	80.40	2.20	78.20	
B-2	10/08/13	80.40	2.96	77.44	
B-2	10/23/13	80.40	3.54	76.86	
B-3	04/15/13	66.23	7.38	58.85	
BR-1_ZONE1	04/16/13	58.60	9.70	48.90	
BR-1_ZONE2	04/16/13	58.60	9.70	48.90	
BR-1_ZONE3	04/16/13	58.60	9.40	49.20	
BR-3_ZONE1	04/16/13	62.36	18.60	43.76	
BR-3_ZONE2	04/16/13	62.36	23.50	38.86	
BR-3_ZONE3	04/16/13	62.36	23.70	38.66	
BR-5_ZONE1	04/16/13	51.04	5.20	45.84	
BR-5_ZONE2	04/16/13	51.04	5.20	45.84	
BR-5_ZONE3	04/16/13	51.04	10.00	41.04	
BR-6_ZONE1	04/16/13	38.33	0.20	38.13	
BR-6_ZONE1	10/24/13	38.33	1.22	37.11	
BR-6_ZONE2	04/16/13	38.33	0.00	38.33	
BR-6_ZONE2	10/24/13	38.33	2.35	35.98	
BR-6_ZONE3	04/16/13	38.33	0.30	38.03	
BR-6_ZONE3	10/24/13	38.33	2.88	35.45	
BR-7_ZONE1	04/16/13	35.15	0.00	35.15	
BR-7_ZONE2	04/16/13	35.15	0.00	35.15	
BR-7_ZONE3	04/16/13	35.15	0.00	35.15	
BW-04	04/11/13	65.01	6.90	58.11	
BW-05	04/11/13	65.17	7.13	58.04	
BW-05	10/08/13	65.17	7.86	57.31	
BW-05	10/22/13	65.17	8.53	56.64	
BW-06	04/11/13	65.44	7.39	58.05	
BW-06	10/08/13	65.44	8.18	57.26	
BW-06	10/22/13	65.44	8.69	56.75	
BW-08	04/11/13	65.44	7.49	57.95	
BW-08	10/08/13	65.44	8.22	57.22	
BW-08	10/22/13	65.44	8.68	56.76	
BW-09	04/11/13	65.30	7.45	57.85	
BW-09	10/08/13	65.30	8.17	57.13	
BW-09	10/22/13	65.30	8.62	56.68	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
CL02-BR	04/11/13	62.79	6.27	56.52	
CL02-BR	05/02/13	62.79	6.83	55.96	
CL02-BR	10/08/13	62.79	8.38	54.41	
CL02-BR	10/24/13	62.79	8.82	53.97	
CL03-BR	07/19/13	50.39	8.89	41.50	
CL03-BR	08/06/13	50.39	9.20	41.19	
CL03-BR	08/20/13	50.39	9.33	41.06	
CL03-BR	09/06/13	50.39	9.60	40.79	
CL03-BR	09/18/13	50.39	9.70	40.69	
CL03-DO	04/12/13	50.40	9.05	41.35	
CL03-DO	07/19/13	50.40	9.51	40.89	
CL03-DO	08/06/13	50.40	9.65	40.75	
CL03-DO	08/20/13	50.40	9.78	40.62	
CL03-DO	09/06/13	50.40	10.00	40.40	
CL03-DO	09/18/13	50.40	13.81	36.59	
CL03-DO	10/08/13	50.40	11.18	39.22	
CL03-DO	10/23/13	50.40	11.02	39.38	
CL03-S	04/12/13	50.21	8.94	41.27	
CL04-BR	04/15/13	47.78	6.30	41.48	
CL04-DO	04/15/13	47.42	5.90	41.52	
CL06-BR	04/15/13	58.41	9.43	48.98	
CL06-DO	04/15/13	58.75	8.94	49.81	
CL08-BR_ZONE1	04/16/13	48.28	7.10	41.18	
CL08-BR_ZONE2	04/16/13	48.28	5.30	42.98	
CL08-BR_ZONE3	04/16/13	48.28	5.60	42.68	
CL08-DO	04/12/13	47.85	5.95	41.90	
CL08-S	04/12/13	47.62	5.60	42.02	DTB = 13.50'
CL09-DO	04/15/13	47.43	4.80	42.63	
CL10-BR	04/16/13	72.28	4.33	67.95	
CL10-BR	10/08/13	72.28	7.80	64.48	
CL10-BR	10/23/13	72.28	7.40	64.88	
CL10-DO	04/16/13	72.54	4.12	68.42	
CL10-DO	10/08/13	72.54	7.26	65.28	
CL10-DO	10/23/13	72.54	7.73	64.81	
CL10-S	04/16/13	72.54	3.96	68.58	
CL10-S	10/08/13	72.54	6.05	66.49	
CL10-S	10/23/13	72.54	6.45	66.09	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
CL11-DO	04/15/13	68.72	19.41	49.31	
CL11-S	04/15/13	68.46	16.13	52.33	
GZ-1	04/12/13	48.28	7.42	40.86	
GZ-4	04/11/13	45.13	4.50	40.63	
GZ-4	10/08/13	45.13	6.53	38.60	
GZ-4	10/23/13	45.13	6.88	38.25	
MW-002	04/15/13	80.08	13.77	66.31	
MW-002	07/19/13	80.08	16.95	63.13	
MW-002	08/06/13	80.08	19.65	60.43	
MW-002	08/20/13	80.08	21.08	59.00	
MW-002	09/06/13	80.08	22.65	57.43	
MW-002	09/18/13	80.08	23.44	56.64	
MW-002R	04/11/13	62.59	3.95	58.64	
MW-002R	05/02/13	62.59	4.47	58.12	
MW-003R	04/11/13	61.28	2.78	58.50	
MW-004R	04/11/13	62.63	2.82	59.81	
MW-004R	05/02/13	62.63	6.68	55.95	
MW-005	10/08/13	69.64	16.52	53.12	
MW-005	10/23/13	69.64	16.72	52.92	
MW-005R	04/11/13	62.96	4.32	58.64	
MW-008	04/11/13	68.96	11.34	57.62	
MW-009	10/22/13	63.48	6.67	56.81	
MW-009A	04/15/13	63.86	5.38	58.48	
MW-009A	10/08/13	63.86	6.49	57.37	
MW-009A	10/23/13	63.86	7.06	56.80	
MW-010	10/08/13	66.16	15.46	50.70	
MW-013	04/15/13	69.11	10.40	58.71	
MW-013	10/08/13	69.11	11.85	57.26	
MW-013	10/23/13	69.11	12.37	56.74	
MW-014A	04/15/13	75.59	15.97	59.62	
MW-016	10/23/13	66.82	15.66	51.16	
MW-030	04/15/13	79.87	8.26	71.61	
MW-030	07/19/13	79.87	11.10	68.77	
MW-030	08/06/13	79.87	12.50	67.37	
MW-030	08/20/13	79.87	13.29	66.58	
MW-030	09/06/13	79.87	14.40	65.47	
MW-030	09/18/13	79.87	15.12	64.75	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
MW-033B	04/15/13	91.16	2.05	89.11	
MW-034	04/16/13	35.30	0.00	35.30	
MW-036	04/12/13	52.64	11.41	41.23	
MW-036	07/19/13	52.64	11.91	40.73	
MW-036	08/06/13	52.64	12.10	40.54	
MW-036	08/20/13	52.64	12.77	39.87	
MW-036	09/06/13	52.64	12.40	40.24	
MW-036	09/18/13	52.64	12.38	40.26	
MW-1_32-TOZER	04/16/13	64.03	8.60	55.43	
MW-2_32-TOZER	04/16/13	70.83	4.83	66.00	
MW-2_32-TOZER	10/08/13	70.83	8.29	62.54	
MW-2_32-TOZER	10/23/13	70.83	8.76	62.07	
MW-4_32-TOZER	04/16/13	54.54	6.54	48.00	
MW-5_32-TOZER	04/16/13	54.61	6.27	48.34	
OB-04-BR	04/12/13	54.40	12.05	42.35	
OB-04-DO	04/12/13	54.35	12.50	41.85	
OB-04-S	04/12/13	53.98	12.70	41.28	
OB-05-BR	04/12/13	49.01	7.75	41.26	
OB-05-DO	04/12/13	49.06	8.00	41.06	
OB-05-DO	07/19/13	49.06	8.40	40.66	
OB-05-DO	08/06/13	49.06	8.59	40.47	
OB-05-DO	08/20/13	49.06	NM	NA	
OB-05-DO	09/06/13	49.06	8.85	40.21	
OB-05-DO	09/18/13	49.06	8.87	40.19	
OB-06-BR	04/12/13	48.70	7.35	41.35	
OB-06-DO	04/12/13	49.21	7.90	41.31	
OB-08-DO	04/11/13	38.29	0.00	38.29	
OB-08-S	04/11/13	38.36	5.95	32.41	
OB-09-BR	04/11/13	65.25	8.81	56.44	
OB-09-BR	10/08/13	65.25	10.68	54.57	
OB-09-BR	10/22/13	65.25	11.04	54.21	
OB-09-DO	04/11/13	65.11	8.71	56.40	
OB-09-DO	10/08/13	65.11	10.70	54.41	
OB-09-DO	10/22/13	65.11	10.96	54.15	
OB-09-S	04/11/13	65.22	7.19	58.03	
OB-09-S	10/22/13	65.22	8.43	56.79	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
OB-10-BR	04/12/13	71.04	17.35	53.69	
OB-10-S	05/02/13	70.91	10.43	60.48	
OB-11-BR	04/17/13	75.37	21.11	54.26	
OB-11-DO	04/17/13	75.50	19.04	56.46	
OB-12-BR	07/19/13	73.67	20.36	53.31	
OB-12-BR	08/06/13	73.67	20.65	53.02	
OB-12-BR	08/20/13	73.67	20.86	52.81	
OB-12-BR	09/06/13	73.67	21.15	52.52	
OB-12-BR	09/18/13	73.67	21.03	52.64	
OB-12-DO	04/17/13	73.54	14.88	58.66	
OB-12-DO	07/19/13	73.54	15.79	57.75	
OB-12-DO	08/06/13	73.54	16.25	57.29	
OB-12-DO	08/20/13	73.54	16.42	57.12	
OB-12-DO	09/06/13	73.54	16.75	56.79	
OB-12-DO	09/18/13	73.54	16.63	56.91	
OB-12-DO	10/08/13	73.54	7.18	66.36	
OB-12-DO	10/24/13	73.54	17.48	56.06	
OB-12-S	04/12/13	73.46	12.85	60.61	
OB-14-DO	04/18/13	75.05	13.00	62.05	
OB-15-S	04/11/13	63.26	4.84	58.42	
OB-15-S	10/22/13	63.26	6.45	56.81	
OB-16-BR	04/16/13	67.61	5.44	62.17	
OB-16-S	04/16/13	67.69	7.11	60.58	
OB-17-BR	04/11/13	49.19	4.65	44.54	
OB-17-DO	04/11/13	48.86	5.79	43.07	
OB-18-DO	04/12/13	45.10	4.02	41.08	
OB-18-S	04/12/13	44.98	4.21	40.77	
OB-18-S	10/08/13	44.98	5.39	39.59	
OB-18-S	10/23/13	44.98	5.65	39.33	
OB-19-DO	04/15/13	74.28	15.78	58.50	
OB-19-DO	07/19/13	74.28	16.63	57.65	
OB-19-DO	08/06/13	74.28	17.10	57.18	
OB-19-DO	08/20/13	74.28	17.27	57.01	
OB-19-DO	09/06/13	74.28	17.80	56.48	
OB-19-DO	09/18/13	74.28	17.83	56.45	
OB-19-DO	10/08/13	74.28	18.30	55.98	
OB-19-DO	10/23/13	74.28	18.45	55.83	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
OB-19-S	04/15/13	73.96	8.46	65.50	
OB-20-BR	04/15/13	43.85	2.94	40.91	
OB-20-DO	04/15/13	43.98	3.02	40.96	
OB-20-S	04/15/13	43.79	2.79	41.00	
OB-20-S	10/08/13	43.79	4.05	39.74	
OB-20-S	10/23/13	43.79	4.23	39.56	
OB-21-BR	04/15/13	43.88	3.04	40.84	
OB-21-DO	04/15/13	43.28	2.44	40.84	
OB-23-BR	04/11/13	56.48	8.78	47.70	
OB-24-S	04/16/13	44.24	1.45	42.79	
OB-25-BR	04/15/13	74.26	22.59	51.67	
OB-25-BR	10/08/13	74.26	24.04	50.22	
OB-25-BR	10/23/13	74.26	24.21	50.05	
OB-25-DO	04/15/13	74.52	21.81	52.71	
OB-25-DO	10/23/13	74.52	23.61	50.91	
OB-26-BR	04/15/13	74.44	20.52	53.92	
OB-26-DO	04/15/13	74.48	14.17	60.31	
OB-26-DO	07/19/13	74.48	14.81	59.67	
OB-26-DO	08/06/13	74.48	15.27	59.21	
OB-26-DO	08/20/13	74.48	15.75	58.73	
OB-26-DO	09/06/13	74.48	16.30	58.18	
OB-26-DO	09/18/13	74.48	16.43	58.05	
OB-26-DO	10/08/13	74.48	16.87	57.61	
OB-26-DO	10/23/13	74.48	17.11	57.37	
OB-27-BR	04/15/13	71.68	26.21	45.47	
OB-27-BR	07/19/13	71.68	26.97	44.71	
OB-27-BR	08/06/13	71.68	27.30	44.38	
OB-27-BR	08/20/13	71.68	27.93	43.75	
OB-27-BR	09/06/13	71.68	27.90	43.78	
OB-27-BR	09/18/13	71.68	27.83	43.85	
OB-27-BR	10/08/13	71.68	28.21	43.47	
OB-27-BR	10/24/13	71.68	28.48	43.20	
OB-27-DO	07/19/13	72.06	23.61	48.45	
OB-27-DO	08/06/13	72.06	24.11	47.95	
OB-27-DO	08/20/13	72.06	24.91	47.15	
OB-27-DO	09/06/13	72.06	25.05	47.01	
OB-27-DO	09/18/13	72.06	25.18	46.88	
OB-28-BR	04/15/13	74.35	20.84	53.51	
OB-28-BR	07/19/13	74.35	21.52	52.83	
OB-28-BR	08/06/13	74.35	21.78	52.57	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
OB-28-BR	08/20/13	74.35	21.94	52.41	
OB-28-BR	09/06/13	74.35	22.20	52.15	
OB-28-BR	09/18/13	74.35	22.11	52.24	
OB-28-DO	04/15/13	74.69	14.52	60.17	
OB-28-DO	07/19/13	74.69	15.28	59.41	
OB-28-DO	08/06/13	74.69	15.80	58.89	
OB-28-DO	08/20/13	74.69	16.04	58.65	
OB-28-DO	09/06/13	74.69	16.50	58.19	
OB-28-DO	09/18/13	74.69	16.93	57.76	
OB-31-DO	04/15/13	81.72	18.98	62.74	
OB-32-DO	04/18/13	75.70	12.05	63.65	
OB-32-DO	07/19/13	75.70	12.42	63.28	
OB-32-DO	08/06/13	75.70	12.95	62.75	
OB-32-DO	08/20/13	75.70	13.05	62.65	
OB-32-DO	09/06/13	75.70	13.60	62.10	
OB-32-DO	09/18/13	75.70	13.69	62.01	
OB-32-DO	10/08/13	75.70	14.36	61.34	
OB-32-DO	10/24/13	75.70	14.79	60.91	
OB-34-DO	04/17/13	75.10	17.02	58.08	
OB-34-DO	07/19/13	75.10	17.28	57.82	
OB-34-DO	08/06/13	75.10	17.61	57.49	
OB-34-DO	08/20/13	75.10	17.36	57.74	
OB-34-DO	09/06/13	75.10	17.70	57.40	
OB-34-DO	09/18/13	75.10	17.53	57.57	
OB-34-DO	10/08/13	75.10	18.05	57.05	
OB-34-DO	10/24/13	75.10	18.37	56.73	
OB-35-DO	04/15/13	81.41	7.35	74.06	
OB-35-DO	07/19/13	81.41	9.91	71.50	
OB-35-DO	08/06/13	81.41	NM	NA	
OB-35-DO	08/20/13	81.41	NM	NA	
OB-35-DO	09/06/13	81.41	NM	NA	
OB-35-DO	09/18/13	81.41	NM	NA	
OB-35-DO	10/08/13	81.41	12.38	69.03	
OB-35-DO	10/24/13	81.41	13.23	68.18	
OB-36-DO	04/15/13	75.92	17.75	58.17	
OB-36-DO	07/19/13	75.92	18.49	57.43	
OB-36-DO	08/06/13	75.92	NM	NA	
OB-36-DO	08/20/13	75.92	NM	NA	
OB-36-DO	09/06/13	75.92	NM	NA	
OB-36-DO	09/18/13	75.92	24.79	51.13	
OB-36-DO	10/08/13	75.92	22.35	53.57	
OB-36-DO	10/24/13	75.92	21.77	54.15	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
OB-37-DO	04/15/13	75.86	18.16	57.70	
OB-37-DO	07/19/13	75.86	19.46	56.40	
OB-37-DO	08/06/13	75.86	18.81	57.05	
OB-37-DO	08/20/13	75.86	19.05	56.81	
OB-37-DO	09/06/13	75.86	19.30	56.56	
OB-37-DO	09/18/13	75.86	19.47	56.39	
OB-37-DO	10/08/13	75.86	20.53	55.33	
OB-37-DO	10/24/13	75.86	20.42	55.44	
OB-38-DO	04/15/13	77.45	7.12	70.33	
OB-38-DO	07/19/13	77.45	8.02	69.43	
OB-38-DO	08/06/13	77.45	8.12	69.33	
OB-38-DO	08/20/13	77.45	8.73	68.72	
OB-38-DO	09/06/13	77.45	9.12	68.33	
OB-38-DO	09/18/13	77.45	9.20	68.25	
OB-38-DO	10/08/13	77.45	9.50	67.95	
OB-38-DO	10/23/13	77.45	10.17	67.28	
OB-39-DO	04/15/13	79.01	16.56	62.45	
OB-39-DO	07/19/13	79.01	18.08	60.93	
OB-39-DO	08/06/13	79.01	19.65	59.36	
OB-39-DO	08/20/13	79.01	19.22	59.79	
OB-39-DO	09/06/13	79.01	20.70	58.31	
OB-39-DO	09/18/13	79.01	20.11	58.90	
OB-41-S	04/12/13	33.26	4.25	29.01	
OB-41-S	10/08/13	33.26	4.20	29.06	
OB-41-S	10/23/13	33.26	4.22	29.04	
OB-42-S	04/12/13	51.40	5.62	45.78	
OB-42-S	10/08/13	51.40	6.19	45.21	
OB-42-S	10/23/13	51.40	6.01	45.39	
OB-43-S	04/12/13	52.58	11.60	40.98	
OB-43-S	10/08/13	52.58	12.78	39.80	
OB-43-S	10/23/13	52.58	13.01	39.57	
P-09R	04/18/13	37.86	3.80	34.06	
P-09R	05/02/13	37.86	3.96	33.90	
P-09R	10/08/13	37.86	3.52	34.34	
P-09R	10/23/13	37.86	4.51	33.35	
P-11R	04/12/13	47.92	6.35	41.57	
P-19A	04/12/13	47.51	7.95	39.56	
P-19A	10/08/13	47.51	9.51	38.00	
P-19A	10/23/13	47.51	9.72	37.79	
P-20R	05/02/13	42.56	2.34	40.22	
RW-20	07/19/13	48.54	7.95	40.59	
RW-20	08/06/13	48.54	8.01	40.53	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
RW-20	08/20/13	48.54	7.30	41.24	
RW-20	09/06/13	48.54	8.45	40.09	
RW-20	09/18/13	48.54	8.40	40.14	
RW-21	07/19/13	48.47	7.10	41.37	
RW-21	08/06/13	48.47	7.28	41.19	
RW-21	08/20/13	48.47	7.41	41.06	
RW-21	09/06/13	48.47	7.60	40.87	
RW-21	09/18/13	48.47	7.62	40.85	
RW-22	04/15/13	75.15	21.52	53.63	
UNNAMED_STREAM	10/23/13	NA	Dry	NA	
W-1	04/11/13	51.37	4.60	46.77	
W-1	05/02/13	51.37	4.75	46.62	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

GROUNDWATER PHYSICAL PARAMETER DATA

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
AP-12-BR	07/19/13	Dark Purple	--	--	--	--
AP-12-BR	08/06/13	Dark Purple	--	--	--	--
AP-12-BR	08/20/13	Dark Purple	--	--	--	--
AP-12-BR	09/06/13	Dark Purple	--	--	--	--
AP-12-BR	09/18/13	Dark Purple	--	--	--	--
AP-12-DO	07/19/13	Dark Purple	--	--	--	--
AP-12-DO	08/06/13	Light Purple	--	--	--	--
AP-12-DO	08/20/13	Dark Purple	--	--	--	--
AP-12-DO	09/06/13	Dark Purple	--	--	--	--
AP-12-DO	09/18/13	Dark Purple	--	--	--	--
AP-13-DO	05/02/13	Purple	398.5	6.30	7.476	0.87
AP-13-DO	08/06/13	Clear	219.1	8.03	0.008	8.72
AP-13-DO	08/20/13	Clear	106.0	6.74	0.332	0.43
AP-13-DO	09/06/13	Clear	--	--	--	--
AP-26-DO	07/19/13	Clear	152.6	6.93	0.395	6.48
AP-26-DO	08/06/13	Dark Purple	--	--	--	--
AP-26-DO	08/20/13	Dark Purple	--	--	--	--
AP-26-DO	09/06/13	Dark Purple	--	--	--	--
AP-26-DO	09/18/13	Dark Purple	--	--	--	--
AP-27-DO	07/19/13	Light Purple	--	--	--	--
AP-27-DO	08/06/13	Clear	271.9	7.92	0.948	2.40
AP-27-DO	08/20/13	Clear	36.5	8.02	0.751	2.43
AP-27-DO	09/06/13	Clear	287.8	7.95	0.600	1.03
AP-27-DO	09/18/13	Clear	237.5	7.73	0.904	0.87
AP-30R-DO	07/19/13	Dark Purple	--	--	--	--
AP-31-DO	07/19/13	Light Purple	--	--	--	--
AP-31-DO	08/06/13	Dark Purple	--	--	--	--
AP-31-DO	08/20/13	Dark Purple	--	--	--	--
AP-31-DO	09/06/13	Dark Purple	--	--	--	--
AP-31-DO	09/18/13	Dark Purple	--	--	--	--
AP-32-DO	07/19/13	Light Purple	--	--	--	--
AP-32-DO	08/06/13	Dark Purple	--	--	--	--
AP-32-DO	08/20/13	Dark Purple	--	--	--	--
AP-32-DO	09/06/13	Dark Purple	--	--	--	--
AP-32-DO	09/18/13	Dark Purple	--	--	--	--
CL03-BR	07/19/13	Clear	84.2	10.06	0.223	0.52
CL03-BR	08/06/13	Clear	-44.6	10.19	0.328	0.68
CL03-BR	08/20/13	Clear	85.0	10.08	0.244	0.15
CL03-BR	09/06/13	Clear	-208.9	10.18	0.283	0.82
CL03-BR	09/18/13	Clear	-169.1	10.25	0.237	0.58
CL03-DO	07/19/13	Clear	134.2	6.81	0.124	4.37
CL03-DO	08/06/13	Clear	78.8	7.01	0.184	2.61

NOTES: -- = Not Analyzed
mV=millivolts

ORP= Oxidation reduction potential
S/m= Siemens per meter

Deg.C= Degrees Celcius

GROUNDWATER PHYSICAL PARAMETER DATA

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
CL03-DO	08/20/13	Clear	135.7	7.11	0.131	1.87
CL03-DO	09/06/13	Clear	-31.0	7.86	0.154	1.49
CL03-DO	09/18/13	Dark Purple	--	--	--	--
MW-002	07/19/13	Clear	62.9	6.21	0.220	0.66
MW-002	08/06/13	Clear	231.1	6.55	0.349	1.11
MW-002	08/20/13	Clear	139.3	6.32	0.288	0.60
MW-002	09/06/13	Clear	35.3	7.20	0.382	1.17
MW-002	09/18/13	Clear	60.2	6.46	0.329	1.50
MW-030	07/19/13	Clear	216.0	5.50	4.086	9.80
MW-030	08/06/13	Clear	306.6	5.88	7.361	8.12
MW-030	08/20/13	Clear	349.1	6.03	6.237	8.02
MW-030	09/06/13	Clear	287.9	7.21	7.053	6.42
MW-030	09/18/13	Clear	251.1	5.78	6.660	7.34
MW-036	07/19/13	Clear	82.3	6.68	0.710	0.49
MW-036	08/06/13	Clear	112.1	6.68	1.040	1.79
MW-036	08/20/13	Clear	96.1	6.86	0.759	0.13
MW-036	09/06/13	Clear	108.0	7.06	0.568	0.53
MW-036	09/18/13	Clear	61.8	6.57	0.895	0.48
OB-05-DO	07/19/13	Clear	45.9	6.53	0.157	0.56
OB-05-DO	08/06/13	Clear	79.3	6.85	0.222	0.64
OB-05-DO	08/20/13	Clear	1.7	6.70	0.162	0.32
OB-05-DO	09/06/13	Clear	-50.1	7.78	0.189	1.19
OB-05-DO	09/18/13	Clear	-51.9	6.81	0.159	0.51
OB-12-BR	07/19/13	Clear	43.5	10.21	0.086	0.47
OB-12-BR	08/06/13	Clear	49.9	10.34	0.125	1.88
OB-12-BR	08/20/13	Clear	82.7	10.21	0.091	1.11
OB-12-BR	09/06/13	Clear	46.7	10.01	0.105	2.93
OB-12-BR	09/18/13	Clear	-63.9	10.43	0.094	0.39
OB-12-DO	07/19/13	Light Purple	--	--	--	--
OB-12-DO	08/06/13	Clear	395.7	7.11	0.658	44.67
OB-12-DO	08/20/13	Clear	484.2	6.80	0.524	49.94
OB-12-DO	09/06/13	Clear	204.4	7.87	0.508	39.82
OB-12-DO	09/18/13	Light Purple	--	--	--	--
OB-19-DO	07/19/13	Clear	-3.3	7.20	0.535	0.78
OB-19-DO	08/06/13	Clear	402.1	7.27	0.593	0.89
OB-19-DO	08/20/13	Clear	78.7	7.18	0.739	0.23
OB-19-DO	09/06/13	Clear	97.7	7.77	0.516	0.63
OB-19-DO	09/18/13	Clear	-55.2	7.22	0.566	0.73
OB-26-DO	07/19/13	Clear	110.5	7.53	0.312	0.41
OB-26-DO	08/06/13	Clear	301.5	7.20	0.354	1.76
OB-26-DO	08/20/13	Clear	150.3	7.78	0.403	0.43
OB-26-DO	09/06/13	Clear	69.7	8.37	0.319	0.65
OB-26-DO	09/18/13	Clear	-25.8	7.61	0.445	0.55

NOTES: -- = Not Analyzed
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S/m= Siemens per meter

Deg.C= Degrees Celcius

GROUNDWATER PHYSICAL PARAMETER DATA

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
OB-27-BR	07/19/13	Dark Purple	--	--	--	--
OB-27-BR	08/06/13	Dark Purple	--	--	--	--
OB-27-BR	08/20/13	Dark Purple	--	--	--	--
OB-27-BR	09/06/13	Dark Purple	--	--	--	--
OB-27-BR	09/18/13	Dark Purple	--	--	--	--
OB-27-DO	07/19/13	Clear	146.7	6.23	1.130	2.43
OB-27-DO	08/06/13	Clear	311.0	6.55	0.976	4.98
OB-27-DO	08/20/13	Clear	225.1	6.38	0.929	2.86
OB-27-DO	09/06/13	Clear	138.3	6.92	1.443	2.02
OB-27-DO	09/18/13	Clear	150.8	6.40	1.325	1.67
OB-28-BR	07/19/13	Clear	50.0	11.54	1.027	0.47
OB-28-BR	08/06/13	Clear	53.8	11.74	1.207	1.35
OB-28-BR	08/20/13	Clear	136.1	11.75	0.986	0.31
OB-28-BR	09/06/13	Clear	-18.7	12.16	1.231	1.41
OB-28-BR	09/18/13	Clear	-162.1	11.85	0.946	0.49
OB-28-DO	07/19/13	Clear	93.8	8.47	0.513	0.43
OB-28-DO	08/06/13	Clear	231.3	8.47	0.688	0.98
OB-28-DO	08/20/13	Clear	199.5	8.39	0.546	0.34
OB-28-DO	09/06/13	Clear	23.4	9.18	0.592	0.75
OB-28-DO	09/18/13	Clear	-46.7	8.49	0.528	0.69
OB-32-DO	07/19/13	Dark Purple	--	--	--	--
OB-32-DO	08/06/13	Light Purple	--	--	--	--
OB-32-DO	08/20/13	Light Purple	--	--	--	--
OB-32-DO	09/06/13	Light Purple	--	--	--	--
OB-32-DO	09/18/13	Dark Purple	--	--	--	--
OB-34-DO	07/19/13	Light Purple	--	--	--	--
OB-34-DO	08/06/13	Clear	489.8	8.44	0.420	3.13
OB-34-DO	08/20/13	Clear	473.7	8.50	0.325	2.39
OB-34-DO	09/06/13	Clear	518.6	8.84	0.355	4.42
OB-34-DO	09/18/13	Light Purple	--	--	--	--
OB-35-DO	07/19/13	Clear	106.9	7.58	0.926	0.40
OB-35-DO	08/06/13	Dark Purple	--	--	--	--
OB-35-DO	08/20/13	Dark Purple	--	--	--	--
OB-35-DO	09/06/13	Dark Purple	--	--	--	--
OB-35-DO	09/18/13	Dark Purple	--	--	--	--
OB-36-DO	07/19/13	Clear	138.2	7.47	0.225	5.71
OB-36-DO	08/06/13	Dark Purple	--	--	--	--
OB-36-DO	08/20/13	Dark Purple	--	--	--	--
OB-36-DO	09/06/13	Dark Purple	--	--	--	--
OB-36-DO	09/18/13	Dark Purple	--	--	--	--
OB-37-DO	07/19/13	Light Purple	--	--	--	--
OB-37-DO	08/06/13	Clear	--	--	--	--
OB-37-DO	08/20/13	Clear	--	--	--	--

NOTES: -- = Not Analyzed
mV=millivolts

ORP= Oxidation reduction potential
S/m= Siemens per meter

Deg.C= Degrees Celcius

GROUNDWATER PHYSICAL PARAMETER DATA

Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
OB-37-DO	09/06/13	Clear	--	--	--	--
OB-37-DO	09/18/13	Light Pink	--	--	--	--
OB-38-DO	07/19/13	Clear	-61.0	8.80	1.079	0.60
OB-38-DO	08/06/13	Clear	167.0	7.93	0.375	0.90
OB-38-DO	08/20/13	Clear	-90.9	7.87	0.407	0.87
OB-38-DO	09/06/13	Clear	265.9	7.85	0.116	0.69
OB-38-DO	09/18/13	Clear	-147.0	8.45	0.215	0.50
OB-39-DO	07/19/13	Clear	-2.2	7.81	0.286	0.58
OB-39-DO	08/06/13	Clear	131.2	10.76	0.427	3.33
OB-39-DO	08/20/13	Clear	273.8	8.80	0.176	0.74
OB-39-DO	09/06/13	Clear	87.7	11.06	0.379	2.57
OB-39-DO	09/18/13	Clear	-55.7	7.77	0.293	0.83
RW-20	07/19/13	Clear	-428.6	9.17	0.767	0.16
RW-20	08/06/13	Clear	-334.1	8.38	1.324	1.68
RW-20	08/20/13	Clear	1.31	8.81	0.679	0.20
RW-20	09/06/13	Clear	-341.8	8.50	1.226	0.26
RW-20	09/18/13	Clear	-426.8	9.07	0.982	0.37
RW-21	07/19/13	Clear	-348.2	9.73	0.094	0.18
RW-21	08/06/13	Clear	5.8	9.77	0.138	1.00
RW-21	08/20/13	Clear	50.5	9.72	0.098	0.39
RW-21	09/06/13	Clear	-159.8	9.36	0.140	0.68
RW-21	09/18/13	Clear	-323.9	9.98	0.116	0.61
UNNAMED_STREAM	08/06/13	Clear	--	--	--	--
UNNAMED_STREAM	08/20/13	Clear	--	--	--	--
UNNAMED_STREAM	09/06/13	Clear	--	--	--	--
UNNAMED_STREAM	09/18/13	Clear	--	--	--	--

NOTES: -- = Not Analyzed
mV=millivolts

ORP= Oxidation reduction potential
S/m= Siemens per meter

Deg.C= Degrees Celcius

APPENDIX C

LABORATORY ANALYTICAL REPORTS

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc **Job Number :** 146899.01
Prepared By: Jennifer Gailey **Date :** 7/11/2013
Matrix: Air
Analyte Group : Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1302118
Chain of Custody included in Data Package ? Yes **Is it Complete ?** Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
3/29/13	VOC TO-15		30 Days	4/5/13

Sample temperature within QC limits: NA - Air

Surrogate Recovery

Are all % recoveries within the allowable range ? **Yes**

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? Yes

If no, list sample ID where range was exceeded: NA

Equipment Field Blank ID : NA

Trip Blank ID : NA

Method Blank: EPA TO-15 4/5/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

Reviewed By: Pernilla Haley - 7/15/13



April 15, 2013

Service Request No: R1302118

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly Air Samples/146899

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on April 2, 2013. For your reference, these analyses have been assigned our service request number **R1302118**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Michael Perry
Laboratory Manager

Page 1 of 20

ALS Environmental

Client: CB&I.
Project: Varian Beverly
Sample Matrix: Air

Service Request No.: R1302118
Project No.: 146899
Date Received: 4/02/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS environmental. This report contains analytical results for samples designated for Tier II, MASS. CAM deliverables. When appropriate to the method, blank and LCS results have been reported with each analytical test.

Sample Receipt

CB&I air samples were collected on 3/29/13 and received at ALS in good condition as noted on the receipt and preservation check form. The samples were stored in the laboratory at room temperature prior to analysis. See the ALS case narrative for a cross-reference between Client ID and ALS Job #.

TO - 15 Air Analysis

Three air samples were analyzed for a site list of Volatile Organics by EPA method TO-15.

All samples were initially analyzed at appropriate dilutions based on prescreening of the samples and/or historical data to bring the target analytes within the calibration range of the method.

All initial and continuing calibrations were compliant.

All surrogate standard recoveries were within QC limits.

The LCS recoveries were all within QC limits of 70 – 130 %. All RPD data were within QC limits.

No other analytical or QC problems were encountered with these analyses.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146899

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
 R1302118-001 - 003

 Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water ☒ Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B <input checked="" type="checkbox"/>
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
----------	-----------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (Site list as requested)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

 Signature: Michael K. Perry

 Position: Laboratory Manager

 Printed Name: Michael K. Perry

 Date: 4/15/13

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CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1302118

<u>Lab ID</u>	<u>Client ID</u>
R1302118-001	BLDG3-VP-1
R1302118-002	BLDG3-VP-2
R1302118-003	BLDG3-VP-3

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for Massachusetts Certification
M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

COLUMBIA ANALYTICAL SERVICES
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in dark ink, appearing to read "Oscar C. Saccala".

Director, Division of Environmental Analysis

Issued: 01 JUL 2012

Expires: 30 JUN 2013

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>				<u>Methods</u>
ALUMINUM				EPA 200.7
ANTIMONY				EPA 200.7
ANTIMONY				EPA 200.8
ARSENIC				EPA 200.7
ARSENIC				EPA 200.8
BERYLLIUM				EPA 200.7
BERYLLIUM				EPA 200.8
CADMIUM				EPA 200.7
CADMIUM				EPA 200.8
CHROMIUM				EPA 200.7
CHROMIUM				EPA 200.8
COBALT				EPA 200.7
COBALT				EPA 200.8
COPPER				EPA 200.7
COPPER				EPA 200.8
IRON				EPA 200.7
LEAD				EPA 200.7
LEAD				EPA 200.8
MANGANESE				EPA 200.7
MANGANESE				EPA 200.8
MERCURY				EPA 245.1
MOLYBDENUM				EPA 200.7
MOLYBDENUM				EPA 200.8
NICKEL				EPA 200.7
NICKEL				EPA 200.8
SELENIUM				EPA 200.7
SELENIUM				EPA 200.8
SILVER				EPA 200.7
SILVER				EPA 200.8
THALLIUM				EPA 200.7
THALLIUM				EPA 200.8
VANADIUM				EPA 200.7
VANADIUM				EPA 200.8
ZINC				EPA 200.7
ZINC				EPA 200.8
SPECIFIC CONDUCTIVITY				EPA 120.1
TOTAL DISSOLVED SOLIDS				SM 2540C
HARDNESS (CaCO3), TOTAL				SM 2340C
CALCIUM				EPA 200.7
MAGNESIUM				EPA 200.7
SODIUM				EPA 200.7
POTASSIUM				EPA 200.7
ALKALINITY, TOTAL				SM 2320B

June 29, 2012

*= Provisional Certification

Page 1 of 2

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY) Effective Date 01 JUL 2012 Expiration Date 30 JUN 2013

<u>Analytes</u>	<u>Methods</u>
CHLORIDE	SM 4500-CL-E
CHLORIDE	EPA 300.0
FLUORIDE	EPA 300.0
SULFATE	EPA 300.0
AMMONIA-N	EPA 350.1
NITRATE-N	EPA 300.0
NITRATE-N	EPA 353.2
KJELDAHL-N	EPA 351.2
ORTHOPHOSPHATE	EPA 365.1
PHOSPHORUS, TOTAL	EPA 365.1
CHEMICAL OXYGEN DEMAND	EPA 410.4
BIOCHEMICAL OXYGEN DEMAND	SM 5210B
TOTAL ORGANIC CARBON	SM 5310C
CYANIDE, TOTAL	EPA 335.4
NON-FILTERABLE RESIDUE	SM 2540D
OIL AND GREASE	EPA 1664
PHENOLICS, TOTAL	EPA 420.4
VOLATILE HALOCARBONS	EPA 601
VOLATILE HALOCARBONS	EPA 624
VOLATILE AROMATICS	EPA 602
VOLATILE AROMATICS	EPA 624
SVOC-ACID EXTRACTABLES	EPA 625
SVOC-BASE/NEUTRAL EXTRACTABLES	EPA 625
POLYCHLORINATED BIPHENYLS (WATER)	EPA 608

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146899
 Sample Matrix: Air
 Sample Name: BLDG3-VP-1
 Lab Code: R1302118-001

Service Request: R1302118
 Date Collected: 3/29/13 1340
 Date Received: 4/2/13

Analytical Method: TO-15

Date Analyzed: 4/5/13 1134
 Canister Dilution Factor: 1.56

Initial Pressure (psig): -3.05

Final Pressure (psig): 3.53

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	165	4.3	4.3	2.1	2.1	U
75-01-4	Vinyl Chloride	165	0.57	0.57	0.22	0.22	U
74-83-9	Bromomethane	165	4.1	4.1	1.0	1.0	U
75-00-3	Chloroethane	165	5.5	5.5	2.1	2.1	U
67-64-1	Acetone	165	120	47	50	20	
75-69-4	Trichlorofluoromethane (CFC 11)	165	5.9	5.9	1.0	1.0	U
75-35-4	1,1-Dichloroethene	165	4.2	4.2	1.0	1.0	U
75-09-2	Methylene Chloride	165	3.6	3.6	1.0	1.0	U
156-60-5	trans-1,2-Dichloroethene	165	4.2	4.2	1.0	1.0	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	165	4.3	4.3	1.1	1.1	U
156-59-2	cis-1,2-Dichloroethene	165	4.2	4.2	1.0	1.0	U
67-66-3	Chloroform	165	9.5	5.1	1.9	1.0	
107-06-2	1,2-Dichloroethane	165	4.3	4.3	1.1	1.1	U
71-55-6	1,1,1-Trichloroethane (TCA)	165	5.7	5.7	1.0	1.0	U
56-23-5	Carbon Tetrachloride	165	0.66	0.66	0.11	0.11	U
78-87-5	1,2-Dichloropropane	165	4.8	4.8	1.0	1.0	U
75-27-4	Bromodichloromethane	165	1.4	1.4	0.21	0.21	U
79-01-6	Trichloroethene (TCE)	165	150	0.57	29	0.11	
10061-01-5	cis-1,3-Dichloropropene	165	9.5	9.5	2.1	2.1	U
10061-02-6	trans-1,3-Dichloropropene	165	4.7	4.7	1.0	1.0	U
79-00-5	1,1,2-Trichloroethane	165	5.7	5.7	1.0	1.0	U
124-48-1	Dibromochloromethane	165	1.8	1.8	0.21	0.21	U
127-18-4	Tetrachloroethene (PCE)	165	500	0.76	73	0.11	
108-90-7	Chlorobenzene	165	4.8	4.8	1.0	1.0	U
100-41-4	Ethylbenzene	165	26	9.0	6.0	2.1	
179601-23-1	m,p-Xylenes	165	100	18	24	4.2	
75-25-2	Bromoform	165	11	11	1.0	1.0	U
95-47-6	o-Xylene	165	14	9.0	3.3	2.1	
79-34-5	1,1,2,2-Tetrachloroethane	165	1.4	1.4	0.21	0.21	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	104	70-130	4/5/13 1134	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG3-VP-2
Lab Code: R1302118-002

Service Request: R1302118
Date Collected: 3/29/13 1341
Date Received: 4/2/13

Analytical Method: TO-15

Date Analyzed: 4/5/13 1217
Canister Dilution Factor: 1.59

Initial Pressure (psig): -3.05

Final Pressure (psig): 3.82

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	100	7.2	7.2	3.5	3.5	U
75-01-4	Vinyl Chloride	100	0.95	0.95	0.37	0.37	U
74-83-9	Bromomethane	100	6.8	6.8	1.8	1.8	U
75-00-3	Chloroethane	100	9.2	9.2	3.5	3.5	U
67-64-1	Acetone	100	320	80	140	33	
75-69-4	Trichlorofluoromethane (CFC 11)	100	9.9	9.9	1.8	1.8	U
75-35-4	1,1-Dichloroethene	100	7.0	7.0	1.8	1.8	U
75-09-2	Methylene Chloride	100	6.0	6.0	1.7	1.7	U
156-60-5	trans-1,2-Dichloroethene	100	7.0	7.0	1.8	1.8	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	7.2	7.2	1.8	1.8	U
156-59-2	cis-1,2-Dichloroethene	100	7.0	7.0	1.8	1.8	U
67-66-3	Chloroform	100	13	8.6	2.7	1.8	
107-06-2	1,2-Dichloroethane	100	7.2	7.2	1.8	1.8	U
71-55-6	1,1,1-Trichloroethane (TCA)	100	9.5	9.5	1.7	1.7	U
56-23-5	Carbon Tetrachloride	100	1.1	1.1	0.18	0.18	U
78-87-5	1,2-Dichloropropane	100	8.1	8.1	1.8	1.8	U
75-27-4	Bromodichloromethane	100	2.4	2.4	0.36	0.36	U
79-01-6	Trichloroethene (TCE)	100	11	0.95	2.1	0.18	
10061-01-5	cis-1,3-Dichloropropene	100	16	16	3.5	3.5	U
10061-02-6	trans-1,3-Dichloropropene	100	8.0	8.0	1.8	1.8	U
79-00-5	1,1,2-Trichloroethane	100	9.5	9.5	1.7	1.7	U
124-48-1	Dibromochloromethane	100	3.0	3.0	0.35	0.35	U
127-18-4	Tetrachloroethene (PCE)	100	26	1.3	3.9	0.19	
108-90-7	Chlorobenzene	100	8.1	8.1	1.8	1.8	U
100-41-4	Ethylbenzene	100	15	15	3.5	3.5	U
179601-23-1	m,p-Xylenes	100	30	30	7.0	7.0	U
75-25-2	Bromoform	100	18	18	1.8	1.8	U
95-47-6	o-Xylene	100	15	15	3.5	3.5	U
79-34-5	1,1,2,2-Tetrachloroethane	100	2.4	2.4	0.35	0.35	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	106	70-130	4/5/13 1217	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG3-VP-3
Lab Code: R1302118-003

Service Request: R1302118
Date Collected: 3/29/13 1342
Date Received: 4/2/13

Analytical Method: TO-15

Date Analyzed: 4/5/13 1300
Canister Dilution Factor: 1.57

Initial Pressure (psig): -3.05 Final Pressure (psig): 3.62

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	90	7.9	7.9	3.8	3.8	U
75-01-4	Vinyl Chloride	90	1.0	1.0	0.41	0.41	U
74-83-9	Bromomethane	90	7.5	7.5	1.9	1.9	U
75-00-3	Chloroethane	90	10	10	3.8	3.8	U
67-64-1	Acetone	90	140	87	59	37	
75-69-4	Trichlorofluoromethane (CFC 11)	90	11	11	1.9	1.9	U
75-35-4	1,1-Dichloroethene	90	7.7	7.7	1.9	1.9	U
75-09-2	Methylene Chloride	90	6.6	6.6	1.9	1.9	U
156-60-5	trans-1,2-Dichloroethene	90	7.7	7.7	1.9	1.9	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	90	7.9	7.9	1.9	1.9	U
156-59-2	cis-1,2-Dichloroethene	90	22	7.7	5.6	1.9	
67-66-3	Chloroform	90	17	9.4	3.5	1.9	
107-06-2	1,2-Dichloroethane	90	7.9	7.9	1.9	1.9	U
71-55-6	1,1,1-Trichloroethane (TCA)	90	10	10	1.9	1.9	U
56-23-5	Carbon Tetrachloride	90	1.2	1.2	0.19	0.19	U
78-87-5	1,2-Dichloropropane	90	8.9	8.9	1.9	1.9	U
75-27-4	Bromodichloromethane	90	2.6	2.6	0.39	0.39	U
79-01-6	Trichloroethene (TCE)	90	390	1.0	73	0.19	
10061-01-5	cis-1,3-Dichloropropene	90	17	17	3.8	3.8	U
10061-02-6	trans-1,3-Dichloropropene	90	8.7	8.7	1.9	1.9	U
79-00-5	1,1,2-Trichloroethane	90	10	10	1.9	1.9	U
124-48-1	Dibromochloromethane	90	3.3	3.3	0.39	0.39	U
127-18-4	Tetrachloroethene (PCE)	90	960	1.4	140	0.21	
108-90-7	Chlorobenzene	90	8.9	8.9	1.9	1.9	U
100-41-4	Ethylbenzene	90	17	17	3.8	3.8	U
179601-23-1	m,p-Xylenes	90	33	33	7.7	7.7	U
75-25-2	Bromoform	90	20	20	1.9	1.9	U
95-47-6	o-Xylene	90	17	17	3.8	3.8	U
79-34-5	1,1,2,2-Tetrachloroethane	90	2.6	2.6	0.38	0.38	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	106	70-130	4/5/13 1300	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1303344-01

Service Request: R1302118
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 4/5/13 1000

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
100-41-4	Ethylbenzene	1000	0.95	0.95	0.22	0.22	U
179601-23-1	m,p-Xylenes	1000	1.9	1.9	0.44	0.44	U
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
95-47-6	o-Xylene	1000	0.95	0.95	0.22	0.22	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	4/5/13 1000	

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly Air Samples/146899
 Sample Matrix: Air

Service Request: R1302118
 Date Analyzed: 4/ 5/13

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: $\mu\text{g}/\text{m}^3$
 Basis: NA

Analysis Lot: 335600

Lab Control Sample
 RQ1303344-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.98	5.26	95	70 - 130
Vinyl Chloride	6.97	6.58	106	70 - 130
Bromomethane	10.6	9.89	107	70 - 130
Chloroethane	6.94	6.66	104	70 - 130
Acetone	6.26	6.47	97	50 - 150
Trichlorofluoromethane (CFC 11)	16.3	14.3	114	70 - 130
1,1-Dichloroethene	10.8	10.4	104	70 - 130
Methylene Chloride	8.58	9.03	95	70 - 130
trans-1,2-Dichloroethene	10.2	10.4	98	70 - 130
1,1-Dichloroethane (1,1-DCA)	10.0	10.5	95	70 - 130
cis-1,2-Dichloroethene	9.88	10.5	94	70 - 130
Chloroform	13.0	13.2	99	70 - 130
1,2-Dichloroethane	12.7	10.6	119	70 - 130
1,1,1-Trichloroethane (TCA)	16.0	14.3	112	70 - 130
Carbon Tetrachloride	17.9	15.9	113	70 - 130
1,2-Dichloropropane	11.3	12.1	93	70 - 130
Bromodichloromethane	18.8	17.4	108	70 - 130
Trichloroethene (TCE)	14.6	14.0	105	70 - 130
cis-1,3-Dichloropropene	13.0	12.3	106	70 - 130
trans-1,3-Dichloropropene	11.6	11.0	106	70 - 130
1,1,2-Trichloroethane	14.4	14.6	99	70 - 130
Dibromochloromethane	25.1	23.4	107	70 - 130
Tetrachloroethene (PCE)	19.9	18.0	111	70 - 130
Chlorobenzene	13.0	12.3	106	70 - 130
Ethylbenzene	11.9	11.5	104	70 - 130
m,p-Xylenes	23.6	22.4	106	70 - 130
Bromoform	31.0	26.6	117	70 - 130
o-Xylene	12.1	11.9	101	70 - 130
1,1,2,2-Tetrachloroethane	16.6	18.9	88	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TITLE TO-15

Continued from page

Leak Check: 0.9 psia \rightarrow 1.5 in 617 sec.

Pressures: He = 20.9 psia, IS = 19.5 psia, ATM = 14.5 psia

Volumes: IS = 250 mL #56130, Nominal Sample Vol. = 1000 mL

Methods: Tune = BFB.V, GC/MS = 126712.M, Entech = CAS.MPT

AS. PDS.	VOL (mL)	Sample	File #	OK?/Comments
14	500	ROOM AIR	B4030	-
14	500	ROOM AIR	B4031	-
14	0	TUNE CHECK	B4032	Y (06:24)
15	500	CCV # 55850	B4033	Y 1/2-DCBT
16	250	LCS # 55851	B4034	Y
1	1000	MEPBLK U2 Air-direct #53097	B4035	Y
2	1000	CLNBLK #15C00739	B4036	Y PASS 43+TICS
3	165	R1302118-001	B4037	Y
4	100	-002	B4038	Y
5	90	-003	B4039	Y
5	90	-003 DUP	B4040	Y
SYR	0.86	R1302165-003	B4041	Y
SYR	19	-006	B4042	Y
SYR	6.1	-007	B4043	Y
SYR	0.40	-008	B4044	Y
SYR	16	-009	B4045	Y
7	1000	-001	B4046	Y
8	600	-002	B4047	Y
9	330	-004	B4048	Y NT-Ethanol 260K upper limit
10	1000	-005	B4049	Y
11	500	Room Air	B4050	-

RTH 4/5/13

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

PROPRIETARY INFORMATION

00014

Client: CB&I

Folder: R1302118

Project: Varian Beverly Air Samples 146899

Detailed Sample Information

<u>CAS Sample ID</u>	<u>Client Sample ID</u>	<u>Container Type</u>	<u>Pi1</u> (Hg)	<u>Pi1</u> (psig)	<u>Pf1</u>	<u>Pi2</u> (Hg)	<u>Pi2</u> (psig)	<u>Pf2</u>	<u>Cont ID</u>	<u>Order #</u>	<u>FC ID</u>
R1302118-001.01	BLDG3-VP-1	6.0 L-Non-Specified SC	-6.20	-3.05	3.53				SLC00242	38286	FC00756
R1302118-002.01	BLDG3-VP-2	6.0 L-Non-Specified SC	-6.20	-3.05	3.82				SLC00187	38286	FC00755
R1302118-003.01	BLDG3-VP-3	6.0 L-Non-Specified SC	-6.20	-3.05	3.62				SLC00199	38286	FC00727

Miscellaneous Items - received

000151

Folder # R1302118

[illegible]



ALS Environmental
1565 Jefferson Rd, Building 300
Suite 360
Rochester, NY 14623
Ph. 585-288-5380
Fax 585-288-8475

QC Certification

<u>Container IDs</u>	<u>Cleaned Date</u>	<u>Date Analyzed</u>	<u>QC Results</u>	<u>Comments</u>
FC00727	2/28/13	2/28/13		
FC00755	2/28/13	2/28/13		
FC00756	2/28/13	2/28/13		
SLC00187	3/14/13	3/19/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00199	3/14/13	3/19/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00242	3/14/13	3/19/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)

00017

* QC Canister

Sample Collection Supplies



T019262

Client: CB&I
Project: Varian Beverly
SDG Name: Varian Beverly Air Samples

P.O. Number: 821947

Shipped To: Wayne Holt
12 Blunt Drive
Salem, NH 03038

E-mail: wayne.holt@shawgrp.com

Phone: 617-212-8278

Order #: 38286
Date Required: 3/27/13
Project Chemist: Michael Perry
Phone Number: 585-288-5380 x7469

Shipped Date: 03/25/2013

Shipping Cost: \$ 0.00

Comments: **Bag containers by sample template.**

Grouped by Container Type

ID	Container	Shipped Pressure
3	6.0L-Non-Specified	
FC00727	1 each-Flow Controller Stainless Steel	
FC00755	1 each-Flow Controller Stainless Steel	
FC00756	1 each-Flow Controller Stainless Steel	
SLC00187	6.0 L-Non-Specified SC	-28.90
SLC00199	6.0 L-Non-Specified SC	-28.90
SLC00242	6.0 L-Non-Specified SC	-28.90

Grouped by Sample Template

Sample Template Number / Name	Expected Number of Samples	Containers	Number of Containers per Sample	Comments
001 / TO-15	3			
		6.0L-Non-Specified SC - TO-15	1	

Quantity	Miscellaneous Supply
3	Flow Controller, 6L, 2hr

Precautions: Preserved sample containers should not be overflowed while filling. Under no circumstances should the inside of the containers or lids be handled.

Please return this form with your coolers when delivering your samples to Columbia Analytical Services.



PAGE 7 OF 11

288.5380 | 585.288.8475 (fax) | www.caslab.com
CAS Project #:

[illegible]



Cooler Receipt and Preservation Check Form

Project/Client CB+I Folder Number R2118

Cooler received on 4-2-13 by: KE COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were **Ice** or **Ice packs** present? YES NO
6. Where did the bottles originate? ALS/ROC CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: Air Canisters

Is the temperature within 0° - 6° C?: Y N Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: NA - Air Canisters

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location _____ by _____ on _____ at _____
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review:

Cooler Breakdown: Date: 4/2/13 Time: 1036 by: KE

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK No = Samples were preserved at lab as listed PM OK to Adjust: _____
≥12	NaOH									
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet				
	Zn Aceta	-	-							
	HCl	*	*							

Bottle lot numbers:

Other Comments:

PC Secondary Review: mp 4/2/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc

Job Number : 146899

Prepared By: Pernilla Haley

Date : 6/19/2013

Matrix: Groundwater

Analyte Group : Volatile Organics

Analytical Method : EPA Method 8260C

Completed MADEP CAM Certification Form included: Yes

Laboratory ID No. : R1302628

Chain of Custody included in Data Package ? Yes

Is it Complete ? Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
4/11, 4/12, and 4/15/13	8260C		14 Days	4/21, 4/22, 4/23, 4/24, and 4/25/13

Sample temperature within QC limits: Yes

Surrogate Recovery

Are all % recoveries within the allowable range ? Yes

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? No

If no, list sample ID where range was exceeded: see notes

Equipment Field Blank ID : EB-1 and EB-2

Trip Blank ID : TB-1

Method Blank: EPA 8260C 4/21, 4/22, 4/23, 4/24, and 4/25/13

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

VOC Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples OB20-DO(73), OB20-BR(93.5), OB10-BR(71), AP12-S(22), MW-36(51.7), CL3-DO(76), OB8-DO(13.3), OB41-S(13.3), and OB23-BR(83) were re-analyzed at a larger dilution to bring target analytes within the calibration range of the method. The analytes over the calibration range are flagged with an "E" and the diluted analytes flagged with a "D".

The % recovery was outside limits in the LCS or LCSD for hezachlorbutadiene in all batches in this report also %recovery of RPD was outside the limits in the LCS or LCSD for 1,1-dichloropropene, 1,3,5-trimethylbenzene, p-isopropyltoluene, carbontetrachloride, CFC12, isopropylbenzene, PCE, vinyl chloride, n-butylbenzene, n-propylbenzene, and tert butyl benzene for batch 337788 (samples OB20-BR(93.5), OB18-DO(23.8), OB41-S(13.3), GZ-1(12.4), OB42-S(13.6), OB23-BR(83), OB23-BR(83 diluted, OB17-DO(41.4), OB17-BR(97), MW-33B(19), and CL4-DO(28)). The data was not impacted since the analytical results were non-detect for these analytes in this batch except for PCE which was given a qualifier of J in OB10-BR(71), AP12-S(22), MW-36(51.7), CL3-DO(76), OB18-DO(23.8), OB41-S(13.3), GZ-1(12.4), OB42-S(13.6), OB17-DO(41.4), and OB23-BR(83) and vinyl chloride which was given a qualified of J in MW-36(51.7), CL3-DO(76), OB18-DO(23.8), OB17-BR(97), and OB23-BR(83), a J qualifier was also assigned to carbon tetrachloride, and tert-butylbenzene in OB23-BR(83)

The Continued Calibration Verification for diisopropyl ether, ethyl tert butyl ether, tetrahydrofuran, and tert amyl methyl ether %D was outside range for batch 337448. Results were non-detect in this batch, but were given a UJ qualifier (P-19A(9.5), APBIO-01(97), STRM-A-SCDS, OB21-BR(96), OB20-DO(73) OB20-BR(93.5), and OB8-DO(78)) and tetrahydrofuran for batch 337788 (samples OB20-BR(93.5), OB18-DO(23.8), OB41-S(13.3), GZ-1(12.4), OB42-S(13.6), OB23-BR(83), OB23-BR(83 diluted, OB17-DO(41.4), OB17-BR(97), MW-33B(19), and CL4-DO(28))

Reviewed By: Ray Cadorette 6/27/13



May 01, 2013

Service Request No: R1302628

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly/146899

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on April 17, 2013. For your reference, these analyses have been assigned our service request number **R1302628**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental



Michael Perry
Laboratory Manager

Page 1 of 182

ALS Environmental

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1302628
Project Number: 146899-06000000
Date Received: 4/17/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II, deliverables with Massachusetts CAM analyses reporting. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Water samples were collected on 4/11/13, 4/12/13, and 4/15/13 and received at ALS in good condition at cooler temperatures of 2.4 – 5.8 °C as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. See the second page of the Case Narrative for a cross-reference between Client ID and ALS Job #.

Volatile Organics

Forty-four water samples were analyzed for a site list of Volatile Organics by SW-846 Method 8260C.

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples OB20-DO (73), OB20-BR (93.5), OB10-BR (71), AP12-S (22), MW-36 (51.7), CL3-DO (76), OB8-DO (78), OB41-S (13.3), and OB23-BR (83) were re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes except as noted on the attached CCV summary forms and are flagged with an "**".

All Surrogate Standard recoveries were within QC limits.

Several Bank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were outside QC limits and have been flagged with an "**". No data was affected.

All samples were analyzed within the required holding time of 14 days.

No other analytical or QC problems were encountered with these analyses.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146899-06000000 non-bio

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1302628 – 001 - 044

Matrices: X Groundwater Soil/Sediment Drinking Water Air Other: _____

CAM Protocol (check all that apply below):

8260 VOC CAM II A X	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6850 Perchlorate CAM VIII B	Other:

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	X Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	X Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	X Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	X Yes No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	X Yes No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	X Yes No ¹
----------	-----------------------------------------------------------------------------------------------------------	--------------------------

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	X Yes No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (site list)	Yes X No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Manager

Printed Name: Michael K. Perry

Date: 5/01/13 00000

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1302628

<u>Lab ID</u>	<u>Client ID</u>
R1302628-001	OB6-BR (100)
R1302628-002	OB6-DO (63.6)
R1302628-003	P-11R (8.75)
R1302628-004	P-19A (9.5)
R1302628-005	APBIO-01 (77)
R1302628-006	STRM-A-SCDS
R1302628-007	OB21-DO (78.6)
R1302628-008	OB21-BR (96)
R1302628-009	OB20-S (11)
R1302628-010	OB20-DO (73)
R1302628-011	OB20-BR (93.5)
R1302628-012	OB10-BR (71)
R1302628-013	AP12-S (22)
R1302628-014	MW-36 (51.7)
R1302628-015	CL3-DO (76)
R1302628-016	CL3-S (18)
R1302628-017	OB4-S (23.5)
R1302628-018	OB4-DO (67)
R1302628-019	OB4-BR (77.3)
R1302628-020	OB5-DO (81.5)
R1302628-021	OB5-BR (104)
R1302628-022	CL8-DO (51.5)
R1302628-023	TB-1
R1302628-024	EB-1
R1302628-025	MW-3R 30.3)
R1302628-026	MW-5R (17.2)
R1302628-027	OB8-S (12)
R1302628-028	OB8-DO (78)
R1302628-029	GZ-4 (12)
R1302628-030	OB18-S (11.2)
R1302628-031	OB18-DO (23.8)
R1302628-032	OB41-S (13.3)
R1302628-033	AP15-S (12.2)
R1302628-034	GZ-1 (12.4)
R1302628-035	OB43-S (16)
R1302628-036	OB42-S (13.6)
R1302628-037	EB-2
R1302628-038	OB23-BR (83)
R1302628-039	OB17-DO (41.4)
R1302628-040	OB17-BR (97)
R1302628-041	MW-33B (19)
R1302628-042	CL4-DO (28)
R1302628-043	CL4-BR (54)
R1302628-044	CL9-DO (32.8)

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for Massachusetts Certification
M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

COLUMBIA ANALYTICAL SERVICES
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.



Director, Division of Environmental Analysis

Issued: 01 JUL 2012

Expires: 30 JUN 2013

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>				<u>Methods</u>
ALUMINUM				EPA 200.7
ANTIMONY				EPA 200.7
ANTIMONY				EPA 200.8
ARSENIC				EPA 200.7
ARSENIC				EPA 200.8
BERYLLIUM				EPA 200.7
BERYLLIUM				EPA 200.8
CADMIUM				EPA 200.7
CADMIUM				EPA 200.8
CHROMIUM				EPA 200.7
CHROMIUM				EPA 200.8
COBALT				EPA 200.7
COBALT				EPA 200.8
COPPER				EPA 200.7
COPPER				EPA 200.8
IRON				EPA 200.7
LEAD				EPA 200.7
LEAD				EPA 200.8
MANGANESE				EPA 200.7
MANGANESE				EPA 200.8
MERCURY				EPA 245.1
MOLYBDENUM				EPA 200.7
MOLYBDENUM				EPA 200.8
NICKEL				EPA 200.7
NICKEL				EPA 200.8
SELENIUM				EPA 200.7
SELENIUM				EPA 200.8
SILVER				EPA 200.7
SILVER				EPA 200.8
THALLIUM				EPA 200.7
THALLIUM				EPA 200.8
VANADIUM				EPA 200.7
VANADIUM				EPA 200.8
ZINC				EPA 200.7
ZINC				EPA 200.8
SPECIFIC CONDUCTIVITY				EPA 120.1
TOTAL DISSOLVED SOLIDS				SM 2540C
HARDNESS (CaCO3), TOTAL				SM 2340C
CALCIUM				EPA 200.7
MAGNESIUM				EPA 200.7
SODIUM				EPA 200.7
POTASSIUM				EPA 200.7
ALKALINITY, TOTAL				SM 2320B

June 29, 2012

*= Provisional Certification

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
CHLORIDE			SM 4500-CL-E	
CHLORIDE			EPA 300.0	
FLUORIDE			EPA 300.0	
SULFATE			EPA 300.0	
AMMONIA-N			EPA 350.1	
NITRATE-N			EPA 300.0	
NITRATE-N			EPA 353.2	
KJELDAHL-N			EPA 351.2	
ORTHOPHOSPHATE			EPA 365.1	
PHOSPHORUS, TOTAL			EPA 365.1	
CHEMICAL OXYGEN DEMAND			EPA 410.4	
BIOCHEMICAL OXYGEN DEMAND			SM 5210B	
TOTAL ORGANIC CARBON			SM 5310C	
CYANIDE, TOTAL			EPA 335.4	
NON-FILTERABLE RESIDUE			SM 2540D	
OIL AND GREASE			EPA 1664	
PHENOLICS, TOTAL			EPA 420.4	
VOLATILE HALOCARBONS			EPA 601	
VOLATILE HALOCARBONS			EPA 624	
VOLATILE AROMATICS			EPA 602	
VOLATILE AROMATICS			EPA 624	
SVOC-ACID EXTRACTABLES			EPA 625	
SVOC-BASE/NEUTRAL EXTRACTABLES			EPA 625	
POLYCHLORINATED BIPHENYLS (WATER)			EPA 608	

June 29, 2012

*= Provisional Certification

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ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 16:10

Sample Name: OB6-BR (100)
 Lab Code: R1302628-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5854.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 16:10

Sample Name: OB6-BR (100)
 Lab Code: R1302628-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5854.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	69		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	110		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	38		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1330
Date Received: 4/17/13
Date Analyzed: 4/21/13 16:10

Sample Name: OB6-BR (100)
Lab Code: R1302628-001

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042113\T5854.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/21/13 16:10	
Dibromofluoromethane	98	70-130	4/21/13 16:10	
Toluene-d8	97	70-130	4/21/13 16:10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 20:23

Sample Name: OB6-DO (63.6)
 Lab Code: R1302628-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5862.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	10 U	10	
71-55-6	1,1,1-Trichloroethane (TCA)	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10 U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10 U	10	
563-58-6	1,1-Dichloropropene	10 U	10	
87-61-6	1,2,3-Trichlorobenzene	10 U	10	
96-18-4	1,2,3-Trichloropropane	10 U	10	
120-82-1	1,2,4-Trichlorobenzene	10 U	10	
95-63-6	1,2,4-Trimethylbenzene	10 U	10	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	10 U	10	
106-93-4	1,2-Dibromoethane	10 U	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
108-67-8	1,3,5-Trimethylbenzene	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
142-28-9	1,3-Dichloropropane	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
123-91-1	1,4-Dioxane	200 U	200	
594-20-7	2,2-Dichloropropane	10 U	10	
78-93-3	2-Butanone (MEK)	50 U	50	
95-49-8	2-Chlorotoluene	10 U	10	
591-78-6	2-Hexanone	50 U	50	
106-43-4	4-Chlorotoluene	10 U	10	
99-87-6	p-Isopropyltoluene	10 U	10	
108-10-1	4-Methyl-2-pentanone	50 U	50	
67-64-1	Acetone	50 U	50	
71-43-2	Benzene	10 U	10	
108-86-1	Bromobenzene	10 U	10	
74-97-5	Bromochloromethane	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 20:23

Sample Name: OB6-DO (63.6)
 Lab Code: R1302628-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5862.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	10 U	10	
108-90-7	Chlorobenzene	10 U	10	
75-00-3	Chloroethane	10 U	10	
67-66-3	Chloroform	10 U	10	
74-87-3	Chloromethane	10 U	10	
124-48-1	Dibromochloromethane	10 U	10	
74-95-3	Dibromomethane	10 U	10	
75-71-8	Dichlorodifluoromethane (CFC 12)	10 U	10	
75-09-2	Dichloromethane	10 U	10	
60-29-7	Diethyl Ether	10 U	10	
108-20-3	Diisopropyl Ether	10 U	10	
637-92-3	Ethyl tert-Butyl Ether	10 U	10	
100-41-4	Ethylbenzene	10 U	10	
87-68-3	Hexachlorobutadiene	10 U	10	
98-82-8	Isopropylbenzene (Cumene)	10 U	10	
1634-04-4	Methyl tert-Butyl Ether	10 U	10	
91-20-3	Naphthalene	10 U	10	
100-42-5	Styrene	10 U	10	
127-18-4	Tetrachloroethene (PCE)	160	10	
109-99-9	Tetrahydrofuran (THF)	10 U	10	
108-88-3	Toluene	10 U	10	
79-01-6	Trichloroethene (TCE)	250	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10 U	10	
75-01-4	Vinyl Chloride	12	10	
156-59-2	cis-1,2-Dichloroethene	570	10	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	
179601-23-1	m,p-Xylenes	10 U	10	
104-51-8	n-Butylbenzene	10 U	10	
103-65-1	n-Propylbenzene	10 U	10	
95-47-6	o-Xylene	10 U	10	
135-98-8	sec-Butylbenzene	10 U	10	
994-05-8	tert-Amyl Methyl Ether	10 U	10	
98-06-6	tert-Butylbenzene	10 U	10	
156-60-5	trans-1,2-Dichloroethene	10 U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1400
Date Received: 4/17/13
Date Analyzed: 4/21/13 20:23

Sample Name: OB6-DO (63.6)
Lab Code: R1302628-002

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042113\T5862.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/21/13 20:23	
Dibromofluoromethane	101	70-130	4/21/13 20:23	
Toluene-d8	98	70-130	4/21/13 20:23	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 16:41

Sample Name: P-11R (8.75)
 Lab Code: R1302628-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5855.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 16:41

Sample Name: P-11R (8.75)
 Lab Code: R1302628-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5855.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1430
Date Received: 4/17/13
Date Analyzed: 4/21/13 16:41

Sample Name: P-11R (8.75)
Lab Code: R1302628-003

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5855.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/21/13 16:41	
Dibromofluoromethane	99	70-130	4/21/13 16:41	
Toluene-d8	98	70-130	4/21/13 16:41	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 20:00

Sample Name: P-19A (9.5)
 Lab Code: R1302628-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5880.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 20:00

Sample Name: P-19A (9.5)
 Lab Code: R1302628-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5880.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	6.0		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	31		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	160		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1300
Date Received: 4/17/13
Date Analyzed: 4/22/13 20:00

Sample Name: P-19A (9.5)
Lab Code: R1302628-004

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042213\T5880.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 20:00	
Dibromofluoromethane	100	70-130	4/22/13 20:00	
Toluene-d8	96	70-130	4/22/13 20:00	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1530
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 01:18

Sample Name: APBIO-01 (77)
 Lab Code: R1302628-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5890.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	10	U	10	
71-55-6	1,1,1-Trichloroethane (TCA)	10	U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	10	
79-00-5	1,1,2-Trichloroethane	10	U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10	U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10	U	10	
563-58-6	1,1-Dichloropropene	10	U	10	
87-61-6	1,2,3-Trichlorobenzene	10	U	10	
96-18-4	1,2,3-Trichloropropane	10	U	10	
120-82-1	1,2,4-Trichlorobenzene	10	U	10	
95-63-6	1,2,4-Trimethylbenzene	10	U	10	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	10	U	10	
106-93-4	1,2-Dibromoethane	10	U	10	
95-50-1	1,2-Dichlorobenzene	10	U	10	
107-06-2	1,2-Dichloroethane	10	U	10	
78-87-5	1,2-Dichloropropane	10	U	10	
108-67-8	1,3,5-Trimethylbenzene	10	U	10	
541-73-1	1,3-Dichlorobenzene	10	U	10	
142-28-9	1,3-Dichloropropane	10	U	10	
106-46-7	1,4-Dichlorobenzene	10	U	10	
123-91-1	1,4-Dioxane	200	U	200	
594-20-7	2,2-Dichloropropane	10	U	10	
78-93-3	2-Butanone (MEK)	50	U	50	
95-49-8	2-Chlorotoluene	10	U	10	
591-78-6	2-Hexanone	50	U	50	
106-43-4	4-Chlorotoluene	10	U	10	
99-87-6	p-Isopropyltoluene	10	U	10	
108-10-1	4-Methyl-2-pentanone	50	U	50	
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	10	U	10	
108-86-1	Bromobenzene	10	U	10	
74-97-5	Bromochloromethane	10	U	10	
75-27-4	Bromodichloromethane	10	U	10	
75-25-2	Bromoform	10	U	10	
74-83-9	Bromomethane	10	U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1530
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 01:18

Sample Name: APBIO-01 (77)
 Lab Code: R1302628-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5890.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
74-95-3	Dibromomethane	10	U	10	
75-71-8	Dichlorodifluoromethane (CFC 12)	10	U	10	
75-09-2	Dichloromethane	10	U	10	
60-29-7	Diethyl Ether	10	U	10	
108-20-3	Diisopropyl Ether	10	U	10	
637-92-3	Ethyl tert-Butyl Ether	10	U	10	
100-41-4	Ethylbenzene	10	U	10	
87-68-3	Hexachlorobutadiene	10	U	10	
98-82-8	Isopropylbenzene (Cumene)	10	U	10	
1634-04-4	Methyl tert-Butyl Ether	10	U	10	
91-20-3	Naphthalene	10	U	10	
100-42-5	Styrene	10	U	10	
127-18-4	Tetrachloroethene (PCE)	10	U	10	
109-99-9	Tetrahydrofuran (THF)	10	U	10	
108-88-3	Toluene	10	U	10	
79-01-6	Trichloroethene (TCE)	21		10	
75-69-4	Trichlorofluoromethane (CFC 11)	10	U	10	
75-01-4	Vinyl Chloride	220		10	
156-59-2	cis-1,2-Dichloroethene	540		10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
179601-23-1	m,p-Xylenes	10	U	10	
104-51-8	n-Butylbenzene	10	U	10	
103-65-1	n-Propylbenzene	10	U	10	
95-47-6	o-Xylene	10	U	10	
135-98-8	sec-Butylbenzene	10	U	10	
994-05-8	tert-Amyl Methyl Ether	10	U	10	
98-06-6	tert-Butylbenzene	10	U	10	
156-60-5	trans-1,2-Dichloroethene	10	U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1530
Date Received: 4/17/13
Date Analyzed: 4/23/13 01:18

Sample Name: APBIO-01 (77)
Lab Code: R1302628-005

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5890.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 01:18	
Dibromofluoromethane	100	70-130	4/23/13 01:18	
Toluene-d8	97	70-130	4/23/13 01:18	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0730
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 19:29

Sample Name: STRM-A-SCDS
 Lab Code: R1302628-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5879.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0730
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 19:29

Sample Name: STRM-A-SCDS
 Lab Code: R1302628-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5879.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	5.5		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.8		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0730
Date Received: 4/17/13
Date Analyzed: 4/22/13 19:29

Sample Name: STRM-A-SCDS
Lab Code: R1302628-006

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5879.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 19:29	
Dibromofluoromethane	99	70-130	4/22/13 19:29	
Toluene-d8	92	70-130	4/22/13 19:29	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 22:31

Sample Name: OB21-DO (78.6)
 Lab Code: R1302628-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5866.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	20 U	20	
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20 U	20	
563-58-6	1,1-Dichloropropene	20 U	20	
87-61-6	1,2,3-Trichlorobenzene	20 U	20	
96-18-4	1,2,3-Trichloropropane	20 U	20	
120-82-1	1,2,4-Trichlorobenzene	20 U	20	
95-63-6	1,2,4-Trimethylbenzene	20 U	20	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	20 U	20	
106-93-4	1,2-Dibromoethane	20 U	20	
95-50-1	1,2-Dichlorobenzene	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
108-67-8	1,3,5-Trimethylbenzene	20 U	20	
541-73-1	1,3-Dichlorobenzene	20 U	20	
142-28-9	1,3-Dichloropropane	20 U	20	
106-46-7	1,4-Dichlorobenzene	20 U	20	
123-91-1	1,4-Dioxane	400 U	400	
594-20-7	2,2-Dichloropropane	20 U	20	
78-93-3	2-Butanone (MEK)	100 U	100	
95-49-8	2-Chlorotoluene	20 U	20	
591-78-6	2-Hexanone	100 U	100	
106-43-4	4-Chlorotoluene	20 U	20	
99-87-6	p-Isopropyltoluene	20 U	20	
108-10-1	4-Methyl-2-pentanone	100 U	100	
67-64-1	Acetone	100 U	100	
71-43-2	Benzene	20 U	20	
108-86-1	Bromobenzene	20 U	20	
74-97-5	Bromochloromethane	20 U	20	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 22:31

Sample Name: OB21-DO (78.6)
 Lab Code: R1302628-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5866.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	20 U	20	
56-23-5	Carbon Tetrachloride	20 U	20	
108-90-7	Chlorobenzene	20 U	20	
75-00-3	Chloroethane	20 U	20	
67-66-3	Chloroform	20 U	20	
74-87-3	Chloromethane	20 U	20	
124-48-1	Dibromochloromethane	20 U	20	
74-95-3	Dibromomethane	20 U	20	
75-71-8	Dichlorodifluoromethane (CFC 12)	20 U	20	
75-09-2	Dichloromethane	20 U	20	
60-29-7	Diethyl Ether	20 U	20	
108-20-3	Diisopropyl Ether	20 U	20	
637-92-3	Ethyl tert-Butyl Ether	20 U	20	
100-41-4	Ethylbenzene	20 U	20	
87-68-3	Hexachlorobutadiene	20 U	20	
98-82-8	Isopropylbenzene (Cumene)	20 U	20	
1634-04-4	Methyl tert-Butyl Ether	20 U	20	
91-20-3	Naphthalene	20 U	20	
100-42-5	Styrene	20 U	20	
127-18-4	Tetrachloroethene (PCE)	310	20	
109-99-9	Tetrahydrofuran (THF)	20 U	20	
108-88-3	Toluene	20 U	20	
79-01-6	Trichloroethene (TCE)	1100	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20 U	20	
75-01-4	Vinyl Chloride	20 U	20	
156-59-2	cis-1,2-Dichloroethene	330	20	
10061-01-5	cis-1,3-Dichloropropene	20 U	20	
179601-23-1	m,p-Xylenes	20 U	20	
104-51-8	n-Butylbenzene	20 U	20	
103-65-1	n-Propylbenzene	20 U	20	
95-47-6	o-Xylene	20 U	20	
135-98-8	sec-Butylbenzene	20 U	20	
994-05-8	tert-Amyl Methyl Ether	20 U	20	
98-06-6	tert-Butylbenzene	20 U	20	
156-60-5	trans-1,2-Dichloroethene	20 U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0800
Date Received: 4/17/13
Date Analyzed: 4/21/13 22:31

Sample Name: OB21-DO (78.6)
Lab Code: R1302628-007

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5866.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/21/13 22:31	
Dibromofluoromethane	100	70-130	4/21/13 22:31	
Toluene-d8	98	70-130	4/21/13 22:31	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0820
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 00:14

Sample Name: OB21-BR (96)
 Lab Code: R1302628-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5888.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
563-58-6	1,1-Dichloropropene	5.0	U	5.0	
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0	
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0	
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	
106-93-4	1,2-Dibromoethane	5.0	U	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
142-28-9	1,3-Dichloropropane	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
123-91-1	1,4-Dioxane	100	U	100	
594-20-7	2,2-Dichloropropane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	25	U	25	
95-49-8	2-Chlorotoluene	5.0	U	5.0	
591-78-6	2-Hexanone	25	U	25	
106-43-4	4-Chlorotoluene	5.0	U	5.0	
99-87-6	p-Isopropyltoluene	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone	25	U	25	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	8.2		5.0	
108-86-1	Bromobenzene	5.0	U	5.0	
74-97-5	Bromochloromethane	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0820
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 00:14

Sample Name: OB21-BR (96)
 Lab Code: R1302628-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5888.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
74-95-3	Dibromomethane	5.0	U	5.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.0	U	5.0	
75-09-2	Dichloromethane	5.0	U	5.0	
60-29-7	Diethyl Ether	5.0	U	5.0	
108-20-3	Diisopropyl Ether	5.0	U	5.0	
637-92-3	Ethyl tert-Butyl Ether	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
87-68-3	Hexachlorobutadiene	5.0	U	5.0	
98-82-8	Isopropylbenzene (Cumene)	5.0	U	5.0	
1634-04-4	Methyl tert-Butyl Ether	5.0	U	5.0	
91-20-3	Naphthalene	5.0	U	5.0	
100-42-5	Styrene	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	24		5.0	
109-99-9	Tetrahydrofuran (THF)	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	5.0	U	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	310		5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	
104-51-8	n-Butylbenzene	5.0	U	5.0	
103-65-1	n-Propylbenzene	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
135-98-8	sec-Butylbenzene	5.0	U	5.0	
994-05-8	tert-Amyl Methyl Ether	5.0	U	5.0	
98-06-6	tert-Butylbenzene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0820
Date Received: 4/17/13
Date Analyzed: 4/23/13 00:14

Sample Name: OB21-BR (96)
Lab Code: R1302628-008

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5888.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/23/13 00:14	
Dibromofluoromethane	97	70-130	4/23/13 00:14	
Toluene-d8	97	70-130	4/23/13 00:14	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0850
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 17:45

Sample Name: OB20-S (11)
 Lab Code: R1302628-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5857.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0850
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 17:45

Sample Name: OB20-S (11)
 Lab Code: R1302628-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5857.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0850
Date Received: 4/17/13
Date Analyzed: 4/21/13 17:45

Sample Name: OB20-S (11)
Lab Code: R1302628-009

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5857.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/21/13 17:45	
Dibromofluoromethane	97	70-130	4/21/13 17:45	
Toluene-d8	96	70-130	4/21/13 17:45	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0910
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 18:16

Sample Name: OB20-DO (73)
 Lab Code: R1302628-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\042113\T5858.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0910
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 18:16

Sample Name: OB20-DO (73)
 Lab Code: R1302628-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5858.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	7.9		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	13		2.0	
156-59-2	cis-1,2-Dichloroethene	320	E	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0910
Date Received: 4/17/13
Date Analyzed: 4/21/13 18:16

Sample Name: OB20-DO (73)
Lab Code: R1302628-010

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5858.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/21/13 18:16	
Dibromofluoromethane	100	70-130	4/21/13 18:16	
Toluene-d8	98	70-130	4/21/13 18:16	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0910
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 00:46

Sample Name: OB20-DO (73)
 Lab Code: R1302628-010
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5889.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
563-58-6	1,1-Dichloropropene	5.0	U	5.0	
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0	
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0	
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	
106-93-4	1,2-Dibromoethane	5.0	U	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
142-28-9	1,3-Dichloropropane	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
123-91-1	1,4-Dioxane	100	U	100	
594-20-7	2,2-Dichloropropane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	25	U	25	
95-49-8	2-Chlorotoluene	5.0	U	5.0	
591-78-6	2-Hexanone	25	U	25	
106-43-4	4-Chlorotoluene	5.0	U	5.0	
99-87-6	p-Isopropyltoluene	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone	25	U	25	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	5.0	U	5.0	
108-86-1	Bromobenzene	5.0	U	5.0	
74-97-5	Bromochloromethane	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0910
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 00:46

Sample Name: OB20-DO (73)
 Lab Code: R1302628-010
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5889.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
74-95-3	Dibromomethane	5.0	U	5.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.0	U	5.0	
75-09-2	Dichloromethane	5.0	U	5.0	
60-29-7	Diethyl Ether	5.0	U	5.0	
108-20-3	Diisopropyl Ether	5.0	U	5.0	
637-92-3	Ethyl tert-Butyl Ether	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
87-68-3	Hexachlorobutadiene	5.0	U	5.0	
98-82-8	Isopropylbenzene (Cumene)	5.0	U	5.0	
1634-04-4	Methyl tert-Butyl Ether	5.0	U	5.0	
91-20-3	Naphthalene	5.0	U	5.0	
100-42-5	Styrene	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0	U	5.0	
109-99-9	Tetrahydrofuran (THF)	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	7.8	D	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	11	D	5.0	
156-59-2	cis-1,2-Dichloroethene	300	D	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	
104-51-8	n-Butylbenzene	5.0	U	5.0	
103-65-1	n-Propylbenzene	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
135-98-8	sec-Butylbenzene	5.0	U	5.0	
994-05-8	tert-Amyl Methyl Ether	5.0	U	5.0	
98-06-6	tert-Butylbenzene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0910
Date Received: 4/17/13
Date Analyzed: 4/23/13 00:46

Sample Name: OB20-DO (73)
Lab Code: R1302628-010
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5889.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/23/13 00:46	
Dibromofluoromethane	101	70-130	4/23/13 00:46	
Toluene-d8	98	70-130	4/23/13 00:46	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0925
Date Received: 4/17/13
Date Analyzed: 4/22/13 23:42

Sample Name: OB20-BR (93.5)
Lab Code: R1302628-011

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5887.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	4.0	U	4.0	
71-55-6	1,1,1-Trichloroethane (TCA)	4.0	U	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0	U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0	U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0	U	4.0	
563-58-6	1,1-Dichloropropene	4.0	U	4.0	
87-61-6	1,2,3-Trichlorobenzene	4.0	U	4.0	
96-18-4	1,2,3-Trichloropropane	4.0	U	4.0	
120-82-1	1,2,4-Trichlorobenzene	4.0	U	4.0	
95-63-6	1,2,4-Trimethylbenzene	4.0	U	4.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	4.0	U	4.0	
106-93-4	1,2-Dibromoethane	4.0	U	4.0	
95-50-1	1,2-Dichlorobenzene	4.0	U	4.0	
107-06-2	1,2-Dichloroethane	4.0	U	4.0	
78-87-5	1,2-Dichloropropane	4.0	U	4.0	
108-67-8	1,3,5-Trimethylbenzene	4.0	U	4.0	
541-73-1	1,3-Dichlorobenzene	4.0	U	4.0	
142-28-9	1,3-Dichloropropane	4.0	U	4.0	
106-46-7	1,4-Dichlorobenzene	4.0	U	4.0	
123-91-1	1,4-Dioxane	80	U	80	
594-20-7	2,2-Dichloropropane	4.0	U	4.0	
78-93-3	2-Butanone (MEK)	20	U	20	
95-49-8	2-Chlorotoluene	4.0	U	4.0	
591-78-6	2-Hexanone	20	U	20	
106-43-4	4-Chlorotoluene	4.0	U	4.0	
99-87-6	p-Isopropyltoluene	4.0	U	4.0	
108-10-1	4-Methyl-2-pentanone	20	U	20	
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	4.0	U	4.0	
108-86-1	Bromobenzene	4.0	U	4.0	
74-97-5	Bromochloromethane	4.0	U	4.0	
75-27-4	Bromodichloromethane	4.0	U	4.0	
75-25-2	Bromoform	4.0	U	4.0	
74-83-9	Bromomethane	4.0	U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0925
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 23:42

Sample Name: OB20-BR (93.5)
 Lab Code: R1302628-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5887.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	4.0	U	4.0	
56-23-5	Carbon Tetrachloride	4.0	U	4.0	
108-90-7	Chlorobenzene	4.0	U	4.0	
75-00-3	Chloroethane	4.0	U	4.0	
67-66-3	Chloroform	4.0	U	4.0	
74-87-3	Chloromethane	4.0	U	4.0	
124-48-1	Dibromochloromethane	4.0	U	4.0	
74-95-3	Dibromomethane	4.0	U	4.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.0	U	4.0	
75-09-2	Dichloromethane	4.0	U	4.0	
60-29-7	Diethyl Ether	4.0	U	4.0	
108-20-3	Diisopropyl Ether	4.0	U	4.0	
637-92-3	Ethyl tert-Butyl Ether	4.0	U	4.0	
100-41-4	Ethylbenzene	4.0	U	4.0	
87-68-3	Hexachlorobutadiene	4.0	U	4.0	
98-82-8	Isopropylbenzene (Cumene)	4.0	U	4.0	
1634-04-4	Methyl tert-Butyl Ether	4.0	U	4.0	
91-20-3	Naphthalene	4.0	U	4.0	
100-42-5	Styrene	4.0	U	4.0	
127-18-4	Tetrachloroethene (PCE)	4.0	U	4.0	
109-99-9	Tetrahydrofuran (THF)	4.0	U	4.0	
108-88-3	Toluene	4.0	U	4.0	
79-01-6	Trichloroethene (TCE)	110		4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0	U	4.0	
75-01-4	Vinyl Chloride	5.8		4.0	
156-59-2	cis-1,2-Dichloroethene	830	E	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0	U	4.0	
179601-23-1	m,p-Xylenes	4.0	U	4.0	
104-51-8	n-Butylbenzene	4.0	U	4.0	
103-65-1	n-Propylbenzene	4.0	U	4.0	
95-47-6	o-Xylene	4.0	U	4.0	
135-98-8	sec-Butylbenzene	4.0	U	4.0	
994-05-8	tert-Amyl Methyl Ether	4.0	U	4.0	
98-06-6	tert-Butylbenzene	4.0	U	4.0	
156-60-5	trans-1,2-Dichloroethene	11		4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0925
Date Received: 4/17/13
Date Analyzed: 4/22/13 23:42

Sample Name: OB20-BR (93.5)
Lab Code: R1302628-011

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5887.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	4.0 U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/22/13 23:42	
Dibromofluoromethane	98	70-130	4/22/13 23:42	
Toluene-d8	96	70-130	4/22/13 23:42	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0925
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 20:57

Sample Name: OB20-BR (93.5)
 Lab Code: R1302628-011
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5938.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	10	U	10	
71-55-6	1,1,1-Trichloroethane (TCA)	10	U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	10	
79-00-5	1,1,2-Trichloroethane	10	U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10	U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10	U	10	
563-58-6	1,1-Dichloropropene	10	U	10	
87-61-6	1,2,3-Trichlorobenzene	10	U	10	
96-18-4	1,2,3-Trichloropropane	10	U	10	
120-82-1	1,2,4-Trichlorobenzene	10	U	10	
95-63-6	1,2,4-Trimethylbenzene	10	U	10	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	10	U	10	
106-93-4	1,2-Dibromoethane	10	U	10	
95-50-1	1,2-Dichlorobenzene	10	U	10	
107-06-2	1,2-Dichloroethane	10	U	10	
78-87-5	1,2-Dichloropropane	10	U	10	
108-67-8	1,3,5-Trimethylbenzene	10	U	10	
541-73-1	1,3-Dichlorobenzene	10	U	10	
142-28-9	1,3-Dichloropropane	10	U	10	
106-46-7	1,4-Dichlorobenzene	10	U	10	
123-91-1	1,4-Dioxane	200	U	200	
594-20-7	2,2-Dichloropropane	10	U	10	
78-93-3	2-Butanone (MEK)	50	U	50	
95-49-8	2-Chlorotoluene	10	U	10	
591-78-6	2-Hexanone	50	U	50	
106-43-4	4-Chlorotoluene	10	U	10	
99-87-6	p-Isopropyltoluene	10	U	10	
108-10-1	4-Methyl-2-pentanone	50	U	50	
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	10	U	10	
108-86-1	Bromobenzene	10	U	10	
74-97-5	Bromochloromethane	10	U	10	
75-27-4	Bromodichloromethane	10	U	10	
75-25-2	Bromoform	10	U	10	
74-83-9	Bromomethane	10	U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0925
Date Received: 4/17/13
Date Analyzed: 4/24/13 20:57

Sample Name: OB20-BR (93.5)
Lab Code: R1302628-011
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5938.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
74-95-3	Dibromomethane	10	U	10	
75-71-8	Dichlorodifluoromethane (CFC 12)	10	U	10	
75-09-2	Dichloromethane	10	U	10	
60-29-7	Diethyl Ether	10	U	10	
108-20-3	Diisopropyl Ether	10	U	10	
637-92-3	Ethyl tert-Butyl Ether	10	U	10	
100-41-4	Ethylbenzene	10	U	10	
87-68-3	Hexachlorobutadiene	10	U	10	
98-82-8	Isopropylbenzene (Cumene)	10	U	10	
1634-04-4	Methyl tert-Butyl Ether	10	U	10	
91-20-3	Naphthalene	10	U	10	
100-42-5	Styrene	10	U	10	
127-18-4	Tetrachloroethene (PCE)	10	U	10	
109-99-9	Tetrahydrofuran (THF)	10	U	10	
108-88-3	Toluene	10	U	10	
79-01-6	Trichloroethene (TCE)	100	D	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10	U	10	
75-01-4	Vinyl Chloride	10	U	10	
156-59-2	cis-1,2-Dichloroethene	890	D	10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
179601-23-1	m,p-Xylenes	10	U	10	
104-51-8	n-Butylbenzene	10	U	10	
103-65-1	n-Propylbenzene	10	U	10	
95-47-6	o-Xylene	10	U	10	
135-98-8	sec-Butylbenzene	10	U	10	
994-05-8	tert-Amyl Methyl Ether	10	U	10	
98-06-6	tert-Butylbenzene	10	U	10	
156-60-5	trans-1,2-Dichloroethene	12	D	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0925
Date Received: 4/17/13
Date Analyzed: 4/24/13 20:57

Sample Name: OB20-BR (93.5)
Lab Code: R1302628-011
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042413\T5938.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	10	U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 20:57	
Dibromofluoromethane	97	70-130	4/24/13 20:57	
Toluene-d8	99	70-130	4/24/13 20:57	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 01:49

Sample Name: OB10-BR (71)
 Lab Code: R1302628-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5891.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20	U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20	U	20	
79-00-5	1,1,2-Trichloroethane	20	U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20	U	20	
107-06-2	1,2-Dichloroethane	20	U	20	
78-87-5	1,2-Dichloropropane	20	U	20	
67-64-1	Acetone	100	U	100	
75-27-4	Bromodichloromethane	20	U	20	
75-25-2	Bromoform	20	U	20	
74-83-9	Bromomethane	20	U	20	
56-23-5	Carbon Tetrachloride	20	U	20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	20	U	20	
67-66-3	Chloroform	20	U	20	
74-87-3	Chloromethane	20	U	20	
124-48-1	Dibromochloromethane	20	U	20	
75-09-2	Methylene Chloride	20	U	20	
127-18-4	Tetrachloroethene (PCE)	2200	E	20	
79-01-6	Trichloroethene (TCE)	5000	E	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20	U	20	
75-01-4	Vinyl Chloride	20	U	20	
156-59-2	cis-1,2-Dichloroethene	510		20	
10061-01-5	cis-1,3-Dichloropropene	20	U	20	
156-60-5	trans-1,2-Dichloroethene	20	U	20	
10061-02-6	trans-1,3-Dichloropropene	20	U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/23/13 01:49	
Dibromofluoromethane	98	70-130	4/23/13 01:49	
Toluene-d8	97	70-130	4/23/13 01:49	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 0800
Date Received: 4/17/13
Date Analyzed: 4/24/13 23:04

Sample Name: OB10-BR (71)
Lab Code: R1302628-012
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5942.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	100	U	100	
79-34-5	1,1,2,2-Tetrachloroethane	100	U	100	
79-00-5	1,1,2-Trichloroethane	100	U	100	
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	U	100	
75-35-4	1,1-Dichloroethene (1,1-DCE)	100	U	100	
107-06-2	1,2-Dichloroethane	100	U	100	
78-87-5	1,2-Dichloropropane	100	U	100	
67-64-1	Acetone	500	U	500	
75-27-4	Bromodichloromethane	100	U	100	
75-25-2	Bromoform	100	U	100	
74-83-9	Bromomethane	100	U	100	
56-23-5	Carbon Tetrachloride	100	U	100	
108-90-7	Chlorobenzene	100	U	100	
75-00-3	Chloroethane	100	U	100	
67-66-3	Chloroform	100	U	100	
74-87-3	Chloromethane	100	U	100	
124-48-1	Dibromochloromethane	100	U	100	
75-09-2	Methylene Chloride	100	U	100	
127-18-4	Tetrachloroethene (PCE)	2000	D	100	
79-01-6	Trichloroethene (TCE)	4800	D	100	
75-69-4	Trichlorofluoromethane (CFC 11)	100	U	100	
75-01-4	Vinyl Chloride	100	U	100	
156-59-2	cis-1,2-Dichloroethene	510	D	100	
10061-01-5	cis-1,3-Dichloropropene	100	U	100	
156-60-5	trans-1,2-Dichloroethene	100	U	100	
10061-02-6	trans-1,3-Dichloropropene	100	U	100	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 23:04	
Dibromofluoromethane	97	70-130	4/24/13 23:04	
Toluene-d8	99	70-130	4/24/13 23:04	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 0830
Date Received: 4/17/13
Date Analyzed: 4/22/13 20:32

Sample Name: AP12-S (22)
Lab Code: R1302628-013

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5881.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	4.9		2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	3.4		2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	280	E	2.0	
79-01-6	Trichloroethene (TCE)	110		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	250	E	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	3.4		2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 20:32	
Dibromofluoromethane	99	70-130	4/22/13 20:32	
Toluene-d8	97	70-130	4/22/13 20:32	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 0830
Date Received: 4/17/13
Date Analyzed: 4/24/13 18:50

Sample Name: AP12-S (22)
Lab Code: R1302628-013
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5934.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	D	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0	U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0	U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0	U	4.0	
107-06-2	1,2-Dichloroethane	4.0	U	4.0	
78-87-5	1,2-Dichloropropane	4.0	U	4.0	
67-64-1	Acetone	20	U	20	
75-27-4	Bromodichloromethane	4.0	U	4.0	
75-25-2	Bromoform	4.0	U	4.0	
74-83-9	Bromomethane	4.0	U	4.0	
56-23-5	Carbon Tetrachloride	4.0	U	4.0	
108-90-7	Chlorobenzene	4.0	U	4.0	
75-00-3	Chloroethane	4.0	U	4.0	
67-66-3	Chloroform	4.0	U	4.0	
74-87-3	Chloromethane	4.0	U	4.0	
124-48-1	Dibromochloromethane	4.0	U	4.0	
75-09-2	Methylene Chloride	4.0	U	4.0	
127-18-4	Tetrachloroethene (PCE)	260	D	4.0	
79-01-6	Trichloroethene (TCE)	110	D	4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0	U	4.0	
75-01-4	Vinyl Chloride	4.0	U	4.0	
156-59-2	cis-1,2-Dichloroethene	250	D	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0	U	4.0	
156-60-5	trans-1,2-Dichloroethene	4.0	U	4.0	
10061-02-6	trans-1,3-Dichloropropene	4.0	U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 18:50	
Dibromofluoromethane	97	70-130	4/24/13 18:50	
Toluene-d8	98	70-130	4/24/13 18:50	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0900
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 02:21

Sample Name: MW-36 (51.7)
 Lab Code: R1302628-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5892.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
67-64-1	Acetone	100 U	100	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	
56-23-5	Carbon Tetrachloride	20 U	20	
108-90-7	Chlorobenzene	20 U	20	
75-00-3	Chloroethane	20 U	20	
67-66-3	Chloroform	20 U	20	
74-87-3	Chloromethane	20 U	20	
124-48-1	Dibromochloromethane	20 U	20	
75-09-2	Methylene Chloride	20 U	20	
127-18-4	Tetrachloroethene (PCE)	1200	20	
79-01-6	Trichloroethene (TCE)	2800 E	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20 U	20	
75-01-4	Vinyl Chloride	140	20	
156-59-2	cis-1,2-Dichloroethene	1200	20	
10061-01-5	cis-1,3-Dichloropropene	20 U	20	
156-60-5	trans-1,2-Dichloroethene	20 U	20	
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 02:21	
Dibromofluoromethane	100	70-130	4/23/13 02:21	
Toluene-d8	97	70-130	4/23/13 02:21	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 0900
Date Received: 4/17/13
Date Analyzed: 4/24/13 22:32

Sample Name: MW-36 (51.7)
Lab Code: R1302628-014
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5941.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	40	U	40	
79-34-5	1,1,2,2-Tetrachloroethane	40	U	40	
79-00-5	1,1,2-Trichloroethane	40	U	40	
75-34-3	1,1-Dichloroethane (1,1-DCA)	40	U	40	
75-35-4	1,1-Dichloroethene (1,1-DCE)	40	U	40	
107-06-2	1,2-Dichloroethane	40	U	40	
78-87-5	1,2-Dichloropropane	40	U	40	
67-64-1	Acetone	200	U	200	
75-27-4	Bromodichloromethane	40	U	40	
75-25-2	Bromoform	40	U	40	
74-83-9	Bromomethane	40	U	40	
56-23-5	Carbon Tetrachloride	40	U	40	
108-90-7	Chlorobenzene	40	U	40	
75-00-3	Chloroethane	40	U	40	
67-66-3	Chloroform	40	U	40	
74-87-3	Chloromethane	40	U	40	
124-48-1	Dibromochloromethane	40	U	40	
75-09-2	Methylene Chloride	40	U	40	
127-18-4	Tetrachloroethene (PCE)	960	D	40	
79-01-6	Trichloroethene (TCE)	2300	D	40	
75-69-4	Trichlorofluoromethane (CFC 11)	40	U	40	
75-01-4	Vinyl Chloride	130	D	40	
156-59-2	cis-1,2-Dichloroethene	1100	D	40	
10061-01-5	cis-1,3-Dichloropropene	40	U	40	
156-60-5	trans-1,2-Dichloroethene	40	U	40	
10061-02-6	trans-1,3-Dichloropropene	40	U	40	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 22:32	
Dibromofluoromethane	97	70-130	4/24/13 22:32	
Toluene-d8	98	70-130	4/24/13 22:32	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1000
Date Received: 4/17/13
Date Analyzed: 4/23/13 03:56

Sample Name: CL3-DO (76)
Lab Code: R1302628-015

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5895.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 100

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	200	U	200	
79-34-5	1,1,2,2-Tetrachloroethane	200	U	200	
79-00-5	1,1,2-Trichloroethane	200	U	200	
75-34-3	1,1-Dichloroethane (1,1-DCA)	200	U	200	
75-35-4	1,1-Dichloroethene (1,1-DCE)	200	U	200	
107-06-2	1,2-Dichloroethane	200	U	200	
78-87-5	1,2-Dichloropropane	200	U	200	
67-64-1	Acetone	1000	U	1000	
75-27-4	Bromodichloromethane	200	U	200	
75-25-2	Bromoform	200	U	200	
74-83-9	Bromomethane	200	U	200	
56-23-5	Carbon Tetrachloride	200	U	200	
108-90-7	Chlorobenzene	200	U	200	
75-00-3	Chloroethane	200	U	200	
67-66-3	Chloroform	200	U	200	
74-87-3	Chloromethane	200	U	200	
124-48-1	Dibromochloromethane	200	U	200	
75-09-2	Methylene Chloride	200	U	200	
127-18-4	Tetrachloroethene (PCE)	10000		200	
79-01-6	Trichloroethene (TCE)	32000	E	200	
75-69-4	Trichlorofluoromethane (CFC 11)	200	U	200	
75-01-4	Vinyl Chloride	1500		200	
156-59-2	cis-1,2-Dichloroethene	13000		200	
10061-01-5	cis-1,3-Dichloropropene	200	U	200	
156-60-5	trans-1,2-Dichloroethene	200	U	200	
10061-02-6	trans-1,3-Dichloropropene	200	U	200	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/23/13 03:56	
Dibromofluoromethane	99	70-130	4/23/13 03:56	
Toluene-d8	97	70-130	4/23/13 03:56	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 23:35

Sample Name: CL3-DO (76)
 Lab Code: R1302628-015
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5943.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 200

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	400	U	400	
79-34-5	1,1,2,2-Tetrachloroethane	400	U	400	
79-00-5	1,1,2-Trichloroethane	400	U	400	
75-34-3	1,1-Dichloroethane (1,1-DCA)	400	U	400	
75-35-4	1,1-Dichloroethene (1,1-DCE)	400	U	400	
107-06-2	1,2-Dichloroethane	400	U	400	
78-87-5	1,2-Dichloropropane	400	U	400	
67-64-1	Acetone	2000	U	2000	
75-27-4	Bromodichloromethane	400	U	400	
75-25-2	Bromoform	400	U	400	
74-83-9	Bromomethane	400	U	400	
56-23-5	Carbon Tetrachloride	400	U	400	
108-90-7	Chlorobenzene	400	U	400	
75-00-3	Chloroethane	400	U	400	
67-66-3	Chloroform	400	U	400	
74-87-3	Chloromethane	400	U	400	
124-48-1	Dibromochloromethane	400	U	400	
75-09-2	Methylene Chloride	400	U	400	
127-18-4	Tetrachloroethene (PCE)	9700	D	400	
79-01-6	Trichloroethene (TCE)	30000	D	400	
75-69-4	Trichlorofluoromethane (CFC 11)	400	U	400	
75-01-4	Vinyl Chloride	1600	D	400	
156-59-2	cis-1,2-Dichloroethene	14000	D	400	
10061-01-5	cis-1,3-Dichloropropene	400	U	400	
156-60-5	trans-1,2-Dichloroethene	400	U	400	
10061-02-6	trans-1,3-Dichloropropene	400	U	400	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/24/13 23:35	
Dibromofluoromethane	98	70-130	4/24/13 23:35	
Toluene-d8	99	70-130	4/24/13 23:35	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0930
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 21:04

Sample Name: CL3-S (18)
 Lab Code: R1302628-016

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5882.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	10 U	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	7.5	2.0	
79-01-6	Trichloroethene (TCE)	12	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 21:04	
Dibromofluoromethane	99	70-130	4/22/13 21:04	
Toluene-d8	97	70-130	4/22/13 21:04	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1030
Date Received: 4/17/13
Date Analyzed: 4/22/13 21:35

Sample Name: OB4-S (23.5)
Lab Code: R1302628-017

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5883.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 21:35	
Dibromofluoromethane	97	70-130	4/22/13 21:35	
Toluene-d8	97	70-130	4/22/13 21:35	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1100
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 22:07

Sample Name: OB4-DO (67)
 Lab Code: R1302628-018

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5884.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	75		2.0	
79-01-6	Trichloroethene (TCE)	160		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	13		2.0	
156-59-2	cis-1,2-Dichloroethene	86		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 22:07	
Dibromofluoromethane	98	70-130	4/22/13 22:07	
Toluene-d8	96	70-130	4/22/13 22:07	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1130
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 22:39

Sample Name: OB4-BR (77.3)
 Lab Code: R1302628-019

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5885.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/22/13 22:39	
Dibromofluoromethane	100	70-130	4/22/13 22:39	
Toluene-d8	97	70-130	4/22/13 22:39	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1200
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 02:53

Sample Name: OB5-DO (81.5)
 Lab Code: R1302628-020

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5893.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	40	U	40	
79-34-5	1,1,2,2-Tetrachloroethane	40	U	40	
79-00-5	1,1,2-Trichloroethane	40	U	40	
75-34-3	1,1-Dichloroethane (1,1-DCA)	40	U	40	
75-35-4	1,1-Dichloroethene (1,1-DCE)	40	U	40	
107-06-2	1,2-Dichloroethane	40	U	40	
78-87-5	1,2-Dichloropropane	40	U	40	
67-64-1	Acetone	200	U	200	
75-27-4	Bromodichloromethane	40	U	40	
75-25-2	Bromoform	40	U	40	
74-83-9	Bromomethane	40	U	40	
56-23-5	Carbon Tetrachloride	40	U	40	
108-90-7	Chlorobenzene	40	U	40	
75-00-3	Chloroethane	40	U	40	
67-66-3	Chloroform	40	U	40	
74-87-3	Chloromethane	40	U	40	
124-48-1	Dibromochloromethane	40	U	40	
75-09-2	Methylene Chloride	40	U	40	
127-18-4	Tetrachloroethene (PCE)	850		40	
79-01-6	Trichloroethene (TCE)	3000		40	
75-69-4	Trichlorofluoromethane (CFC 11)	40	U	40	
75-01-4	Vinyl Chloride	40	U	40	
156-59-2	cis-1,2-Dichloroethene	720		40	
10061-01-5	cis-1,3-Dichloropropene	40	U	40	
156-60-5	trans-1,2-Dichloroethene	40	U	40	
10061-02-6	trans-1,3-Dichloropropene	40	U	40	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 02:53	
Dibromofluoromethane	99	70-130	4/23/13 02:53	
Toluene-d8	98	70-130	4/23/13 02:53	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1230
Date Received: 4/17/13
Date Analyzed: 4/22/13 23:10

Sample Name: OB5-BR (104)
Lab Code: R1302628-021

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5886.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	12		2.0	
156-59-2	cis-1,2-Dichloroethene	8.5		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/22/13 23:10	
Dibromofluoromethane	97	70-130	4/22/13 23:10	
Toluene-d8	95	70-130	4/22/13 23:10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 23:18

Sample Name: CL8-DO (51.5)
 Lab Code: R1302628-022

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5916.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/23/13 23:18	
Dibromofluoromethane	99	70-130	4/23/13 23:18	
Toluene-d8	98	70-130	4/23/13 23:18	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1055
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 14:03

Sample Name: TB-1
 Lab Code: R1302628-023

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5850.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1055
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 14:03

Sample Name: TB-1
 Lab Code: R1302628-023

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5850.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/11/13 1055
Date Received: 4/17/13
Date Analyzed: 4/21/13 14:03

Sample Name: TB-1
Lab Code: R1302628-023

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5850.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/21/13 14:03	
Dibromofluoromethane	101	70-130	4/21/13 14:03	
Toluene-d8	97	70-130	4/21/13 14:03	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 0745
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 14:35

Sample Name: EB-1
 Lab Code: R1302628-024

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5851.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 0745
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 14:35

Sample Name: EB-1
 Lab Code: R1302628-024

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5851.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/11/13 0745
Date Received: 4/17/13
Date Analyzed: 4/21/13 14:35

Sample Name: EB-1
Lab Code: R1302628-024

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5851.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/21/13 14:35	
Dibromofluoromethane	100	70-130	4/21/13 14:35	
Toluene-d8	97	70-130	4/21/13 14:35	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 15:06

Sample Name: MW-3R 30.3)
 Lab Code: R1302628-025

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5852.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 15:06

Sample Name: MW-3R 30.3)
 Lab Code: R1302628-025

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5852.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	5.1		2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	6.0		2.0	
156-59-2	cis-1,2-Dichloroethene	7.0		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/11/13 1000
Date Received: 4/17/13
Date Analyzed: 4/21/13 15:06

Sample Name: MW-3R 30.3)
Lab Code: R1302628-025

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5852.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/21/13 15:06	
Dibromofluoromethane	100	70-130	4/21/13 15:06	
Toluene-d8	98	70-130	4/21/13 15:06	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1045
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 15:38

Sample Name: MW-5R (17.2)
 Lab Code: R1302628-026

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5853.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1045
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 15:38

Sample Name: MW-5R (17.2)
 Lab Code: R1302628-026

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5853.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	6.1		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	19		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	6.4		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/11/13 1045
Date Received: 4/17/13
Date Analyzed: 4/21/13 15:38

Sample Name: MW-5R (17.2)
Lab Code: R1302628-026

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042113\T5853.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/21/13 15:38	
Dibromofluoromethane	101	70-130	4/21/13 15:38	
Toluene-d8	98	70-130	4/21/13 15:38	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 19:20

Sample Name: OB8-S (12)
 Lab Code: R1302628-027

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5860.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
563-58-6	1,1-Dichloropropene	5.0	U	5.0	
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0	
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0	
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	
106-93-4	1,2-Dibromoethane	5.0	U	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
142-28-9	1,3-Dichloropropane	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
123-91-1	1,4-Dioxane	100	U	100	
594-20-7	2,2-Dichloropropane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	25	U	25	
95-49-8	2-Chlorotoluene	5.0	U	5.0	
591-78-6	2-Hexanone	25	U	25	
106-43-4	4-Chlorotoluene	5.0	U	5.0	
99-87-6	p-Isopropyltoluene	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone	25	U	25	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	5.0	U	5.0	
108-86-1	Bromobenzene	5.0	U	5.0	
74-97-5	Bromochloromethane	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 19:20

Sample Name: OB8-S (12)
 Lab Code: R1302628-027

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5860.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
74-95-3	Dibromomethane	5.0	U	5.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.0	U	5.0	
75-09-2	Dichloromethane	5.0	U	5.0	
60-29-7	Diethyl Ether	5.0	U	5.0	
108-20-3	Diisopropyl Ether	5.0	U	5.0	
637-92-3	Ethyl tert-Butyl Ether	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
87-68-3	Hexachlorobutadiene	5.0	U	5.0	
98-82-8	Isopropylbenzene (Cumene)	5.0	U	5.0	
1634-04-4	Methyl tert-Butyl Ether	5.0	U	5.0	
91-20-3	Naphthalene	5.0	U	5.0	
100-42-5	Styrene	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	74		5.0	
109-99-9	Tetrahydrofuran (THF)	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	360		5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	82		5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	
104-51-8	n-Butylbenzene	5.0	U	5.0	
103-65-1	n-Propylbenzene	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
135-98-8	sec-Butylbenzene	5.0	U	5.0	
994-05-8	tert-Amyl Methyl Ether	5.0	U	5.0	
98-06-6	tert-Butylbenzene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/11/13 1230
Date Received: 4/17/13
Date Analyzed: 4/21/13 19:20

Sample Name: OB8-S (12)
Lab Code: R1302628-027

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042113\T5860.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/21/13 19:20	
Dibromofluoromethane	99	70-130	4/21/13 19:20	
Toluene-d8	97	70-130	4/21/13 19:20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 19:52

Sample Name: OB8-DO (78)
 Lab Code: R1302628-028

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5861.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	6.1		5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	15		5.0	
563-58-6	1,1-Dichloropropene	5.0	U	5.0	
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0	
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0	
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	
106-93-4	1,2-Dibromoethane	5.0	U	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
142-28-9	1,3-Dichloropropane	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
123-91-1	1,4-Dioxane	100	U	100	
594-20-7	2,2-Dichloropropane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	25	U	25	
95-49-8	2-Chlorotoluene	5.0	U	5.0	
591-78-6	2-Hexanone	25	U	25	
106-43-4	4-Chlorotoluene	5.0	U	5.0	
99-87-6	p-Isopropyltoluene	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone	25	U	25	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	5.0	U	5.0	
108-86-1	Bromobenzene	5.0	U	5.0	
74-97-5	Bromochloromethane	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 19:52

Sample Name: OB8-DO (78)
 Lab Code: R1302628-028

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5861.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
74-95-3	Dibromomethane	5.0	U	5.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.0	U	5.0	
75-09-2	Dichloromethane	5.0	U	5.0	
60-29-7	Diethyl Ether	5.0	U	5.0	
108-20-3	Diisopropyl Ether	5.0	U	5.0	
637-92-3	Ethyl tert-Butyl Ether	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
87-68-3	Hexachlorobutadiene	5.0	U	5.0	
98-82-8	Isopropylbenzene (Cumene)	5.0	U	5.0	
1634-04-4	Methyl tert-Butyl Ether	5.0	U	5.0	
91-20-3	Naphthalene	5.0	U	5.0	
100-42-5	Styrene	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	430		5.0	
109-99-9	Tetrahydrofuran (THF)	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	2700	E	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.2		5.0	
156-59-2	cis-1,2-Dichloroethene	1300	E	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	
104-51-8	n-Butylbenzene	5.0	U	5.0	
103-65-1	n-Propylbenzene	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
135-98-8	sec-Butylbenzene	5.0	U	5.0	
994-05-8	tert-Amyl Methyl Ether	5.0	U	5.0	
98-06-6	tert-Butylbenzene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	6.2		5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/11/13 1330
Date Received: 4/17/13
Date Analyzed: 4/21/13 19:52

Sample Name: OB8-DO (78)
Lab Code: R1302628-028

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5861.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/21/13 19:52	
Dibromofluoromethane	99	70-130	4/21/13 19:52	
Toluene-d8	96	70-130	4/21/13 19:52	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 03:25

Sample Name: OB8-DO (78)
 Lab Code: R1302628-028
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5894.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	40	U	40	
71-55-6	1,1,1-Trichloroethane (TCA)	40	U	40	
79-34-5	1,1,2,2-Tetrachloroethane	40	U	40	
79-00-5	1,1,2-Trichloroethane	40	U	40	
75-34-3	1,1-Dichloroethane (1,1-DCA)	40	U	40	
75-35-4	1,1-Dichloroethene (1,1-DCE)	40	U	40	
563-58-6	1,1-Dichloropropene	40	U	40	
87-61-6	1,2,3-Trichlorobenzene	40	U	40	
96-18-4	1,2,3-Trichloropropane	40	U	40	
120-82-1	1,2,4-Trichlorobenzene	40	U	40	
95-63-6	1,2,4-Trimethylbenzene	40	U	40	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	40	U	40	
106-93-4	1,2-Dibromoethane	40	U	40	
95-50-1	1,2-Dichlorobenzene	40	U	40	
107-06-2	1,2-Dichloroethane	40	U	40	
78-87-5	1,2-Dichloropropane	40	U	40	
108-67-8	1,3,5-Trimethylbenzene	40	U	40	
541-73-1	1,3-Dichlorobenzene	40	U	40	
142-28-9	1,3-Dichloropropane	40	U	40	
106-46-7	1,4-Dichlorobenzene	40	U	40	
123-91-1	1,4-Dioxane	800	U	800	
594-20-7	2,2-Dichloropropane	40	U	40	
78-93-3	2-Butanone (MEK)	200	U	200	
95-49-8	2-Chlorotoluene	40	U	40	
591-78-6	2-Hexanone	200	U	200	
106-43-4	4-Chlorotoluene	40	U	40	
99-87-6	p-Isopropyltoluene	40	U	40	
108-10-1	4-Methyl-2-pentanone	200	U	200	
67-64-1	Acetone	200	U	200	
71-43-2	Benzene	40	U	40	
108-86-1	Bromobenzene	40	U	40	
74-97-5	Bromochloromethane	40	U	40	
75-27-4	Bromodichloromethane	40	U	40	
75-25-2	Bromoform	40	U	40	
74-83-9	Bromomethane	40	U	40	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 03:25

Sample Name: OB8-DO (78)
 Lab Code: R1302628-028
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5894.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 20

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	40 U	40	
56-23-5	Carbon Tetrachloride	40 U	40	
108-90-7	Chlorobenzene	40 U	40	
75-00-3	Chloroethane	40 U	40	
67-66-3	Chloroform	40 U	40	
74-87-3	Chloromethane	40 U	40	
124-48-1	Dibromochloromethane	40 U	40	
74-95-3	Dibromomethane	40 U	40	
75-71-8	Dichlorodifluoromethane (CFC 12)	40 U	40	
75-09-2	Dichloromethane	40 U	40	
60-29-7	Diethyl Ether	40 U	40	
108-20-3	Diisopropyl Ether	40 U	40	
637-92-3	Ethyl tert-Butyl Ether	40 U	40	
100-41-4	Ethylbenzene	40 U	40	
87-68-3	Hexachlorobutadiene	40 U	40	
98-82-8	Isopropylbenzene (Cumene)	40 U	40	
1634-04-4	Methyl tert-Butyl Ether	40 U	40	
91-20-3	Naphthalene	40 U	40	
100-42-5	Styrene	40 U	40	
127-18-4	Tetrachloroethene (PCE)	480 D	40	
109-99-9	Tetrahydrofuran (THF)	40 U	40	
108-88-3	Toluene	40 U	40	
79-01-6	Trichloroethene (TCE)	3300 D	40	
75-69-4	Trichlorofluoromethane (CFC 11)	40 U	40	
75-01-4	Vinyl Chloride	40 U	40	
156-59-2	cis-1,2-Dichloroethene	1500 D	40	
10061-01-5	cis-1,3-Dichloropropene	40 U	40	
179601-23-1	m,p-Xylenes	40 U	40	
104-51-8	n-Butylbenzene	40 U	40	
103-65-1	n-Propylbenzene	40 U	40	
95-47-6	o-Xylene	40 U	40	
135-98-8	sec-Butylbenzene	40 U	40	
994-05-8	tert-Amyl Methyl Ether	40 U	40	
98-06-6	tert-Butylbenzene	40 U	40	
156-60-5	trans-1,2-Dichloroethene	40 U	40	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/11/13 1330
Date Received: 4/17/13
Date Analyzed: 4/23/13 03:25

Sample Name: OB8-DO (78)
Lab Code: R1302628-028
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5894.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 20

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	40 U	40	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 03:25	
Dibromofluoromethane	100	70-130	4/23/13 03:25	
Toluene-d8	96	70-130	4/23/13 03:25	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 20:55

Sample Name: GZ-4 (12)
 Lab Code: R1302628-029

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5863.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	10	U	10	
71-55-6	1,1,1-Trichloroethane (TCA)	10	U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	10	
79-00-5	1,1,2-Trichloroethane	10	U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10	U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10	U	10	
563-58-6	1,1-Dichloropropene	10	U	10	
87-61-6	1,2,3-Trichlorobenzene	10	U	10	
96-18-4	1,2,3-Trichloropropane	10	U	10	
120-82-1	1,2,4-Trichlorobenzene	10	U	10	
95-63-6	1,2,4-Trimethylbenzene	10	U	10	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	10	U	10	
106-93-4	1,2-Dibromoethane	10	U	10	
95-50-1	1,2-Dichlorobenzene	10	U	10	
107-06-2	1,2-Dichloroethane	10	U	10	
78-87-5	1,2-Dichloropropane	10	U	10	
108-67-8	1,3,5-Trimethylbenzene	10	U	10	
541-73-1	1,3-Dichlorobenzene	10	U	10	
142-28-9	1,3-Dichloropropane	10	U	10	
106-46-7	1,4-Dichlorobenzene	10	U	10	
123-91-1	1,4-Dioxane	200	U	200	
594-20-7	2,2-Dichloropropane	10	U	10	
78-93-3	2-Butanone (MEK)	50	U	50	
95-49-8	2-Chlorotoluene	10	U	10	
591-78-6	2-Hexanone	50	U	50	
106-43-4	4-Chlorotoluene	10	U	10	
99-87-6	p-Isopropyltoluene	10	U	10	
108-10-1	4-Methyl-2-pentanone	50	U	50	
67-64-1	Acetone	50	U	50	
71-43-2	Benzene	10	U	10	
108-86-1	Bromobenzene	10	U	10	
74-97-5	Bromochloromethane	10	U	10	
75-27-4	Bromodichloromethane	10	U	10	
75-25-2	Bromoform	10	U	10	
74-83-9	Bromomethane	10	U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/11/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/21/13 20:55

Sample Name: GZ-4 (12)
 Lab Code: R1302628-029

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5863.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
74-95-3	Dibromomethane	10	U	10	
75-71-8	Dichlorodifluoromethane (CFC 12)	10	U	10	
75-09-2	Dichloromethane	10	U	10	
60-29-7	Diethyl Ether	10	U	10	
108-20-3	Diisopropyl Ether	10	U	10	
637-92-3	Ethyl tert-Butyl Ether	10	U	10	
100-41-4	Ethylbenzene	10	U	10	
87-68-3	Hexachlorobutadiene	10	U	10	
98-82-8	Isopropylbenzene (Cumene)	10	U	10	
1634-04-4	Methyl tert-Butyl Ether	10	U	10	
91-20-3	Naphthalene	10	U	10	
100-42-5	Styrene	10	U	10	
127-18-4	Tetrachloroethene (PCE)	110		10	
109-99-9	Tetrahydrofuran (THF)	10	U	10	
108-88-3	Toluene	10	U	10	
79-01-6	Trichloroethene (TCE)	710		10	
75-69-4	Trichlorofluoromethane (CFC 11)	10	U	10	
75-01-4	Vinyl Chloride	10	U	10	
156-59-2	cis-1,2-Dichloroethene	700		10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
179601-23-1	m,p-Xylenes	10	U	10	
104-51-8	n-Butylbenzene	10	U	10	
103-65-1	n-Propylbenzene	10	U	10	
95-47-6	o-Xylene	10	U	10	
135-98-8	sec-Butylbenzene	10	U	10	
994-05-8	tert-Amyl Methyl Ether	10	U	10	
98-06-6	tert-Butylbenzene	10	U	10	
156-60-5	trans-1,2-Dichloroethene	10	U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/11/13 1400
Date Received: 4/17/13
Date Analyzed: 4/21/13 20:55

Sample Name: GZ-4 (12)
Lab Code: R1302628-029

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5863.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/21/13 20:55	
Dibromofluoromethane	100	70-130	4/21/13 20:55	
Toluene-d8	97	70-130	4/21/13 20:55	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0745
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 23:50

Sample Name: OB18-S (11.2)
 Lab Code: R1302628-030

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5917.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0745
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 23:50

Sample Name: OB18-S (11.2)
 Lab Code: R1302628-030

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5917.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 0745
Date Received: 4/17/13
Date Analyzed: 4/23/13 23:50

Sample Name: OB18-S (11.2)
Lab Code: R1302628-030

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5917.D\

Analysis Lot: 337612
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/23/13 23:50	
Dibromofluoromethane	99	70-130	4/23/13 23:50	
Toluene-d8	98	70-130	4/23/13 23:50	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0845
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 20:25

Sample Name: OB18-DO (23.8)
 Lab Code: R1302628-031

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5937.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.7		5.0	
563-58-6	1,1-Dichloropropene	5.0	U	5.0	
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0	
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0	
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	
106-93-4	1,2-Dibromoethane	5.0	U	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
142-28-9	1,3-Dichloropropane	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
123-91-1	1,4-Dioxane	100	U	100	
594-20-7	2,2-Dichloropropane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	25	U	25	
95-49-8	2-Chlorotoluene	5.0	U	5.0	
591-78-6	2-Hexanone	25	U	25	
106-43-4	4-Chlorotoluene	5.0	U	5.0	
99-87-6	p-Isopropyltoluene	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone	25	U	25	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	5.0	U	5.0	
108-86-1	Bromobenzene	5.0	U	5.0	
74-97-5	Bromochloromethane	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0845
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 20:25

Sample Name: OB18-DO (23.8)
 Lab Code: R1302628-031

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5937.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
74-95-3	Dibromomethane	5.0	U	5.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.0	U	5.0	
75-09-2	Dichloromethane	5.0	U	5.0	
60-29-7	Diethyl Ether	5.0	U	5.0	
108-20-3	Diisopropyl Ether	5.0	U	5.0	
637-92-3	Ethyl tert-Butyl Ether	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
87-68-3	Hexachlorobutadiene	5.0	U	5.0	
98-82-8	Isopropylbenzene (Cumene)	5.0	U	5.0	
1634-04-4	Methyl tert-Butyl Ether	5.0	U	5.0	
91-20-3	Naphthalene	5.0	U	5.0	
100-42-5	Styrene	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	39		5.0	
109-99-9	Tetrahydrofuran (THF)	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	370		5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	63		5.0	
156-59-2	cis-1,2-Dichloroethene	430		5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	
104-51-8	n-Butylbenzene	5.0	U	5.0	
103-65-1	n-Propylbenzene	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
135-98-8	sec-Butylbenzene	5.0	U	5.0	
994-05-8	tert-Amyl Methyl Ether	5.0	U	5.0	
98-06-6	tert-Butylbenzene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 0845
Date Received: 4/17/13
Date Analyzed: 4/24/13 20:25

Sample Name: OB18-DO (23.8)
Lab Code: R1302628-031

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5937.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/24/13 20:25	
Dibromofluoromethane	98	70-130	4/24/13 20:25	
Toluene-d8	98	70-130	4/24/13 20:25	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0930
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 00:22

Sample Name: OB41-S (13.3)
 Lab Code: R1302628-032

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5918.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.4	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0930
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 00:22

Sample Name: OB41-S (13.3)
 Lab Code: R1302628-032

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5918.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	71		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	310	E	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	80		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 0930
Date Received: 4/17/13
Date Analyzed: 4/24/13 00:22

Sample Name: OB41-S (13.3)
Lab Code: R1302628-032

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5918.D\

Analysis Lot: 337612
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/24/13 00:22	
Dibromofluoromethane	97	70-130	4/24/13 00:22	
Toluene-d8	98	70-130	4/24/13 00:22	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0930
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 19:22

Sample Name: OB41-S (13.3)
 Lab Code: R1302628-032
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5935.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	4.0	U	4.0	
71-55-6	1,1,1-Trichloroethane (TCA)	4.0	U	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0	U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0	U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0	U	4.0	
563-58-6	1,1-Dichloropropene	4.0	U	4.0	
87-61-6	1,2,3-Trichlorobenzene	4.0	U	4.0	
96-18-4	1,2,3-Trichloropropane	4.0	U	4.0	
120-82-1	1,2,4-Trichlorobenzene	4.0	U	4.0	
95-63-6	1,2,4-Trimethylbenzene	4.0	U	4.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	4.0	U	4.0	
106-93-4	1,2-Dibromoethane	4.0	U	4.0	
95-50-1	1,2-Dichlorobenzene	4.0	U	4.0	
107-06-2	1,2-Dichloroethane	4.0	U	4.0	
78-87-5	1,2-Dichloropropane	4.0	U	4.0	
108-67-8	1,3,5-Trimethylbenzene	4.0	U	4.0	
541-73-1	1,3-Dichlorobenzene	4.0	U	4.0	
142-28-9	1,3-Dichloropropane	4.0	U	4.0	
106-46-7	1,4-Dichlorobenzene	4.0	U	4.0	
123-91-1	1,4-Dioxane	80	U	80	
594-20-7	2,2-Dichloropropane	4.0	U	4.0	
78-93-3	2-Butanone (MEK)	20	U	20	
95-49-8	2-Chlorotoluene	4.0	U	4.0	
591-78-6	2-Hexanone	20	U	20	
106-43-4	4-Chlorotoluene	4.0	U	4.0	
99-87-6	p-Isopropyltoluene	4.0	U	4.0	
108-10-1	4-Methyl-2-pentanone	20	U	20	
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	4.0	U	4.0	
108-86-1	Bromobenzene	4.0	U	4.0	
74-97-5	Bromochloromethane	4.0	U	4.0	
75-27-4	Bromodichloromethane	4.0	U	4.0	
75-25-2	Bromoform	4.0	U	4.0	
74-83-9	Bromomethane	4.0	U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 0930
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 19:22

Sample Name: OB41-S (13.3)
 Lab Code: R1302628-032
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5935.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	4.0	U	4.0	
56-23-5	Carbon Tetrachloride	4.0	U	4.0	
108-90-7	Chlorobenzene	4.0	U	4.0	
75-00-3	Chloroethane	4.0	U	4.0	
67-66-3	Chloroform	4.0	U	4.0	
74-87-3	Chloromethane	4.0	U	4.0	
124-48-1	Dibromochloromethane	4.0	U	4.0	
74-95-3	Dibromomethane	4.0	U	4.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.0	U	4.0	
75-09-2	Dichloromethane	4.0	U	4.0	
60-29-7	Diethyl Ether	4.0	U	4.0	
108-20-3	Diisopropyl Ether	4.0	U	4.0	
637-92-3	Ethyl tert-Butyl Ether	4.0	U	4.0	
100-41-4	Ethylbenzene	4.0	U	4.0	
87-68-3	Hexachlorobutadiene	4.0	U	4.0	
98-82-8	Isopropylbenzene (Cumene)	4.0	U	4.0	
1634-04-4	Methyl tert-Butyl Ether	4.0	U	4.0	
91-20-3	Naphthalene	4.0	U	4.0	
100-42-5	Styrene	4.0	U	4.0	
127-18-4	Tetrachloroethene (PCE)	66	D	4.0	
109-99-9	Tetrahydrofuran (THF)	4.0	U	4.0	
108-88-3	Toluene	4.0	U	4.0	
79-01-6	Trichloroethene (TCE)	290	D	4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0	U	4.0	
75-01-4	Vinyl Chloride	4.0	U	4.0	
156-59-2	cis-1,2-Dichloroethene	74	D	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0	U	4.0	
179601-23-1	m,p-Xylenes	4.0	U	4.0	
104-51-8	n-Butylbenzene	4.0	U	4.0	
103-65-1	n-Propylbenzene	4.0	U	4.0	
95-47-6	o-Xylene	4.0	U	4.0	
135-98-8	sec-Butylbenzene	4.0	U	4.0	
994-05-8	tert-Amyl Methyl Ether	4.0	U	4.0	
98-06-6	tert-Butylbenzene	4.0	U	4.0	
156-60-5	trans-1,2-Dichloroethene	4.0	U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 0930
Date Received: 4/17/13
Date Analyzed: 4/24/13 19:22

Sample Name: OB41-S (13.3)
Lab Code: R1302628-032
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5935.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	4.0 U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 19:22	
Dibromofluoromethane	99	70-130	4/24/13 19:22	
Toluene-d8	98	70-130	4/24/13 19:22	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 00:54

Sample Name: AP15-S (12.2)
 Lab Code: R1302628-033

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5919.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 00:54

Sample Name: AP15-S (12.2)
 Lab Code: R1302628-033

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5919.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1000
Date Received: 4/17/13
Date Analyzed: 4/24/13 00:54

Sample Name: AP15-S (12.2)
Lab Code: R1302628-033

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5919.D\

Analysis Lot: 337612
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/24/13 00:54	
Dibromofluoromethane	97	70-130	4/24/13 00:54	
Toluene-d8	98	70-130	4/24/13 00:54	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1030
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 21:28

Sample Name: GZ-1 (12.4)
 Lab Code: R1302628-034

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5939.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	20 U	20	
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20 U	20	
563-58-6	1,1-Dichloropropene	20 U	20	
87-61-6	1,2,3-Trichlorobenzene	20 U	20	
96-18-4	1,2,3-Trichloropropane	20 U	20	
120-82-1	1,2,4-Trichlorobenzene	20 U	20	
95-63-6	1,2,4-Trimethylbenzene	20 U	20	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	20 U	20	
106-93-4	1,2-Dibromoethane	20 U	20	
95-50-1	1,2-Dichlorobenzene	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
108-67-8	1,3,5-Trimethylbenzene	20 U	20	
541-73-1	1,3-Dichlorobenzene	20 U	20	
142-28-9	1,3-Dichloropropane	20 U	20	
106-46-7	1,4-Dichlorobenzene	20 U	20	
123-91-1	1,4-Dioxane	400 U	400	
594-20-7	2,2-Dichloropropane	20 U	20	
78-93-3	2-Butanone (MEK)	100 U	100	
95-49-8	2-Chlorotoluene	20 U	20	
591-78-6	2-Hexanone	100 U	100	
106-43-4	4-Chlorotoluene	20 U	20	
99-87-6	p-Isopropyltoluene	20 U	20	
108-10-1	4-Methyl-2-pentanone	100 U	100	
67-64-1	Acetone	100 U	100	
71-43-2	Benzene	20 U	20	
108-86-1	Bromobenzene	20 U	20	
74-97-5	Bromochloromethane	20 U	20	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1030
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 21:28

Sample Name: GZ-1 (12.4)
 Lab Code: R1302628-034

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5939.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	20	U	20	
56-23-5	Carbon Tetrachloride	20	U	20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	20	U	20	
67-66-3	Chloroform	20	U	20	
74-87-3	Chloromethane	20	U	20	
124-48-1	Dibromochloromethane	20	U	20	
74-95-3	Dibromomethane	20	U	20	
75-71-8	Dichlorodifluoromethane (CFC 12)	20	U	20	
75-09-2	Dichloromethane	20	U	20	
60-29-7	Diethyl Ether	20	U	20	
108-20-3	Diisopropyl Ether	20	U	20	
637-92-3	Ethyl tert-Butyl Ether	20	U	20	
100-41-4	Ethylbenzene	20	U	20	
87-68-3	Hexachlorobutadiene	20	U	20	
98-82-8	Isopropylbenzene (Cumene)	20	U	20	
1634-04-4	Methyl tert-Butyl Ether	20	U	20	
91-20-3	Naphthalene	20	U	20	
100-42-5	Styrene	20	U	20	
127-18-4	Tetrachloroethene (PCE)	190		20	
109-99-9	Tetrahydrofuran (THF)	20	U	20	
108-88-3	Toluene	20	U	20	
79-01-6	Trichloroethene (TCE)	1300		20	
75-69-4	Trichlorofluoromethane (CFC 11)	20	U	20	
75-01-4	Vinyl Chloride	20	U	20	
156-59-2	cis-1,2-Dichloroethene	320		20	
10061-01-5	cis-1,3-Dichloropropene	20	U	20	
179601-23-1	m,p-Xylenes	20	U	20	
104-51-8	n-Butylbenzene	20	U	20	
103-65-1	n-Propylbenzene	20	U	20	
95-47-6	o-Xylene	20	U	20	
135-98-8	sec-Butylbenzene	20	U	20	
994-05-8	tert-Amyl Methyl Ether	20	U	20	
98-06-6	tert-Butylbenzene	20	U	20	
156-60-5	trans-1,2-Dichloroethene	20	U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1030
Date Received: 4/17/13
Date Analyzed: 4/24/13 21:28

Sample Name: GZ-1 (12.4)
Lab Code: R1302628-034

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042413\T5939.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/24/13 21:28	
Dibromofluoromethane	98	70-130	4/24/13 21:28	
Toluene-d8	98	70-130	4/24/13 21:28	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1100
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 01:26

Sample Name: OB43-S (16)
 Lab Code: R1302628-035

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5920.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1100
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 01:26

Sample Name: OB43-S (16)
 Lab Code: R1302628-035

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5920.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.4	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1100
Date Received: 4/17/13
Date Analyzed: 4/24/13 01:26

Sample Name: OB43-S (16)
Lab Code: R1302628-035

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5920.D\

Analysis Lot: 337612
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 01:26	
Dibromofluoromethane	99	70-130	4/24/13 01:26	
Toluene-d8	98	70-130	4/24/13 01:26	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1130
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 22:00

Sample Name: OB42-S (13.6)
 Lab Code: R1302628-036

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5940.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	40	U	40	
71-55-6	1,1,1-Trichloroethane (TCA)	40	U	40	
79-34-5	1,1,2,2-Tetrachloroethane	40	U	40	
79-00-5	1,1,2-Trichloroethane	40	U	40	
75-34-3	1,1-Dichloroethane (1,1-DCA)	40	U	40	
75-35-4	1,1-Dichloroethene (1,1-DCE)	40	U	40	
563-58-6	1,1-Dichloropropene	40	U	40	
87-61-6	1,2,3-Trichlorobenzene	40	U	40	
96-18-4	1,2,3-Trichloropropane	40	U	40	
120-82-1	1,2,4-Trichlorobenzene	40	U	40	
95-63-6	1,2,4-Trimethylbenzene	40	U	40	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	40	U	40	
106-93-4	1,2-Dibromoethane	40	U	40	
95-50-1	1,2-Dichlorobenzene	40	U	40	
107-06-2	1,2-Dichloroethane	40	U	40	
78-87-5	1,2-Dichloropropane	40	U	40	
108-67-8	1,3,5-Trimethylbenzene	40	U	40	
541-73-1	1,3-Dichlorobenzene	40	U	40	
142-28-9	1,3-Dichloropropane	40	U	40	
106-46-7	1,4-Dichlorobenzene	40	U	40	
123-91-1	1,4-Dioxane	800	U	800	
594-20-7	2,2-Dichloropropane	40	U	40	
78-93-3	2-Butanone (MEK)	200	U	200	
95-49-8	2-Chlorotoluene	40	U	40	
591-78-6	2-Hexanone	200	U	200	
106-43-4	4-Chlorotoluene	40	U	40	
99-87-6	p-Isopropyltoluene	40	U	40	
108-10-1	4-Methyl-2-pentanone	200	U	200	
67-64-1	Acetone	200	U	200	
71-43-2	Benzene	40	U	40	
108-86-1	Bromobenzene	40	U	40	
74-97-5	Bromochloromethane	40	U	40	
75-27-4	Bromodichloromethane	40	U	40	
75-25-2	Bromoform	40	U	40	
74-83-9	Bromomethane	40	U	40	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1130
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 22:00

Sample Name: OB42-S (13.6)
 Lab Code: R1302628-036

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5940.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	40	U	40	
56-23-5	Carbon Tetrachloride	40	U	40	
108-90-7	Chlorobenzene	40	U	40	
75-00-3	Chloroethane	40	U	40	
67-66-3	Chloroform	40	U	40	
74-87-3	Chloromethane	40	U	40	
124-48-1	Dibromochloromethane	40	U	40	
74-95-3	Dibromomethane	40	U	40	
75-71-8	Dichlorodifluoromethane (CFC 12)	40	U	40	
75-09-2	Dichloromethane	40	U	40	
60-29-7	Diethyl Ether	40	U	40	
108-20-3	Diisopropyl Ether	40	U	40	
637-92-3	Ethyl tert-Butyl Ether	40	U	40	
100-41-4	Ethylbenzene	40	U	40	
87-68-3	Hexachlorobutadiene	40	U	40	
98-82-8	Isopropylbenzene (Cumene)	40	U	40	
1634-04-4	Methyl tert-Butyl Ether	40	U	40	
91-20-3	Naphthalene	40	U	40	
100-42-5	Styrene	40	U	40	
127-18-4	Tetrachloroethene (PCE)	130		40	
109-99-9	Tetrahydrofuran (THF)	40	U	40	
108-88-3	Toluene	40	U	40	
79-01-6	Trichloroethene (TCE)	3500		40	
75-69-4	Trichlorofluoromethane (CFC 11)	40	U	40	
75-01-4	Vinyl Chloride	40	U	40	
156-59-2	cis-1,2-Dichloroethene	1400		40	
10061-01-5	cis-1,3-Dichloropropene	40	U	40	
179601-23-1	m,p-Xylenes	40	U	40	
104-51-8	n-Butylbenzene	40	U	40	
103-65-1	n-Propylbenzene	40	U	40	
95-47-6	o-Xylene	40	U	40	
135-98-8	sec-Butylbenzene	40	U	40	
994-05-8	tert-Amyl Methyl Ether	40	U	40	
98-06-6	tert-Butylbenzene	40	U	40	
156-60-5	trans-1,2-Dichloroethene	40	U	40	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1130
Date Received: 4/17/13
Date Analyzed: 4/24/13 22:00

Sample Name: OB42-S (13.6)
Lab Code: R1302628-036

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042413\T5940.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 20

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	40 U	40	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/24/13 22:00	
Dibromofluoromethane	98	70-130	4/24/13 22:00	
Toluene-d8	99	70-130	4/24/13 22:00	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1508
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 01:57

Sample Name: EB-2
 Lab Code: R1302628-037

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5921.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1508
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 01:57

Sample Name: EB-2
 Lab Code: R1302628-037

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5921.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1508
Date Received: 4/17/13
Date Analyzed: 4/24/13 01:57

Sample Name: EB-2
Lab Code: R1302628-037

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5921.D\

Analysis Lot: 337612
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 01:57	
Dibromofluoromethane	99	70-130	4/24/13 01:57	
Toluene-d8	96	70-130	4/24/13 01:57	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 17:15

Sample Name: OB23-BR (83)
 Lab Code: R1302628-038

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5931.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	6.9		2.0	
79-34-5	1,1,2,2-Tetrachloroethane	16		2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 17:15

Sample Name: OB23-BR (83)
 Lab Code: R1302628-038

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoo12\Data\042413\T5931.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	4.7		2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	6.4		2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	260	E	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	77		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	38		2.0	
156-59-2	cis-1,2-Dichloroethene	7.6		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	4.1		2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1230
Date Received: 4/17/13
Date Analyzed: 4/24/13 17:15

Sample Name: OB23-BR (83)
Lab Code: R1302628-038

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5931.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/24/13 17:15	
Dibromofluoromethane	98	70-130	4/24/13 17:15	
Toluene-d8	99	70-130	4/24/13 17:15	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 19:53

Sample Name: OB23-BR (83)
 Lab Code: R1302628-038
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5936.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	4.0	U	4.0	
71-55-6	1,1,1-Trichloroethane (TCA)	6.6	D	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	17	D	4.0	
79-00-5	1,1,2-Trichloroethane	4.0	U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0	U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0	U	4.0	
563-58-6	1,1-Dichloropropene	4.0	U	4.0	
87-61-6	1,2,3-Trichlorobenzene	4.0	U	4.0	
96-18-4	1,2,3-Trichloropropane	4.0	U	4.0	
120-82-1	1,2,4-Trichlorobenzene	4.0	U	4.0	
95-63-6	1,2,4-Trimethylbenzene	4.0	U	4.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	4.0	U	4.0	
106-93-4	1,2-Dibromoethane	4.0	U	4.0	
95-50-1	1,2-Dichlorobenzene	4.0	U	4.0	
107-06-2	1,2-Dichloroethane	4.0	U	4.0	
78-87-5	1,2-Dichloropropane	4.0	U	4.0	
108-67-8	1,3,5-Trimethylbenzene	4.0	U	4.0	
541-73-1	1,3-Dichlorobenzene	4.0	U	4.0	
142-28-9	1,3-Dichloropropane	4.0	U	4.0	
106-46-7	1,4-Dichlorobenzene	4.0	U	4.0	
123-91-1	1,4-Dioxane	80	U	80	
594-20-7	2,2-Dichloropropane	4.0	U	4.0	
78-93-3	2-Butanone (MEK)	20	U	20	
95-49-8	2-Chlorotoluene	4.0	U	4.0	
591-78-6	2-Hexanone	20	U	20	
106-43-4	4-Chlorotoluene	4.0	U	4.0	
99-87-6	p-Isopropyltoluene	4.0	U	4.0	
108-10-1	4-Methyl-2-pentanone	20	U	20	
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	4.0	U	4.0	
108-86-1	Bromobenzene	4.0	U	4.0	
74-97-5	Bromochloromethane	4.0	U	4.0	
75-27-4	Bromodichloromethane	4.0	U	4.0	
75-25-2	Bromoform	4.0	U	4.0	
74-83-9	Bromomethane	4.0	U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 19:53

Sample Name: OB23-BR (83)
 Lab Code: R1302628-038
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5936.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	4.0	U	4.0	
56-23-5	Carbon Tetrachloride	4.1	D	4.0	
108-90-7	Chlorobenzene	4.0	U	4.0	
75-00-3	Chloroethane	4.0	U	4.0	
67-66-3	Chloroform	6.6	D	4.0	
74-87-3	Chloromethane	4.0	U	4.0	
124-48-1	Dibromochloromethane	4.0	U	4.0	
74-95-3	Dibromomethane	4.0	U	4.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.0	U	4.0	
75-09-2	Dichloromethane	4.0	U	4.0	
60-29-7	Diethyl Ether	4.0	U	4.0	
108-20-3	Diisopropyl Ether	4.0	U	4.0	
637-92-3	Ethyl tert-Butyl Ether	4.0	U	4.0	
100-41-4	Ethylbenzene	4.0	U	4.0	
87-68-3	Hexachlorobutadiene	4.0	U	4.0	
98-82-8	Isopropylbenzene (Cumene)	4.0	U	4.0	
1634-04-4	Methyl tert-Butyl Ether	4.0	U	4.0	
91-20-3	Naphthalene	4.0	U	4.0	
100-42-5	Styrene	4.0	U	4.0	
127-18-4	Tetrachloroethene (PCE)	260	D	4.0	
109-99-9	Tetrahydrofuran (THF)	4.0	U	4.0	
108-88-3	Toluene	4.0	U	4.0	
79-01-6	Trichloroethene (TCE)	76	D	4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0	U	4.0	
75-01-4	Vinyl Chloride	36	D	4.0	
156-59-2	cis-1,2-Dichloroethene	7.5	D	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0	U	4.0	
179601-23-1	m,p-Xylenes	4.0	U	4.0	
104-51-8	n-Butylbenzene	4.0	U	4.0	
103-65-1	n-Propylbenzene	4.0	U	4.0	
95-47-6	o-Xylene	4.0	U	4.0	
135-98-8	sec-Butylbenzene	4.0	U	4.0	
994-05-8	tert-Amyl Methyl Ether	4.0	U	4.0	
98-06-6	tert-Butylbenzene	4.0	U	4.0	
156-60-5	trans-1,2-Dichloroethene	4.0	U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1230
Date Received: 4/17/13
Date Analyzed: 4/24/13 19:53

Sample Name: OB23-BR (83)
Lab Code: R1302628-038
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5936.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	4.0	U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 19:53	
Dibromofluoromethane	100	70-130	4/24/13 19:53	
Toluene-d8	99	70-130	4/24/13 19:53	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 17:47

Sample Name: OB17-DO (41.4)
 Lab Code: R1302628-039

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5932.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 17:47

Sample Name: OB17-DO (41.4)
 Lab Code: R1302628-039

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5932.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	9.4		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	9.6		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1300
Date Received: 4/17/13
Date Analyzed: 4/24/13 17:47

Sample Name: OB17-DO (41.4)
Lab Code: R1302628-039

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5932.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/24/13 17:47	
Dibromofluoromethane	99	70-130	4/24/13 17:47	
Toluene-d8	99	70-130	4/24/13 17:47	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 18:18

Sample Name: OB17-BR (97)
 Lab Code: R1302628-040

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5933.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/12/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 18:18

Sample Name: OB17-BR (97)
 Lab Code: R1302628-040

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5933.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	97		2.0	
156-59-2	cis-1,2-Dichloroethene	16		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/12/13 1400
Date Received: 4/17/13
Date Analyzed: 4/24/13 18:18

Sample Name: OB17-BR (97)
Lab Code: R1302628-040

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDDATA\msvoa12\Data\042413\T5933.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 18:18	
Dibromofluoromethane	99	70-130	4/24/13 18:18	
Toluene-d8	98	70-130	4/24/13 18:18	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 00:07

Sample Name: MW-33B (19)
 Lab Code: R1302628-041

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5944.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 00:07

Sample Name: MW-33B (19)
 Lab Code: R1302628-041

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5944.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0800
Date Received: 4/17/13
Date Analyzed: 4/25/13 00:07

Sample Name: MW-33B (19)
Lab Code: R1302628-041

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5944.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/25/13 00:07	
Dibromofluoromethane	98	70-130	4/25/13 00:07	
Toluene-d8	98	70-130	4/25/13 00:07	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0900
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 00:39

Sample Name: CL4-DO (28)
 Lab Code: R1302628-042

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5945.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 0900
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 00:39

Sample Name: CL4-DO (28)
 Lab Code: R1302628-042

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5945.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	30		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 0900
Date Received: 4/17/13
Date Analyzed: 4/25/13 00:39

Sample Name: CL4-DO (28)
Lab Code: R1302628-042

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5945.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/25/13 00:39	
Dibromofluoromethane	99	70-130	4/25/13 00:39	
Toluene-d8	100	70-130	4/25/13 00:39	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 18:47

Sample Name: CL4-BR (54)
 Lab Code: R1302628-043

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042513\T5956.D\

Analysis Lot: 338081
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 18:47

Sample Name: CL4-BR (54)
 Lab Code: R1302628-043

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042513\T5956.D\

Analysis Lot: 338081
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	50		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 1000
Date Received: 4/17/13
Date Analyzed: 4/25/13 18:47

Sample Name: CL4-BR (54)
Lab Code: R1302628-043

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042513\T5956.D\

Analysis Lot: 338081
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/25/13 18:47	
Dibromofluoromethane	98	70-130	4/25/13 18:47	
Toluene-d8	98	70-130	4/25/13 18:47	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: 4/15/13 1030
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 19:20

Sample Name: CL9-DO (32.8)
 Lab Code: R1302628-044

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042513\T5957.D\

Analysis Lot: 338081
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 1030
Date Received: 4/17/13
Date Analyzed: 4/25/13 19:20

Sample Name: CL9-DO (32.8)
Lab Code: R1302628-044

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042513\T5957.D\

Analysis Lot: 338081
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: 4/15/13 1030
Date Received: 4/17/13
Date Analyzed: 4/25/13 19:20

Sample Name: CL9-DO (32.8)
Lab Code: R1302628-044

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa12\Data\042513\T5957.D\

Analysis Lot: 338081
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/25/13 19:20	
Dibromofluoromethane	99	70-130	4/25/13 19:20	
Toluene-d8	100	70-130	4/25/13 19:20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/21/13 13:31

Sample Name: Method Blank
 Lab Code: RQ1303945-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5849.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/21/13 13:31

Sample Name: Method Blank
 Lab Code: RQ1303945-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5849.D\

Analysis Lot: 337251
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: NA
Date Received: NA
Date Analyzed: 4/21/13 13:31

Sample Name: Method Blank
Lab Code: RQ1303945-05

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042113\T5849.D\

Analysis Lot: 337251
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/21/13 13:31	
Dibromofluoromethane	100	70-130	4/21/13 13:31	
Toluene-d8	96	70-130	4/21/13 13:31	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/22/13 18:57

Sample Name: Method Blank
 Lab Code: RQ1304034-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5878.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/22/13 18:57

Sample Name: Method Blank
 Lab Code: RQ1304034-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5878.D\

Analysis Lot: 337448
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: NA
Date Received: NA
Date Analyzed: 4/22/13 18:57

Sample Name: Method Blank
Lab Code: RQ1304034-05

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042213\T5878.D\

Analysis Lot: 337448
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 18:57	
Dibromofluoromethane	97	70-130	4/22/13 18:57	
Toluene-d8	96	70-130	4/22/13 18:57	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/23/13 16:58

Sample Name: Method Blank
 Lab Code: RQ1304088-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoo12\Data\042313\T5904.D\

Analysis Lot: 337612
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: NA
Date Received: NA
Date Analyzed: 4/23/13 16:58

Sample Name: Method Blank
Lab Code: RQ1304088-05

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5904.D\

Analysis Lot: 337612
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: NA
Date Received: NA
Date Analyzed: 4/23/13 16:58

Sample Name: Method Blank
Lab Code: RQ1304088-05

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042313\T5904.D\

Analysis Lot: 337612
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/23/13 16:58	
Dibromofluoromethane	98	70-130	4/23/13 16:58	
Toluene-d8	99	70-130	4/23/13 16:58	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/24/13 15:39

Sample Name: Method Blank
 Lab Code: RQ1304171-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5930.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/24/13 15:39

Sample Name: Method Blank
 Lab Code: RQ1304171-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5930.D\

Analysis Lot: 337788
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: NA
Date Received: NA
Date Analyzed: 4/24/13 15:39

Sample Name: Method Blank
Lab Code: RQ1304171-05

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042413\T5930.D\

Analysis Lot: 337788
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/24/13 15:39	
Dibromofluoromethane	97	70-130	4/24/13 15:39	
Toluene-d8	98	70-130	4/24/13 15:39	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/25/13 18:15

Sample Name: Method Blank
 Lab Code: RQ1304271-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042513\T5955.D\

Analysis Lot: 338081
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/25/13 18:15

Sample Name: Method Blank
 Lab Code: RQ1304271-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\042513\T5955.D\

Analysis Lot: 338081
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Collected: NA
Date Received: NA
Date Analyzed: 4/25/13 18:15

Sample Name: Method Blank
Lab Code: RQ1304271-05

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\042513\T5955.D\

Analysis Lot: 338081
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/25/13 18:15	
Dibromofluoromethane	99	70-130	4/25/13 18:15	
Toluene-d8	98	70-130	4/25/13 18:15	

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/21/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337251

Analyte Name	Lab Control Sample RQ1303945-03			Duplicate Lab Control Sample RQ1303945-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	20.8	20.0	104	21.1	20.0	106	70 - 130	1	20
1,1,1-Trichloroethane (TCA)	18.7	20.0	93	19.4	20.0	97	70 - 130	4	20
1,1,2,2-Tetrachloroethane	19.2	20.0	96	18.6	20.0	93	70 - 130	3	20
1,1,2-Trichloroethane	19.3	20.0	96	19.3	20.0	97	70 - 130	<1	20
1,1-Dichloroethane (1,1-DCA)	18.5	20.0	93	18.9	20.0	94	70 - 130	2	20
1,1-Dichloroethene (1,1-DCE)	21.5	20.0	108	22.5	20.0	112	70 - 130	4	20
1,1-Dichloropropene	23.1	20.0	115	23.6	20.0	118	70 - 130	2	20
1,2,3-Trichlorobenzene	23.4	20.0	117	23.0	20.0	115	70 - 130	2	20
1,2,3-Trichloropropane	19.2	20.0	96	19.1	20.0	95	70 - 130	<1	20
1,2,4-Trichlorobenzene	23.1	20.0	116	22.8	20.0	114	70 - 130	2	20
1,2,4-Trimethylbenzene	19.9	20.0	99	20.2	20.0	101	70 - 130	2	20
1,2-Dibromo-3-chloropropane (DBCP)	19.6	20.0	98	19.0	20.0	95	70 - 130	3	20
1,2-Dibromoethane	20.8	20.0	104	20.8	20.0	104	70 - 130	<1	20
1,2-Dichlorobenzene	20.5	20.0	102	20.3	20.0	102	70 - 130	<1	20
1,2-Dichloroethane	19.9	20.0	99	19.9	20.0	100	70 - 130	<1	20
1,2-Dichloropropane	19.6	20.0	98	19.8	20.0	99	70 - 130	1	20
1,3,5-Trimethylbenzene	20.1	20.0	100	20.5	20.0	102	70 - 130	2	20
1,3-Dichlorobenzene	20.9	20.0	105	20.9	20.0	104	70 - 130	<1	20
1,3-Dichloropropane	19.6	20.0	98	19.9	20.0	100	70 - 130	2	20
1,4-Dichlorobenzene	21.1	20.0	105	20.9	20.0	104	70 - 130	<1	20
1,4-Dioxane	447	400	112	428	400	107	40 - 160	4	20
2,2-Dichloropropane	19.2	20.0	96	19.6	20.0	98	70 - 130	3	20
2-Butanone (MEK)	16.9	20.0	85	18.0	20.0	90	40 - 160	6	20
2-Chlorotoluene	19.4	20.0	97	19.5	20.0	97	70 - 130	<1	20
2-Hexanone	17.4	20.0	87	18.1	20.0	91	40 - 160	4	20
4-Chlorotoluene	20.0	20.0	100	20.0	20.0	100	70 - 130	<1	20
p-Isopropyltoluene	21.5	20.0	108	21.7	20.0	109	70 - 130	<1	20
4-Methyl-2-pentanone	18.3	20.0	91	19.8	20.0	99	40 - 160	8	20
Acetone	15.3	20.0	76	17.0	20.0	85	40 - 160	10	20
Benzene	19.6	20.0	98	19.9	20.0	100	70 - 130	1	20
Bromobenzene	21.4	20.0	107	20.9	20.0	104	70 - 130	2	20
Bromochloromethane	18.5	20.0	92	18.5	20.0	93	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/21/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337251

Analyte Name	Lab Control Sample RQ1303945-03			Duplicate Lab Control Sample RQ1303945-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	20.5	20.0	102	20.3	20.0	102	70 - 130	<1	20
Bromoform	21.3	20.0	106	20.8	20.0	104	70 - 130	2	20
Bromomethane	19.6	20.0	98	20.5	20.0	102	40 - 160	4	20
Carbon Disulfide	15.1	20.0	75	18.1	20.0	90	70 - 130	18	20
Carbon Tetrachloride	21.1	20.0	105	20.8	20.0	104	70 - 130	1	20
Chlorobenzene	20.7	20.0	103	21.1	20.0	105	70 - 130	2	20
Chloroethane	18.8	20.0	94	19.4	20.0	97	70 - 130	3	20
Chloroform	18.5	20.0	92	18.8	20.0	94	70 - 130	2	20
Chloromethane	20.5	20.0	102	20.8	20.0	104	40 - 160	2	20
Dibromochloromethane	20.7	20.0	103	21.2	20.0	106	70 - 130	2	20
Dibromomethane	20.3	20.0	102	19.6	20.0	98	70 - 130	4	20
Dichlorodifluoromethane (CFC 12)	27.7	20.0	139	28.5	20.0	142	40 - 160	3	20
Dichloromethane	17.6	20.0	88	18.2	20.0	91	70 - 130	3	20
Diethyl Ether	18.8	20.0	94	18.2	20.0	91	70 - 130	3	20
Diisopropyl Ether	18.0	20.0	90	18.4	20.0	92	70 - 130	2	20
Ethyl tert-Butyl Ether	18.3	20.0	92	18.6	20.0	93	70 - 130	2	20
Ethylbenzene	20.3	20.0	101	21.1	20.0	106	70 - 130	4	20
Hexachlorobutadiene	27.1	20.0	135 *	26.9	20.0	135 *	70 - 130	<1	20
Isopropylbenzene (Cumene)	20.9	20.0	104	21.1	20.0	105	70 - 130	<1	20
Methyl tert-Butyl Ether	18.5	20.0	92	18.5	20.0	93	70 - 130	<1	20
Naphthalene	22.1	20.0	110	21.5	20.0	107	70 - 130	3	20
Styrene	20.4	20.0	102	21.0	20.0	105	70 - 130	3	20
Tetrachloroethene (PCE)	23.0	20.0	115	24.4	20.0	122	70 - 130	6	20
Tetrahydrofuran (THF)	16.8	20.0	84	16.5	20.0	83	70 - 130	1	20
Toluene	20.6	20.0	103	21.0	20.0	105	70 - 130	2	20
Trichloroethene (TCE)	22.2	20.0	111	21.9	20.0	110	70 - 130	1	20
Trichlorofluoromethane (CFC 11)	21.4	20.0	107	22.1	20.0	111	70 - 130	3	20
Vinyl Chloride	21.3	20.0	107	22.3	20.0	111	70 - 130	4	20
cis-1,2-Dichloroethene	18.2	20.0	91	18.5	20.0	92	70 - 130	1	20
cis-1,3-Dichloropropene	19.2	20.0	96	19.2	20.0	96	70 - 130	<1	20
m,p-Xylenes	41.4	40.0	104	42.8	40.0	107	70 - 130	3	20
n-Butylbenzene	20.7	20.0	104	20.9	20.0	105	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Analyzed: 4/21/13

Lab Control Sample Summary Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 337251

Analyte Name	Lab Control Sample RQ1303945-03			Duplicate Lab Control Sample RQ1303945-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	20.7	20.0	103	21.0	20.0	105	70 - 130	2	20
o-Xylene	20.1	20.0	100	20.9	20.0	105	70 - 130	4	20
sec-Butylbenzene	20.5	20.0	102	20.9	20.0	104	70 - 130	2	20
tert-Amyl Methyl Ether	18.4	20.0	92	18.6	20.0	93	70 - 130	1	20
tert-Butylbenzene	20.6	20.0	103	21.1	20.0	106	70 - 130	2	20
trans-1,2-Dichloroethene	18.8	20.0	94	19.5	20.0	98	70 - 130	3	20
trans-1,3-Dichloropropene	19.6	20.0	98	19.8	20.0	99	70 - 130	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/22/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337448

Analyte Name	Lab Control Sample RQ1304034-03			Duplicate Lab Control Sample RQ1304034-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	21.8	20.0	109	20.4	20.0	102	70 - 130	6	20
1,1,1-Trichloroethane (TCA)	19.7	20.0	98	17.9	20.0	90	70 - 130	9	20
1,1,2,2-Tetrachloroethane	17.9	20.0	89	17.9	20.0	90	70 - 130	<1	20
1,1,2-Trichloroethane	19.1	20.0	96	19.1	20.0	96	70 - 130	<1	20
1,1-Dichloroethane (1,1-DCA)	19.3	20.0	97	17.8	20.0	89	70 - 130	8	20
1,1-Dichloroethene (1,1-DCE)	23.4	20.0	117	21.0	20.0	105	70 - 130	11	20
1,1-Dichloropropene	24.4	20.0	122	21.9	20.0	110	70 - 130	11	20
1,2,3-Trichlorobenzene	24.3	20.0	121	22.6	20.0	113	70 - 130	7	20
1,2,3-Trichloropropane	18.9	20.0	95	18.1	20.0	91	70 - 130	4	20
1,2,4-Trichlorobenzene	23.4	20.0	117	22.6	20.0	113	70 - 130	4	20
1,2,4-Trimethylbenzene	20.8	20.0	104	19.4	20.0	97	70 - 130	7	20
1,2-Dibromo-3-chloropropane (DBCP)	20.1	20.0	101	18.5	20.0	92	70 - 130	9	20
1,2-Dibromoethane	20.8	20.0	104	20.3	20.0	102	70 - 130	2	20
1,2-Dichlorobenzene	20.9	20.0	104	20.4	20.0	102	70 - 130	2	20
1,2-Dichloroethane	20.5	20.0	102	19.6	20.0	98	70 - 130	4	20
1,2-Dichloropropane	20.3	20.0	102	19.3	20.0	97	70 - 130	5	20
1,3,5-Trimethylbenzene	20.8	20.0	104	19.2	20.0	96	70 - 130	8	20
1,3-Dichlorobenzene	21.6	20.0	108	20.3	20.0	102	70 - 130	6	20
1,3-Dichloropropane	20.1	20.0	100	19.2	20.0	96	70 - 130	5	20
1,4-Dichlorobenzene	21.8	20.0	109	20.4	20.0	102	70 - 130	6	20
1,4-Dioxane	418	400	104	414	400	103	40 - 160	<1	20
2,2-Dichloropropane	19.4	20.0	97	18.4	20.0	92	70 - 130	6	20
2-Butanone (MEK)	17.5	20.0	87	17.2	20.0	86	40 - 160	2	20
2-Chlorotoluene	19.9	20.0	100	18.8	20.0	94	70 - 130	6	20
2-Hexanone	17.8	20.0	89	17.3	20.0	86	40 - 160	3	20
4-Chlorotoluene	20.5	20.0	102	18.9	20.0	95	70 - 130	8	20
p-Isopropyltoluene	22.6	20.0	113	20.7	20.0	103	70 - 130	9	20
4-Methyl-2-pentanone	18.8	20.0	94	18.1	20.0	90	40 - 160	4	20
Acetone	17.6	20.0	88	15.5	20.0	77	40 - 160	12	20
Benzene	20.4	20.0	102	19.4	20.0	97	70 - 130	5	20
Bromobenzene	22.0	20.0	110	20.7	20.0	104	70 - 130	6	20
Bromochloromethane	19.2	20.0	96	18.5	20.0	93	70 - 130	4	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/22/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337448

Analyte Name	Lab Control Sample RQ1304034-03			Duplicate Lab Control Sample RQ1304034-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	20.8	20.0	104	20.0	20.0	100	70 - 130	4	20
Bromoform	21.3	20.0	106	20.4	20.0	102	70 - 130	4	20
Bromomethane	20.7	20.0	104	19.4	20.0	97	40 - 160	7	20
Carbon Disulfide	17.7	20.0	88	17.2	20.0	86	70 - 130	3	20
Carbon Tetrachloride	21.8	20.0	109	19.7	20.0	98	70 - 130	10	20
Chlorobenzene	21.9	20.0	109	20.3	20.0	102	70 - 130	7	20
Chloroethane	19.7	20.0	99	18.6	20.0	93	70 - 130	6	20
Chloroform	19.2	20.0	96	18.0	20.0	90	70 - 130	6	20
Chloromethane	21.3	20.0	106	19.7	20.0	99	40 - 160	8	20
Dibromochloromethane	21.5	20.0	108	20.6	20.0	103	70 - 130	4	20
Dibromomethane	20.9	20.0	105	19.5	20.0	98	70 - 130	7	20
Dichlorodifluoromethane (CFC 12)	28.6	20.0	143	25.9	20.0	129	40 - 160	10	20
Methylene Chloride	18.4	20.0	92	17.5	20.0	88	70 - 130	5	20
Diethyl Ether	18.6	20.0	93	17.9	20.0	89	70 - 130	4	20
Diisopropyl Ether	16.7	20.0	83	16.5	20.0	82	70 - 130	1	20
Ethyl tert-Butyl Ether	17.3	20.0	86	16.9	20.0	85	70 - 130	2	20
Ethylbenzene	21.8	20.0	109	19.9	20.0	99	70 - 130	9	20
Hexachlorobutadiene	28.3	20.0	142 *	25.3	20.0	127	70 - 130	11	20
Isopropylbenzene (Cumene)	21.6	20.0	108	19.7	20.0	99	70 - 130	9	20
Methyl tert-Butyl Ether	18.8	20.0	94	18.3	20.0	92	70 - 130	2	20
Naphthalene	22.1	20.0	111	20.9	20.0	105	70 - 130	6	20
Styrene	21.5	20.0	107	20.1	20.0	101	70 - 130	7	20
Tetrachloroethene (PCE)	25.2	20.0	126	22.3	20.0	111	70 - 130	12	20
Tetrahydrofuran (THF)	16.1	20.0	80	16.3	20.0	81	70 - 130	1	20
Toluene	21.9	20.0	109	20.4	20.0	102	70 - 130	7	20
Trichloroethene (TCE)	23.8	20.0	119	21.9	20.0	110	70 - 130	8	20
Trichlorofluoromethane (CFC 11)	22.9	20.0	115	20.4	20.0	102	70 - 130	12	20
Vinyl Chloride	22.4	20.0	112	20.8	20.0	104	70 - 130	7	20
cis-1,2-Dichloroethene	19.1	20.0	95	18.0	20.0	90	70 - 130	6	20
cis-1,3-Dichloropropene	19.6	20.0	98	19.1	20.0	95	70 - 130	3	20
m,p-Xylenes	44.1	40.0	110	40.7	40.0	102	70 - 130	8	20
n-Butylbenzene	21.4	20.0	107	19.7	20.0	99	70 - 130	8	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Analyzed: 4/22/13

Lab Control Sample Summary Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 337448

Analyte Name	Lab Control Sample RQ1304034-03			Duplicate Lab Control Sample RQ1304034-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	21.1	20.0	106	19.5	20.0	98	70 - 130	8	20
o-Xylene	21.8	20.0	109	19.9	20.0	99	70 - 130	9	20
sec-Butylbenzene	21.7	20.0	109	19.7	20.0	98	70 - 130	10	20
tert-Amyl Methyl Ether	17.3	20.0	86	16.9	20.0	85	70 - 130	2	20
tert-Butylbenzene	21.8	20.0	109	19.7	20.0	98	70 - 130	10	20
trans-1,2-Dichloroethene	20.3	20.0	101	18.6	20.0	93	70 - 130	9	20
trans-1,3-Dichloropropene	19.6	20.0	98	19.5	20.0	97	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/23/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337612

Analyte Name	Lab Control Sample RQ1304088-03			Duplicate Lab Control Sample RQ1304088-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	21.2	20.0	106	21.1	20.0	105	70 - 130	<1	20
1,1,1-Trichloroethane (TCA)	20.2	20.0	101	19.9	20.0	99	70 - 130	2	20
1,1,2,2-Tetrachloroethane	19.3	20.0	97	19.8	20.0	99	70 - 130	3	20
1,1,2-Trichloroethane	19.6	20.0	98	20.0	20.0	100	70 - 130	2	20
1,1-Dichloroethane (1,1-DCA)	20.4	20.0	102	20.2	20.0	101	70 - 130	<1	20
1,1-Dichloroethene (1,1-DCE)	24.4	20.0	122	24.3	20.0	121	70 - 130	<1	20
1,1-Dichloropropene	24.6	20.0	123	24.7	20.0	124	70 - 130	<1	20
1,2,3-Trichlorobenzene	23.3	20.0	117	23.5	20.0	117	70 - 130	<1	20
1,2,3-Trichloropropane	18.7	20.0	93	19.6	20.0	98	70 - 130	5	20
1,2,4-Trichlorobenzene	22.9	20.0	115	22.9	20.0	114	70 - 130	<1	20
1,2,4-Trimethylbenzene	21.1	20.0	105	20.6	20.0	103	70 - 130	2	20
1,2-Dibromo-3-chloropropane (DBCP)	19.0	20.0	95	19.6	20.0	98	70 - 130	3	20
1,2-Dibromoethane	20.8	20.0	104	21.2	20.0	106	70 - 130	2	20
1,2-Dichlorobenzene	20.9	20.0	104	20.9	20.0	105	70 - 130	<1	20
1,2-Dichloroethane	20.3	20.0	102	20.4	20.0	102	70 - 130	<1	20
1,2-Dichloropropane	21.3	20.0	106	21.1	20.0	106	70 - 130	<1	20
1,3,5-Trimethylbenzene	21.2	20.0	106	21.2	20.0	106	70 - 130	<1	20
1,3-Dichlorobenzene	21.4	20.0	107	21.4	20.0	107	70 - 130	<1	20
1,3-Dichloropropane	20.2	20.0	101	20.6	20.0	103	70 - 130	2	20
1,4-Dichlorobenzene	21.4	20.0	107	21.2	20.0	106	70 - 130	<1	20
1,4-Dioxane	425	400	106	434	400	108	40 - 160	2	20
2,2-Dichloropropane	21.2	20.0	106	20.9	20.0	104	70 - 130	2	20
2-Butanone (MEK)	18.6	20.0	93	18.2	20.0	91	40 - 160	2	20
2-Chlorotoluene	20.5	20.0	103	20.3	20.0	102	70 - 130	<1	20
2-Hexanone	17.4	20.0	87	18.6	20.0	93	40 - 160	7	20
4-Chlorotoluene	20.9	20.0	104	20.8	20.0	104	70 - 130	<1	20
p-Isopropyltoluene	22.9	20.0	114	22.8	20.0	114	70 - 130	<1	20
4-Methyl-2-pentanone	18.4	20.0	92	19.3	20.0	97	40 - 160	5	20
Acetone	15.8	20.0	79	18.2	20.0	91	40 - 160	14	20
Benzene	21.1	20.0	106	21.0	20.0	105	70 - 130	<1	20
Bromobenzene	21.2	20.0	106	21.5	20.0	108	70 - 130	1	20
Bromochloromethane	19.9	20.0	100	19.3	20.0	97	70 - 130	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/23/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337612

Analyte Name	Lab Control Sample RQ1304088-03			Duplicate Lab Control Sample RQ1304088-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	21.0	20.0	105	20.8	20.0	104	70 - 130	<1	20
Bromoform	20.8	20.0	104	21.2	20.0	106	70 - 130	2	20
Bromomethane	22.3	20.0	111	21.3	20.0	106	40 - 160	5	20
Carbon Disulfide	17.6	20.0	88	17.9	20.0	89	70 - 130	2	20
Carbon Tetrachloride	22.0	20.0	110	21.0	20.0	105	70 - 130	5	20
Chlorobenzene	21.7	20.0	109	21.8	20.0	109	70 - 130	<1	20
Chloroethane	21.3	20.0	106	21.4	20.0	107	70 - 130	<1	20
Chloroform	20.4	20.0	102	20.2	20.0	101	70 - 130	1	20
Chloromethane	23.0	20.0	115	22.4	20.0	112	40 - 160	2	20
Dibromochloromethane	21.1	20.0	105	21.7	20.0	109	70 - 130	3	20
Dibromomethane	20.6	20.0	103	21.1	20.0	105	70 - 130	2	20
Dichlorodifluoromethane (CFC 12)	29.1	20.0	146	28.8	20.0	144	40 - 160	1	20
Methylene Chloride	20.0	20.0	100	19.3	20.0	97	70 - 130	4	20
Diethyl Ether	19.6	20.0	98	20.1	20.0	101	70 - 130	3	20
Diisopropyl Ether	18.4	20.0	92	18.6	20.0	93	70 - 130	<1	20
Ethyl tert-Butyl Ether	18.9	20.0	95	19.1	20.0	95	70 - 130	<1	20
Ethylbenzene	22.1	20.0	111	21.8	20.0	109	70 - 130	1	20
Hexachlorobutadiene	28.0	20.0	140 *	26.5	20.0	133 *	70 - 130	6	20
Isopropylbenzene (Cumene)	22.1	20.0	111	22.0	20.0	110	70 - 130	<1	20
Methyl tert-Butyl Ether	19.4	20.0	97	20.1	20.0	101	70 - 130	3	20
Naphthalene	21.9	20.0	110	22.1	20.0	111	70 - 130	<1	20
Styrene	21.6	20.0	108	21.4	20.0	107	70 - 130	1	20
Tetrachloroethene (PCE)	24.0	20.0	120	23.8	20.0	119	70 - 130	<1	20
Tetrahydrofuran (THF)	17.9	20.0	90	18.3	20.0	92	70 - 130	2	20
Toluene	22.2	20.0	111	21.8	20.0	109	70 - 130	2	20
Trichloroethene (TCE)	23.2	20.0	116	23.7	20.0	118	70 - 130	2	20
Trichlorofluoromethane (CFC 11)	23.1	20.0	115	23.0	20.0	115	70 - 130	<1	20
Vinyl Chloride	24.4	20.0	122	24.0	20.0	120	70 - 130	2	20
cis-1,2-Dichloroethene	20.1	20.0	100	19.7	20.0	98	70 - 130	2	20
cis-1,3-Dichloropropene	19.9	20.0	100	20.0	20.0	100	70 - 130	<1	20
m,p-Xylenes	44.7	40.0	112	43.6	40.0	109	70 - 130	2	20
n-Butylbenzene	22.5	20.0	113	22.1	20.0	110	70 - 130	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Analyzed: 4/23/13

Lab Control Sample Summary Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 337612

Analyte Name	Lab Control Sample RQ1304088-03			Duplicate Lab Control Sample RQ1304088-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	21.8	20.0	109	21.8	20.0	109	70 - 130	<1	20
o-Xylene	21.8	20.0	109	21.5	20.0	107	70 - 130	2	20
sec-Butylbenzene	22.1	20.0	110	22.0	20.0	110	70 - 130	<1	20
tert-Amyl Methyl Ether	18.8	20.0	94	18.9	20.0	94	70 - 130	<1	20
tert-Butylbenzene	22.0	20.0	110	22.0	20.0	110	70 - 130	<1	20
trans-1,2-Dichloroethene	21.0	20.0	105	20.7	20.0	103	70 - 130	1	20
trans-1,3-Dichloropropene	19.7	20.0	98	20.0	20.0	100	70 - 130	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/24/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337788

Analyte Name	Lab Control Sample RQ1304171-03			Duplicate Lab Control Sample RQ1304171-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	20.5	20.0	103	19.3	20.0	97	70 - 130	6	20
1,1,1-Trichloroethane (TCA)	18.8	20.0	94	15.5	20.0	78	70 - 130	19	20
1,1,2,2-Tetrachloroethane	18.5	20.0	93	19.1	20.0	95	70 - 130	3	20
1,1,2-Trichloroethane	18.5	20.0	93	19.3	20.0	97	70 - 130	4	20
1,1-Dichloroethane (1,1-DCA)	19.6	20.0	98	17.6	20.0	88	70 - 130	10	20
1,1-Dichloroethene (1,1-DCE)	22.7	20.0	114	18.8	20.0	94	70 - 130	19	20
1,1-Dichloropropene	23.0	20.0	115	18.5	20.0	92	70 - 130	22 *	20
1,2,3-Trichlorobenzene	22.2	20.0	111	19.6	20.0	98	70 - 130	13	20
1,2,3-Trichloropropane	18.0	20.0	90	19.1	20.0	96	70 - 130	6	20
1,2,4-Trichlorobenzene	22.2	20.0	111	19.6	20.0	98	70 - 130	13	20
1,2,4-Trimethylbenzene	20.2	20.0	101	16.5	20.0	83	70 - 130	20	20
1,2-Dibromo-3-chloropropane (DBCP)	17.9	20.0	89	19.5	20.0	98	70 - 130	9	20
1,2-Dibromoethane	19.9	20.0	99	20.9	20.0	104	70 - 130	5	20
1,2-Dichlorobenzene	20.2	20.0	101	18.9	20.0	94	70 - 130	7	20
1,2-Dichloroethane	19.4	20.0	97	19.1	20.0	95	70 - 130	2	20
1,2-Dichloropropane	19.8	20.0	99	19.1	20.0	96	70 - 130	3	20
1,3,5-Trimethylbenzene	20.3	20.0	101	15.9	20.0	79	70 - 130	24 *	20
1,3-Dichlorobenzene	20.4	20.0	102	18.3	20.0	92	70 - 130	11	20
1,3-Dichloropropane	19.3	20.0	96	19.9	20.0	100	70 - 130	3	20
1,4-Dichlorobenzene	20.8	20.0	104	18.7	20.0	93	70 - 130	10	20
1,4-Dioxane	373	400	93	399	400	100	40 - 160	7	20
2,2-Dichloropropane	19.9	20.0	99	16.6	20.0	83	70 - 130	18	20
2-Butanone (MEK)	17.4	20.0	87	17.9	20.0	89	40 - 160	3	20
2-Chlorotoluene	19.5	20.0	98	16.6	20.0	83	70 - 130	16	20
2-Hexanone	17.3	20.0	86	18.3	20.0	92	40 - 160	6	20
4-Chlorotoluene	19.9	20.0	100	17.1	20.0	86	70 - 130	15	20
p-Isopropyltoluene	22.0	20.0	110	15.6	20.0	78	70 - 130	34 *	20
4-Methyl-2-pentanone	18.4	20.0	92	18.3	20.0	92	40 - 160	<1	20
Acetone	15.8	20.0	79	16.8	20.0	84	40 - 160	6	20
Benzene	19.9	20.0	99	17.9	20.0	89	70 - 130	11	20
Bromobenzene	20.5	20.0	103	19.4	20.0	97	70 - 130	6	20
Bromochloromethane	19.1	20.0	96	18.4	20.0	92	70 - 130	4	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/24/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337788

Analyte Name	Lab Control Sample RQ1304171-03			Duplicate Lab Control Sample RQ1304171-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	20.1	20.0	100	19.4	20.0	97	70 - 130	3	20
Bromoform	19.6	20.0	98	19.9	20.0	100	70 - 130	2	20
Bromomethane	20.8	20.0	104	18.8	20.0	94	40 - 160	10	20
Carbon Disulfide	20.4	20.0	102	18.8	20.0	94	70 - 130	8	20
Carbon Tetrachloride	19.9	20.0	99	15.5	20.0	77	70 - 130	25 *	20
Chlorobenzene	21.1	20.0	105	18.8	20.0	94	70 - 130	11	20
Chloroethane	20.1	20.0	100	17.5	20.0	87	70 - 130	14	20
Chloroform	19.0	20.0	95	17.9	20.0	90	70 - 130	6	20
Chloromethane	21.4	20.0	107	18.5	20.0	92	40 - 160	15	20
Dibromochloromethane	20.2	20.0	101	20.6	20.0	103	70 - 130	2	20
Dibromomethane	19.2	20.0	96	19.8	20.0	99	70 - 130	3	20
Dichlorodifluoromethane (CFC 12)	26.9	20.0	135	21.3	20.0	106	40 - 160	23 *	20
Methylene Chloride	18.7	20.0	93	18.3	20.0	91	70 - 130	2	20
Diethyl Ether	18.7	20.0	93	18.9	20.0	94	70 - 130	1	20
Diisopropyl Ether	17.8	20.0	89	18.2	20.0	91	70 - 130	2	20
Ethyl tert-Butyl Ether	18.0	20.0	90	18.3	20.0	91	70 - 130	2	20
Ethylbenzene	20.6	20.0	103	17.1	20.0	86	70 - 130	18	20
Hexachlorobutadiene	26.5	20.0	133 *	17.1	20.0	86	70 - 130	43 *	20
Isopropylbenzene (Cumene)	21.1	20.0	105	15.9	20.0	80	70 - 130	28 *	20
Methyl tert-Butyl Ether	18.4	20.0	92	19.3	20.0	96	70 - 130	5	20
Naphthalene	20.2	20.0	101	20.0	20.0	100	70 - 130	<1	20
Styrene	20.3	20.0	101	18.8	20.0	94	70 - 130	8	20
Tetrachloroethene (PCE)	23.0	20.0	115	17.2	20.0	86	70 - 130	29 *	20
Tetrahydrofuran (THF)	15.8	20.0	79	17.8	20.0	89	70 - 130	12	20
Toluene	20.9	20.0	105	18.3	20.0	91	70 - 130	13	20
Trichloroethene (TCE)	21.7	20.0	109	18.5	20.0	92	70 - 130	16	20
Trichlorofluoromethane (CFC 11)	21.7	20.0	108	17.0	20.0	85	70 - 130	24 *	20
Vinyl Chloride	22.7	20.0	113	18.4	20.0	92	70 - 130	21 *	20
cis-1,2-Dichloroethene	19.3	20.0	97	18.2	20.0	91	70 - 130	6	20
cis-1,3-Dichloropropene	18.8	20.0	94	18.7	20.0	94	70 - 130	<1	20
m,p-Xylenes	41.9	40.0	105	34.8	40.0	87	70 - 130	18	20
n-Butylbenzene	21.3	20.0	107	14.9	20.0	74	70 - 130	36 *	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302628
Date Analyzed: 4/24/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 337788

Analyte Name	Lab Control Sample RQ1304171-03			Duplicate Lab Control Sample RQ1304171-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	21.0	20.0	105	15.8	20.0	79	70 - 130	28 *	20
o-Xylene	20.4	20.0	102	17.8	20.0	89	70 - 130	13	20
sec-Butylbenzene	20.9	20.0	105	14.7	20.0	73	70 - 130	35 *	20
tert-Amyl Methyl Ether	17.6	20.0	88	18.2	20.0	91	70 - 130	4	20
tert-Butylbenzene	21.0	20.0	105	15.2	20.0	76	70 - 130	32 *	20
trans-1,2-Dichloroethene	19.8	20.0	99	17.6	20.0	88	70 - 130	12	20
trans-1,3-Dichloropropene	19.0	20.0	95	19.2	20.0	96	70 - 130	1	20

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ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/25/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338081

Analyte Name	Lab Control Sample RQ1304271-03			Duplicate Lab Control Sample RQ1304271-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	18.7	20.0	94	20.1	20.0	100	70 - 130	7	20
1,1,1-Trichloroethane (TCA)	16.3	20.0	82	18.8	20.0	94	70 - 130	14	20
1,1,2,2-Tetrachloroethane	17.2	20.0	86	17.7	20.0	89	70 - 130	3	20
1,1,2-Trichloroethane	17.8	20.0	89	18.6	20.0	93	70 - 130	4	20
1,1-Dichloroethane (1,1-DCA)	17.7	20.0	89	19.3	20.0	97	70 - 130	8	20
1,1-Dichloroethene (1,1-DCE)	20.4	20.0	102	23.4	20.0	117	70 - 130	14	20
1,1-Dichloropropene	20.1	20.0	100	23.0	20.0	115	70 - 130	14	20
1,2,3-Trichlorobenzene	19.9	20.0	100	21.1	20.0	106	70 - 130	6	20
1,2,3-Trichloropropane	16.4	20.0	82	17.8	20.0	89	70 - 130	9	20
1,2,4-Trichlorobenzene	19.8	20.0	99	21.1	20.0	106	70 - 130	6	20
1,2,4-Trimethylbenzene	17.7	20.0	89	19.7	20.0	99	70 - 130	10	20
1,2-Dibromo-3-chloropropane (DBCP)	16.5	20.0	82	17.5	20.0	88	70 - 130	6	20
1,2-Dibromoethane	18.5	20.0	93	19.5	20.0	98	70 - 130	5	20
1,2-Dichlorobenzene	18.2	20.0	91	19.6	20.0	98	70 - 130	8	20
1,2-Dichloroethane	17.9	20.0	90	18.9	20.0	94	70 - 130	5	20
1,2-Dichloropropane	18.0	20.0	90	20.0	20.0	100	70 - 130	11	20
1,3,5-Trimethylbenzene	17.4	20.0	87	19.6	20.0	98	70 - 130	12	20
1,3-Dichlorobenzene	18.5	20.0	93	20.2	20.0	101	70 - 130	9	20
1,3-Dichloropropane	18.0	20.0	90	19.3	20.0	96	70 - 130	7	20
1,4-Dichlorobenzene	18.6	20.0	93	20.1	20.0	101	70 - 130	8	20
1,4-Dioxane	382	400	96	376	400	94	40 - 160	2	20
2,2-Dichloropropane	16.8	20.0	84	19.2	20.0	96	70 - 130	13	20
2-Butanone (MEK)	17.2	20.0	86	17.9	20.0	90	40 - 160	4	20
2-Chlorotoluene	17.1	20.0	85	19.2	20.0	96	70 - 130	12	20
2-Hexanone	16.7	20.0	84	17.0	20.0	85	40 - 160	1	20
4-Chlorotoluene	17.7	20.0	89	19.3	20.0	96	70 - 130	8	20
p-Isopropyltoluene	18.6	20.0	93	21.2	20.0	106	70 - 130	13	20
4-Methyl-2-pentanone	18.1	20.0	90	18.5	20.0	93	40 - 160	3	20
Acetone	15.9	20.0	80	16.8	20.0	84	40 - 160	6	20
Benzene	17.9	20.0	90	20.0	20.0	100	70 - 130	11	20
Bromobenzene	18.5	20.0	93	20.0	20.0	100	70 - 130	8	20
Bromochloromethane	17.7	20.0	88	18.8	20.0	94	70 - 130	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/25/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338081

Analyte Name	Lab Control Sample RQ1304271-03			Duplicate Lab Control Sample RQ1304271-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	18.3	20.0	91	19.7	20.0	99	70 - 130	7	20
Bromoform	17.8	20.0	89	19.8	20.0	99	70 - 130	11	20
Bromomethane	18.6	20.0	93	20.5	20.0	102	40 - 160	10	20
Carbon Disulfide	19.1	20.0	96	20.2	20.0	101	70 - 130	5	20
Carbon Tetrachloride	17.2	20.0	86	19.8	20.0	99	70 - 130	14	20
Chlorobenzene	19.0	20.0	95	20.5	20.0	103	70 - 130	8	20
Chloroethane	17.6	20.0	88	20.4	20.0	102	70 - 130	15	20
Chloroform	17.5	20.0	88	19.4	20.0	97	70 - 130	10	20
Chloromethane	18.7	20.0	93	20.9	20.0	104	40 - 160	11	20
Dibromochloromethane	18.6	20.0	93	20.1	20.0	100	70 - 130	7	20
Dibromomethane	18.1	20.0	90	19.2	20.0	96	70 - 130	6	20
Dichlorodifluoromethane (CFC 12)	22.4	20.0	112	25.9	20.0	130	40 - 160	15	20
Dichloromethane	17.2	20.0	86	18.4	20.0	92	70 - 130	7	20
Diethyl Ether	17.6	20.0	88	18.8	20.0	94	70 - 130	7	20
Diisopropyl Ether	18.7	20.0	94	18.4	20.0	92	70 - 130	2	20
Ethyl tert-Butyl Ether	18.9	20.0	95	18.6	20.0	93	70 - 130	1	20
Ethylbenzene	18.3	20.0	91	20.5	20.0	102	70 - 130	11	20
Hexachlorobutadiene	22.1	20.0	110	23.5	20.0	117	70 - 130	6	20
Isopropylbenzene (Cumene)	18.0	20.0	90	20.4	20.0	102	70 - 130	13	20
Methyl tert-Butyl Ether	17.0	20.0	85	18.4	20.0	92	70 - 130	8	20
Naphthalene	18.6	20.0	93	20.0	20.0	100	70 - 130	7	20
Styrene	18.6	20.0	93	20.2	20.0	101	70 - 130	8	20
Tetrachloroethene (PCE)	19.7	20.0	98	22.4	20.0	112	70 - 130	13	20
Tetrahydrofuran (THF)	14.5	20.0	73	15.4	20.0	77	70 - 130	6	20
Toluene	18.8	20.0	94	20.9	20.0	104	70 - 130	10	20
Trichloroethene (TCE)	19.7	20.0	98	22.4	20.0	112	70 - 130	13	20
Trichlorofluoromethane (CFC 11)	18.7	20.0	93	21.8	20.0	109	70 - 130	16	20
Vinyl Chloride	19.5	20.0	98	22.4	20.0	112	70 - 130	14	20
cis-1,2-Dichloroethene	17.6	20.0	88	19.5	20.0	97	70 - 130	10	20
cis-1,3-Dichloropropene	17.6	20.0	88	19.1	20.0	96	70 - 130	8	20
m,p-Xylenes	36.5	40.0	91	41.5	40.0	104	70 - 130	13	20
n-Butylbenzene	17.9	20.0	90	20.3	20.0	101	70 - 130	12	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302628
 Date Analyzed: 4/25/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338081

Analyte Name	Lab Control Sample RQ1304271-03			Duplicate Lab Control Sample RQ1304271-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	17.8	20.0	89	20.2	20.0	101	70 - 130	12	20
o-Xylene	18.5	20.0	92	20.7	20.0	103	70 - 130	11	20
sec-Butylbenzene	17.8	20.0	89	20.3	20.0	102	70 - 130	13	20
tert-Amyl Methyl Ether	18.2	20.0	91	18.6	20.0	93	70 - 130	2	20
tert-Butylbenzene	18.0	20.0	90	20.4	20.0	102	70 - 130	13	20
trans-1,2-Dichloroethene	17.5	20.0	87	19.7	20.0	99	70 - 130	12	20
trans-1,3-Dichloropropene	17.4	20.0	87	18.9	20.0	94	70 - 130	8	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/21/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 337251
Units: ppb

File ID: I:\ACQUDATA\msv0a12\Data\042113\T5845.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	50.0	0.3060	0.3059	0.0	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	45.1	0.6568	0.5926	-9.8	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	46.1	0.5411	0.4985	-7.9	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	47.0	0.2203	0.2069	-6.1	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	43.4	0.7944	0.6898	-13.2	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	48.0	0.3273	0.3142	-4.0	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	58.0	0.3433	0.3980	15.9	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	48.5	0.6654	0.6453	-3.0	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	44.4	0.1621	0.1441	-11.1	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	47.1	0.7842	0.7394	-5.7	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	43.5	2.186	1.903	-12.9	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	48.5	0.1017	0.09871	-3.0	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	51.2	0.2283	0.2337	2.4	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	47.6	1.207	1.149	-4.8	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	49.0	0.3433	0.3362	-2.1	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	46.9	0.3019	0.2828	-6.3	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	43.0	2.137	1.840	-13.9	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	46.7	1.257	1.174	-6.6	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	48.2	0.4471	0.4307	-3.7	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	46.8	1.283	1.202	-6.3	NA	± 20 %	Average RF
1,4-Dioxane	1000	955	0.002061	0.001969	-4.5	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	46.7	0.6550	0.6120	-6.6	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	44.4	0.1464	0.1299	-11.3	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	43.7	1.882	1.643	-12.7	NA	± 20 %	Average RF
2-Hexanone	50.0	48.3	0.1545	0.1493	-3.4	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	43.7	2.190	1.914	-12.6	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	43.2	2.096	1.811	-13.6	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	49.2	0.2043	0.2010	-1.6	NA	± 60 %	Average RF
Acetone	50.0	41.4	0.09742	0.08070	-17.2	NA	± 60 %	Average RF
Benzene	50.0	47.3	1.177	1.113	-5.5	NA	± 20 %	Average RF
Bromobenzene	50.0	48.7	0.6652	0.6481	-2.6	NA	± 20 %	Average RF
Bromochloromethane	50.0	43.9	0.2783	0.2441	-12.3	NA	± 20 %	Average RF
Bromodichloromethane	50.0	49.4	0.3583	0.3540	-1.2	NA	± 20 %	Average RF
Bromoform	50.0	54.4	0.2864	0.3118	8.9	NA	± 20 %	Average RF
Bromomethane	50.0	39.9	0.2960	0.2365	-20.1	NA	± 60 %	Average RF
Carbon Disulfide	50.0	41.6	1.415	1.177	-16.8	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	49.3	0.1079	0.1064	-1.4	NA	± 20 %	Average RF
Chlorobenzene	50.0	49.3	0.8627	0.8507	-1.4	NA	± 20 %	Average RF
Chloroethane	50.0	44.1	0.3090	0.2722	-11.9	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/21/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 337251
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042113\T5845.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	44.6	0.7630	0.6813	-10.7	NA	± 20 %	Average RF
Chloromethane	50.0	44.6	0.4524	0.4036	-10.8	NA	± 60 %	Average RF
Dibromochloromethane	50.0	53.8	0.2632	0.2834	7.7	NA	± 20 %	Average RF
Dibromomethane	50.0	49.4	0.1430	0.1414	-1.1	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	56.9	0.2988	0.3398	13.7	NA	± 60 %	Average RF
Dichloromethane	50.0	41.8	0.4566	0.3815	-16.5	NA	± 20 %	Average RF
Diethyl Ether	50.0	42.8	0.3490	0.2985	-14.5	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	42.7	1.655	1.414	-14.6	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	44.2	1.441	1.275	-11.6	NA	± 20 %	Average RF
Ethylbenzene	50.0	47.7	0.4584	0.4376	-4.5	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	43.7	0.3118	0.2724	-12.6	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	44.8	2.499	2.237	-10.5	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	45.5	1.146	1.042	-9.1	NA	± 20 %	Average RF
Naphthalene	50.0	48.8	1.517	1.479	-2.5	NA	± 20 %	Average RF
Styrene	50.0	49.5	0.9315	0.9215	-1.1	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	53.3	0.2343	0.2496	6.5	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	40.1	0.1046	0.08377	-19.9	NA	± 20 %	Average RF
Toluene	50.0	48.9	1.198	1.172	-2.1	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	52.4	0.2750	0.2880	4.8	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	48.6	0.6137	0.5964	-2.8	NA	± 20 %	Average RF
Vinyl Chloride	50.0	46.1	0.4537	0.4182	-7.8	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	45.0	0.4867	0.4379	-10.0	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	48.3	0.4612	0.4455	-3.4	NA	± 20 %	Average RF
m,p-Xylenes	100	96.7	0.5569	0.5385	-3.3	NA	± 20 %	Average RF
n-Butylbenzene	50.0	40.7	1.921	1.563	-18.6	NA	± 20 %	Average RF
n-Propylbenzene	50.0	43.5	2.945	2.562	-13.0	NA	± 20 %	Average RF
o-Xylene	50.0	47.9	0.5616	0.5381	-4.2	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	41.6	2.471	2.057	-16.8	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	44.8	1.233	1.104	-10.5	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	43.0	1.756	1.509	-14.1	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	45.0	0.4239	0.3816	-10.0	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	49.5	0.3862	0.3822	-1.0	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	46.9	0.4844	0.4547	-6.1	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	51.4	0.2811	0.2889	2.8	NA	± 20 %	Average RF
Toluene-d8	50.0	49.2	1.215	1.195	-1.6	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/22/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 337448
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042213\T5873.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	51.0	0.3060	0.3122	2.0	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	44.3	0.6568	0.5820	-11.4	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	41.5	0.5411	0.4490	-17.0	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	45.8	0.2203	0.2019	-8.3	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	43.1	0.7944	0.6851	-13.8	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCE)	50.0	46.3	0.3273	0.3032	-7.4	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	48.3	0.3433	0.3315	-3.5	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	50.6	0.6654	0.6735	1.2	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	41.7	0.1621	0.1353	-16.6	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	50.9	0.7842	0.7983	1.8	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	46.1	2.186	2.016	-7.8	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	46.3	0.1017	0.09419	-7.4	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	48.6	0.2283	0.2220	-2.7	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	48.4	1.207	1.168	-3.3	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	46.6	0.3433	0.3202	-6.7	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	45.8	0.3019	0.2762	-8.5	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	45.8	2.137	1.957	-8.4	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	48.8	1.257	1.226	-2.5	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	45.6	0.4471	0.4082	-8.7	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	48.4	1.283	1.243	-3.2	NA	± 20 %	Average RF
1,4-Dioxane	1000	1020	0.002061	0.002095	1.6	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	45.1	0.6550	0.5914	-9.7	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	39.4	0.1464	0.1155	-21.1	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	44.6	1.882	1.680	-10.8	NA	± 20 %	Average RF
2-Hexanone	50.0	42.1	0.1545	0.1301	-15.8	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	44.8	2.190	1.961	-10.4	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	48.8	2.096	2.044	-2.5	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	44.3	0.2043	0.1810	-11.4	NA	± 60 %	Average RF
Acetone	50.0	37.8	0.09742	0.07357	-24.5	NA	± 60 %	Average RF
Benzene	50.0	46.3	1.177	1.091	-7.4	NA	± 20 %	Average RF
Bromobenzene	50.0	48.8	0.6652	0.6494	-2.4	NA	± 20 %	Average RF
Bromochloromethane	50.0	42.5	0.2783	0.2366	-15.0	NA	± 20 %	Average RF
Bromodichloromethane	50.0	47.5	0.3583	0.3402	-5.1	NA	± 20 %	Average RF
Bromoform	50.0	51.9	0.2864	0.2971	3.7	NA	± 20 %	Average RF
Bromomethane	50.0	41.2	0.2960	0.2441	-17.5	NA	± 60 %	Average RF
Carbon Disulfide	50.0	43.1	1.415	1.220	-13.8	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	49.3	0.1079	0.1063	-1.5	NA	± 20 %	Average RF
Chlorobenzene	50.0	49.3	0.8627	0.8503	-1.4	NA	± 20 %	Average RF
Chloroethane	50.0	43.1	0.3090	0.2666	-13.7	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/22/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 337448
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042213\T5873.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	42.8	0.7630	0.6530	-14.4	NA	± 20 %	Average RF
Chloromethane	50.0	45.6	0.4524	0.4123	-8.9	NA	± 60 %	Average RF
Dibromochloromethane	50.0	50.6	0.2632	0.2664	1.2	NA	± 20 %	Average RF
Dibromomethane	50.0	47.1	0.1430	0.1346	-5.9	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	61.4	0.2988	0.3667	22.7	NA	± 60 %	Average RF
Methylene Chloride	50.0	40.8	0.4566	0.3721	-18.5	NA	± 20 %	Average RF
Diethyl Ether	50.0	41.1	0.3490	0.2867	-17.8	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	38.6	1.655	1.276	-22.9 *	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	39.5	1.441	1.138	-21.1 *	NA	± 20 %	Average RF
Ethylbenzene	50.0	48.8	0.4584	0.4474	-2.4	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	54.3	0.3118	0.3386	8.6	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	46.7	2.499	2.336	-6.5	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	42.2	1.146	0.9669	-15.7	NA	± 20 %	Average RF
Naphthalene	50.0	47.0	1.517	1.425	-6.0	NA	± 20 %	Average RF
Styrene	50.0	50.7	0.9315	0.9450	1.5	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	55.1	0.2343	0.2581	10.2	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	35.9	0.1046	0.07508	-28.2 *	NA	± 20 %	Average RF
Toluene	50.0	49.0	1.198	1.174	-2.0	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	53.1	0.2750	0.2921	6.2	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	48.6	0.6137	0.5959	-2.9	NA	± 20 %	Average RF
Vinyl Chloride	50.0	45.9	0.4537	0.4160	-8.3	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	43.6	0.4867	0.4244	-12.8	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	47.4	0.4612	0.4368	-5.3	NA	± 20 %	Average RF
m,p-Xylenes	100	99.5	0.5569	0.5544	-0.5	NA	± 20 %	Average RF
n-Butylbenzene	50.0	46.5	1.921	1.786	-7.0	NA	± 20 %	Average RF
n-Propylbenzene	50.0	46.1	2.945	2.713	-7.9	NA	± 20 %	Average RF
o-Xylene	50.0	49.0	0.5616	0.5500	-2.1	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	46.8	2.471	2.315	-6.3	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	39.7	1.233	0.9796	-20.6 *	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	47.9	1.756	1.683	-4.2	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	44.5	0.4239	0.3769	-11.1	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	48.6	0.3862	0.3755	-2.8	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	46.8	0.4844	0.4532	-6.4	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	49.6	0.2811	0.2789	-0.8	NA	± 20 %	Average RF
Toluene-d8	50.0	49.1	1.215	1.194	-1.7	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/23/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 337612
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042313\T5900.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	52.1	0.3060	0.3189	4.2	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	48.3	0.6568	0.6351	-3.3	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	45.0	0.5411	0.4867	-10.1	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	47.6	0.2203	0.2097	-4.8	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	47.9	0.7944	0.7613	-4.2	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCE)	50.0	51.2	0.3273	0.3351	2.4	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	52.3	0.3433	0.3588	4.5	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	51.2	0.6654	0.6817	2.5	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	43.5	0.1621	0.1410	-13.1	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	52.6	0.7842	0.8245	5.1	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	50.4	2.186	2.205	0.8	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	47.4	0.1017	0.09632	-5.3	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	49.7	0.2283	0.2268	-0.7	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	50.4	1.207	1.217	0.8	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	48.1	0.3433	0.3301	-3.9	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	49.5	0.3019	0.2989	-1.0	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	50.1	2.137	2.142	0.2	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	51.3	1.257	1.290	2.6	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	48.6	0.4471	0.4343	-2.9	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	50.9	1.283	1.306	1.7	NA	± 20 %	Average RF
1,4-Dioxane	1000	941	0.002061	0.001939	-5.9	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	49.4	0.6550	0.6477	-1.1	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	43.2	0.1464	0.1265	-13.6	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	48.6	1.882	1.830	-2.8	NA	± 20 %	Average RF
2-Hexanone	50.0	44.5	0.1545	0.1376	-11.0	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	49.3	2.190	2.160	-1.3	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	53.6	2.096	2.246	7.1	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	45.6	0.2043	0.1863	-8.8	NA	± 60 %	Average RF
Acetone	50.0	38.7	0.09742	0.07545	-22.5	NA	± 60 %	Average RF
Benzene	50.0	50.1	1.177	1.179	0.1	NA	± 20 %	Average RF
Bromobenzene	50.0	50.3	0.6652	0.6685	0.5	NA	± 20 %	Average RF
Bromochloromethane	50.0	45.6	0.2783	0.2541	-8.7	NA	± 20 %	Average RF
Bromodichloromethane	50.0	49.7	0.3583	0.3560	-0.7	NA	± 20 %	Average RF
Bromoform	50.0	51.5	0.2864	0.2948	2.9	NA	± 20 %	Average RF
Bromomethane	50.0	42.4	0.2960	0.2512	-15.2	NA	± 60 %	Average RF
Carbon Disulfide	50.0	43.6	1.415	1.234	-12.8	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	52.5	0.1079	0.1134	5.1	NA	± 20 %	Average RF
Chlorobenzene	50.0	52.0	0.8627	0.8964	3.9	NA	± 20 %	Average RF
Chloroethane	50.0	49.1	0.3090	0.3031	-1.9	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/23/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 337612
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042313\T5900.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	47.3	0.7630	0.7214	-5.5	NA	± 20 %	Average RF
Chloromethane	50.0	51.5	0.4524	0.4660	3.0	NA	± 60 %	Average RF
Dibromochloromethane	50.0	52.1	0.2632	0.2742	4.2	NA	± 20 %	Average RF
Dibromomethane	50.0	48.5	0.1430	0.1386	-3.1	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	68.4	0.2988	0.4087	36.8	NA	± 60 %	Average RF
Methylene Chloride	50.0	45.0	0.4566	0.4113	-9.9	NA	± 20 %	Average RF
Diethyl Ether	50.0	45.5	0.3490	0.3179	-8.9	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	45.4	1.655	1.505	-9.1	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	45.4	1.441	1.310	-9.1	NA	± 20 %	Average RF
Ethylbenzene	50.0	51.8	0.4584	0.4747	3.5	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	55.8	0.3118	0.3479	11.6	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	50.9	2.499	2.545	1.8	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	46.1	1.146	1.056	-7.9	NA	± 20 %	Average RF
Naphthalene	50.0	48.5	1.517	1.472	-3.0	NA	± 20 %	Average RF
Styrene	50.0	53.0	0.9315	0.9880	6.1	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	57.4	0.2343	0.2691	14.9	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	40.8	0.1046	0.08522	-18.5	NA	± 20 %	Average RF
Toluene	50.0	52.2	1.198	1.251	4.4	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	55.8	0.2750	0.3066	11.5	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	53.9	0.6137	0.6616	7.8	NA	± 20 %	Average RF
Vinyl Chloride	50.0	52.3	0.4537	0.4741	4.5	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	47.2	0.4867	0.4591	-5.7	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	50.3	0.4612	0.4636	0.5	NA	± 20 %	Average RF
m,p-Xylenes	100	105	0.5569	0.5850	5.0	NA	± 20 %	Average RF
n-Butylbenzene	50.0	52.0	1.921	1.998	4.0	NA	± 20 %	Average RF
n-Propylbenzene	50.0	50.7	2.945	2.984	1.3	NA	± 20 %	Average RF
o-Xylene	50.0	51.5	0.5616	0.5786	3.0	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	51.9	2.471	2.563	3.7	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	44.8	1.233	1.106	-10.3	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	51.8	1.756	1.817	3.5	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	49.2	0.4239	0.4170	-1.6	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	49.7	0.3862	0.3836	-0.7	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	47.6	0.4844	0.4614	-4.8	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	50.0	0.2811	0.2813	0.1	NA	± 20 %	Average RF
Toluene-d8	50.0	49.6	1.215	1.206	-0.7	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/24/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 337788
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042413\T5926.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	52.1	0.3060	0.3188	4.2	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	47.4	0.6568	0.6221	-5.3	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	46.2	0.5411	0.5003	-7.5	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	48.0	0.2203	0.2115	-4.0	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	48.3	0.7944	0.7665	-3.5	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCE)	50.0	51.8	0.3273	0.3392	3.7	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	52.0	0.3433	0.3572	4.1	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	50.5	0.6654	0.6725	1.1	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	45.0	0.1621	0.1458	-10.1	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	51.9	0.7842	0.8143	3.8	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	49.3	2.186	2.154	-1.5	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	47.0	0.1017	0.09554	-6.1	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	50.6	0.2283	0.2310	1.2	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	50.6	1.207	1.223	1.3	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	47.9	0.3433	0.3287	-4.3	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	48.8	0.3019	0.2948	-2.3	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	49.2	2.137	2.103	-1.6	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	50.3	1.257	1.265	0.6	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	49.4	0.4471	0.4413	-1.3	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	50.4	1.283	1.293	0.8	NA	± 20 %	Average RF
1,4-Dioxane	1000	881	0.002061	0.001815	-11.9	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	49.6	0.6550	0.6491	-0.9	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	44.0	0.1464	0.1289	-12.0	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	48.0	1.882	1.805	-4.1	NA	± 20 %	Average RF
2-Hexanone	50.0	44.9	0.1545	0.1386	-10.3	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	48.5	2.190	2.123	-3.1	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	52.4	2.096	2.198	4.9	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	46.4	0.2043	0.1896	-7.2	NA	± 60 %	Average RF
Acetone	50.0	40.6	0.09742	0.07912	-18.8	NA	± 60 %	Average RF
Benzene	50.0	49.6	1.177	1.168	-0.8	NA	± 20 %	Average RF
Bromobenzene	50.0	50.6	0.6652	0.6735	1.2	NA	± 20 %	Average RF
Bromochloromethane	50.0	45.3	0.2783	0.2521	-9.4	NA	± 20 %	Average RF
Bromodichloromethane	50.0	49.6	0.3583	0.3552	-0.9	NA	± 20 %	Average RF
Bromoform	50.0	53.0	0.2864	0.3035	6.0	NA	± 20 %	Average RF
Bromomethane	50.0	42.1	0.2960	0.2492	-15.8	NA	± 60 %	Average RF
Carbon Disulfide	50.0	46.2	1.415	1.309	-7.5	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	51.3	0.1079	0.1107	2.6	NA	± 20 %	Average RF
Chlorobenzene	50.0	51.3	0.8627	0.8858	2.7	NA	± 20 %	Average RF
Chloroethane	50.0	49.3	0.3090	0.3046	-1.4	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/24/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 337788
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042413\T5926.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	47.0	0.7630	0.7178	-5.9	NA	± 20 %	Average RF
Chloromethane	50.0	50.4	0.4524	0.4561	0.8	NA	± 60 %	Average RF
Dibromochloromethane	50.0	52.9	0.2632	0.2784	5.8	NA	± 20 %	Average RF
Dibromomethane	50.0	48.9	0.1430	0.1398	-2.3	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	67.4	0.2988	0.4029	34.9	NA	± 60 %	Average RF
Methylene Chloride	50.0	44.6	0.4566	0.4073	-10.8	NA	± 20 %	Average RF
Diethyl Ether	50.0	45.8	0.3490	0.3199	-8.3	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	44.4	1.655	1.472	-11.1	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	44.8	1.441	1.292	-10.4	NA	± 20 %	Average RF
Ethylbenzene	50.0	51.9	0.4584	0.4761	3.9	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	55.4	0.3118	0.3454	10.8	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	50.4	2.499	2.520	0.8	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	46.3	1.146	1.062	-7.4	NA	± 20 %	Average RF
Naphthalene	50.0	48.9	1.517	1.482	-2.3	NA	± 20 %	Average RF
Styrene	50.0	53.2	0.9315	0.9909	6.4	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	56.7	0.2343	0.2656	13.4	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	39.9	0.1046	0.08342	-20.2 *	NA	± 20 %	Average RF
Toluene	50.0	52.1	1.198	1.247	4.1	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	53.7	0.2750	0.2951	7.3	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	52.9	0.6137	0.6495	5.8	NA	± 20 %	Average RF
Vinyl Chloride	50.0	51.8	0.4537	0.4703	3.7	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	48.5	0.4867	0.4721	-3.0	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	50.7	0.4612	0.4677	1.4	NA	± 20 %	Average RF
m,p-Xylenes	100	105	0.5569	0.5827	4.6	NA	± 20 %	Average RF
n-Butylbenzene	50.0	51.3	1.921	1.971	2.6	NA	± 20 %	Average RF
n-Propylbenzene	50.0	50.1	2.945	2.952	0.2	NA	± 20 %	Average RF
o-Xylene	50.0	51.3	0.5616	0.5759	2.5	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	50.2	2.471	2.483	0.5	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	44.7	1.233	1.103	-10.6	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	50.5	1.756	1.772	0.9	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	50.0	0.4239	0.4236	-0.1	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	50.7	0.3862	0.3916	1.4	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	47.1	0.4844	0.4562	-5.8	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	49.8	0.2811	0.2801	-0.4	NA	± 20 %	Average RF
Toluene-d8	50.0	49.6	1.215	1.206	-0.7	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/25/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 338081
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042513\T5951.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	48.2	0.3060	0.2948	-3.7	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	43.2	0.6568	0.5675	-13.6	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	46.5	0.5411	0.5036	-6.9	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	50.0	0.2203	0.2201	-0.1	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	46.5	0.7944	0.7390	-7.0	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCE)	50.0	47.3	0.3273	0.3098	-5.3	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	46.3	0.3433	0.3181	-7.3	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	49.4	0.6654	0.6571	-1.2	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	44.9	0.1621	0.1456	-10.2	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	47.4	0.7842	0.7437	-5.2	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	43.5	2.186	1.901	-13.0	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	46.7	0.1017	0.09492	-6.7	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	50.5	0.2283	0.2307	1.1	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	47.6	1.207	1.148	-4.9	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	48.8	0.3433	0.3350	-2.4	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	48.1	0.3019	0.2903	-3.8	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	42.7	2.137	1.825	-14.6	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	46.5	1.257	1.169	-7.0	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	48.5	0.4471	0.4337	-3.0	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	46.9	1.283	1.204	-6.2	NA	± 20 %	Average RF
1,4-Dioxane	1000	902	0.002061	0.001860	-9.8	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	44.3	0.6550	0.5806	-11.4	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	45.2	0.1464	0.1322	-9.7	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	43.2	1.882	1.627	-13.6	NA	± 20 %	Average RF
2-Hexanone	50.0	44.9	0.1545	0.1387	-10.3	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	43.7	2.190	1.911	-12.7	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	43.5	2.096	1.824	-13.0	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	47.0	0.2043	0.1922	-5.9	NA	± 60 %	Average RF
Acetone	50.0	41.7	0.09742	0.08125	-16.6	NA	± 60 %	Average RF
Benzene	50.0	47.3	1.177	1.114	-5.4	NA	± 20 %	Average RF
Bromobenzene	50.0	48.6	0.6652	0.6462	-2.9	NA	± 20 %	Average RF
Bromochloromethane	50.0	46.4	0.2783	0.2584	-7.1	NA	± 20 %	Average RF
Bromodichloromethane	50.0	48.8	0.3583	0.3499	-2.4	NA	± 20 %	Average RF
Bromoform	50.0	52.6	0.2864	0.3012	5.2	NA	± 20 %	Average RF
Bromomethane	50.0	39.8	0.2960	0.2358	-20.3	NA	± 60 %	Average RF
Carbon Disulfide	50.0	42.2	1.415	1.195	-15.6	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	45.5	0.1079	0.09818	-9.0	NA	± 20 %	Average RF
Chlorobenzene	50.0	48.0	0.8627	0.8282	-4.0	NA	± 20 %	Average RF
Chloroethane	50.0	45.8	0.3090	0.2827	-8.5	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302628
Date Analyzed: 4/25/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 338081
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\042513\T5951.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	46.0	0.7630	0.7024	-7.9	NA	± 20 %	Average RF
Chloromethane	50.0	47.5	0.4524	0.4301	-4.9	NA	± 60 %	Average RF
Dibromochloromethane	50.0	52.0	0.2632	0.2738	4.0	NA	± 20 %	Average RF
Dibromomethane	50.0	50.2	0.1430	0.1435	0.3	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	60.6	0.2988	0.3618	21.1	NA	± 60 %	Average RF
Dichloromethane	50.0	44.8	0.4566	0.4091	-10.4	NA	± 20 %	Average RF
Diethyl Ether	50.0	47.5	0.3490	0.3314	-5.0	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	44.1	1.655	1.460	-11.8	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	44.5	1.441	1.283	-11.0	NA	± 20 %	Average RF
Ethylbenzene	50.0	46.2	0.4584	0.4235	-7.6	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	44.0	0.3118	0.2744	-12.0	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	43.5	2.499	2.172	-13.1	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	47.5	1.146	1.089	-5.0	NA	± 20 %	Average RF
Naphthalene	50.0	48.7	1.517	1.478	-2.5	NA	± 20 %	Average RF
Styrene	50.0	49.1	0.9315	0.9137	-1.9	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	49.5	0.2343	0.2319	-1.0	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	40.8	0.1046	0.08525	-18.5	NA	± 20 %	Average RF
Toluene	50.0	48.3	1.198	1.157	-3.4	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	51.1	0.2750	0.2811	2.3	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	47.4	0.6137	0.5815	-5.2	NA	± 20 %	Average RF
Vinyl Chloride	50.0	48.1	0.4537	0.4364	-3.8	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	46.8	0.4867	0.4558	-6.3	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	49.8	0.4612	0.4593	-0.4	NA	± 20 %	Average RF
m,p-Xylenes	100	93.4	0.5569	0.5201	-6.6	NA	± 20 %	Average RF
n-Butylbenzene	50.0	41.6	1.921	1.597	-16.9	NA	± 20 %	Average RF
n-Propylbenzene	50.0	43.1	2.945	2.537	-13.9	NA	± 20 %	Average RF
o-Xylene	50.0	46.4	0.5616	0.5209	-7.2	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	41.8	2.471	2.064	-16.5	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	44.9	1.233	1.106	-10.3	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	42.8	1.756	1.503	-14.4	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	47.1	0.4239	0.3994	-5.8	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	50.7	0.3862	0.3918	1.4	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	48.0	0.4844	0.4650	-4.0	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	49.4	0.2811	0.2776	-1.3	NA	± 20 %	Average RF
Toluene-d8	50.0	49.6	1.215	1.204	-0.9	NA	± 20 %	Average RF



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 7173

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 • +1 585 288 8475 (fax) PAGE 4 OF 8

Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)											
Project Manager		Report CC		PRESERVATIVE		NUMBER OF CONTAINERS		SAMPLING		DATE		TIME		MATRIX	
Company/Address		Email		Sample/Signature		Printed Name		FOR OFFICE USE ONLY LAB ID		DATE		TIME		MATRIX	
Varian Beverly		146899-060000000													
Raymond Cadorette															
Shaw Environmental, A CB&I Company															
150 Royall Street															
Canton, MA 02021															
Phone # 617-589-6102															
Sample/Signature		Email		Printed Name		Sample/Signature		Printed Name		Sample/Signature		Printed Name		Sample/Signature	
		Raymond.Cadorette@CBI.com		Paul Kedor											
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID		DATE		TIME		MATRIX							
OB 6 B2 (100)				4-12-13		1330		CW							
OB 6 D0 (63.6)				4-12-13		1400									
A-11 R (8.75)				4-12-13		1430									
P-19 A (9.5)				4-12-13		1200									
AP B10 - 01 (17)				4-12-13		1530									
Strm - A - 805				4-15-13		0730									
OB 21 - D0 (78.6)				4-15-13		0800									
OB 21 - B R (96)				4-15-13		0820									
OB 20 - S (11)				4-15-13		0850									
OB 20 - D0 (73)				4-15-13		0910									
OB 20 - B R (93.5)				4-15-13		0925									
SPECIAL INSTRUCTIONS/COMMENTS															
Metals = Field Filtered <i>pull up</i>															
Site specific VOC list															
Massachusetts CAM analyses reporting and QA/QC.															
Email GISKey formatted EDD and PDF of report to:															
Catherine.Mainville@CBI.com.															
See OAPP <input type="checkbox"/>															
STATE WHERE SAMPLES WERE COLLECTED				RECEIVED BY				RELINQUISHED BY				RECEIVED BY			
Signature <i>[Signature]</i>				Signature <i>[Signature]</i>				Signature <i>[Signature]</i>				Signature <i>[Signature]</i>			
Printed Name <i>[Name]</i>				Printed Name <i>[Name]</i>				Printed Name <i>[Name]</i>				Printed Name <i>[Name]</i>			
Firm <i>[Firm]</i>				Firm <i>[Firm]</i>				Firm <i>[Firm]</i>				Firm <i>[Firm]</i>			
Date/Time <i>4/16/13 1430</i>				Date/Time <i>4/17/13 1030</i>				Date/Time <i>4/17/13 1030</i>				Date/Time <i>4/17/13 1030</i>			
Distribution: White - Lab Copy; Yellow - Return to Originator															

TURNAROUND REQUIREMENTS

RUSH (SURCHARGES APPLY)

1 day 2 day 3 day

4 day 5 day

Standard

REQUESTED REPORT DATE

REPORT REQUIREMENTS

I. Results Only

II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

III. Results + QC and Calibration Summaries

IV. Data Validation Report with Raw Data

Edata ☒ Yes ☐ No

INVOICE INFORMATION

PO # 842815

BILL TO: Shaw/CB&I

R1302628

7 Y

CB&I Environmental & Infrastructure

Varian Beverly

Barcode

Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Varian Beverly		146899-06000000			
Project Manager		Report CC		PRESERVATIVE	
Raymond Cadorette				1	
Company/Address					
Shaw Environmental, Inc., A CB&I Company					
150 Royall Street					
Canton, MA 02021					
Phone #					
617-589-6102					
Email					
Raymond.Cadorette@CBI.com					
Sample's Signature		Sample's Printed Name			
<i>Raymond Cadorette</i>		Raymond C. Cadorette			
FOR OFFICE USE ONLY		LAB ID		SAMPLING DATE	
CLIENT SAMPLE ID		DATE		TIME	
OB10-BR(71)		4-12-13		0800	
AP12-S(22)		4-12-13		0830	
PW-36(51.7)		4-12-13		0900	
CL3-DO(76)		4-12-13		1000	
CL3-S(18)		4-12-13		0930	
OB4-S(23.5)		4-12-13		1030	
OB4-DO(67)		4-12-13		1100	
OB4-BR(77.3)		4-12-13		1130	
OB5-DO(81.5)		4-12-13		1200	
OB5-BR(104)		4-12-13		1230	
CL8-DO(51.5)		4-12-13		1300	
SPECIAL INSTRUCTIONS/COMMENTS					
Metals = Field Filtered					
Site specific VOC List					
Massachusetts CAM analyses reporting and QA/QC.					
Email GISkey formatted EDD and PDF of report to:					
Catherine.Mainville@CBI.com					
See QAPP <input type="checkbox"/>					
STATE WHERE SAMPLES WERE COLLECTED					
RECEIVED BY		RECEIVED BY		RECEIVED BY	
Signature		Signature		Signature	
Printed Name		Printed Name		Printed Name	
Firm		Firm		Firm	
Date/Time		Date/Time		Date/Time	
4/11/13 1430		4/17/13 1530		4/17/13 1530	
CBI		CBI		CBI	
APB		APB		APB	
Kieran Nadeau		Kieran Nadeau		Kieran Nadeau	
Signature		Signature		Signature	
Printed Name		Printed Name		Printed Name	
Firm		Firm		Firm	
Date/Time		Date/Time		Date/Time	
4/17/13 1530		4/17/13 1530		4/17/13 1530	
CBI		CBI		CBI	
APB		APB		APB	
Kieran Nadeau		Kieran Nadeau		Kieran Nadeau	
Signature		Signature		Signature	
Printed Name		Printed Name		Printed Name	
Firm		Firm		Firm	
Date/Time		Date/Time		Date/Time	
4/17/13 1530		4/17/13 1530		4/17/13 1530	
CBI		CBI		CBI	
APB		APB		APB	
Kieran Nadeau		Kieran Nadeau		Kieran Nadeau	
Signature		Signature		Signature	
Printed Name		Printed Name		Printed Name	
Firm		Firm		Firm	
Date/Time		Date/Time		Date/Time	
4/17/13 1530		4/17/13 1530		4/17/13 1530	
CBI		CBI		CBI	
APB		APB		APB	
Kieran Nadeau		Kieran Nadeau		Kieran Nadeau	
Signature		Signature		Signature	
Printed Name		Printed Name		Printed Name	
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4/17/13 1530		4/17/13 1530		4/17/13 1530	
CBI		CBI		CBI	
APB		APB		APB	
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Signature		Signature		Signature	
Printed Name		Printed Name		Printed Name	
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CBI		CBI		CBI	
APB		APB		APB	
Kieran Nadeau		Kieran Nadeau		Kieran Nadeau	
Signature		Signature		Signature	
Printed Name		Printed Name		Printed Name	
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Date/Time		Date/Time		Date/Time	
4/17/13 1530		4/17/13 1530		4/17/13 1530	
CBI		CBI		CBI	
APB		APB</			



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3 8475 (fax)

PAGE

OF

Distribution: White - Lab Copy, Yellow - Return to Originator

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Project Name Varian Beverly		Project Number 146899-06000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)										
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE										
Company/Address Shaw Environmental, A CB&I Company 150 Royall Street Canton, MA 02021		Email Raymond.Cadorette@CBI.com		NUMBER OF CONTAINERS										
Phone # 617-589-6102		Sample's Printed Name DANIEL CANNY		PRESERVATIVE										
Sample's Signature <i>Raymond Cadorette</i>		Sample's Printed Name DANIEL CANNY		PRESERVATIVE										
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	DATE	SAMPLING TIME	MATRIX	PRESERVATIVE									
GZ-1 C12.4'		4/13/13	1030	GW	PRESERVATIVE									
OB43-S C16'		4/12/13	1100		PRESERVATIVE									
OB42-S C13.6'		4/12/13	1130		PRESERVATIVE									
EB-2		4/12/13	1100		PRESERVATIVE									
OB23-BR C83'		4/12/13	1230		PRESERVATIVE									
OB17-DO C42.4'		4/12/13	1300		PRESERVATIVE									
OB17-BR C97'		4/12/13	1400		PRESERVATIVE									
MM-33B C19'		4/15/13	0800		PRESERVATIVE									
CL4-DO C38'		4/15/13	0900		PRESERVATIVE									
CL4-BR C54'		4/15/13	1000		PRESERVATIVE									
CL9-DO C32.8'		4/15/13	1030		PRESERVATIVE									

SPECIAL INSTRUCTIONS/COMMENTS
Metals = Field Filtered
Site specific VOC list *CANAL VIST*
Massachusetts CAM analyses reporting and QA/QC.
Email GISKey formatted EDD and PDF of report to:
Catherine.Mainville@CBI.com.

TURNAROUND REQUIREMENTS
RUSH (SURCHARGES APPLY)
1 day 2 day 3 day
4 day 5 day
Standard
REQUESTED REPORT DATE

REPORT REQUIREMENTS
I. Results Only
II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
III. Results + QC and Calibration Summaries
IV. Data Validation Report with Raw Data
Edata ☒ Yes ☐ No

INVOICE INFORMATION
PO # 842815
BILL TO: Shaw/CB&I

STATE WHERE SAMPLES WERE COLLECTED
RELINQUISHED BY
Signature: *Raymond Cadorette*
Printed Name: Raymond Cadorette
Firm: CB&I
Date/Time: 4/17/13 1430

RECEIVED BY
Signature: *Michael...*
Printed Name: Michael...
Firm: 465
Date/Time: 4/17/13 1030

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RECEIVED BY
Signature: *Michael...*
Printed Name: Michael...
Firm: 465
Date/Time: 4/

Distribution: White - Lab Copy; Yellow - Return to Originator



Cooler Receipt and Preservation Check Form

Project/Client CB & I Folder Number 813-2628

Cooler received on 4/17/13 by: CD COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALSTROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: 2.4 5.8 3.8°

Is the temperature within 0° - 6° C?: Y N Y N Y N Y N Y N
 If No, Explain Below Date/Time Temperatures Taken: 4/17/13 10:40

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location Room by CD on 4/17/13 at 11:05
 5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: _____

Cooler Breakdown: Date: 4/17/13 Time: 1900 by: KF CD

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK No = Samples were preserved at lab as listed PM OK to Adjust: _____
≥12	NaOH									
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet				
	Zn Aceta	-	-							
	HCl	*	*	4/12/10	3/14					

Bottle lot numbers: 3-043-002

Other Comments:

PC Secondary Review: mwp4/17/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc Prepared By: Pernilla Haley Matrix: Groundwater Analyte Group : Volatile Organics Chloride Metals (Fe & Mn)	Job Number : 146899 Date : 6/19/2013 Analytical Method : EPA Method 8260C EPA Method SM 4500-CL-E EPA Method 6010B Completed MADEP CAM Certification Form included: Yes Laboratory ID No. : R1302629 Chain of Custody included in Data Package ? Yes Is it Complete ? Yes
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
4/15 and 4/16/13	8260C		14 Days	4/23, 4/24, 4/25, and 4/26/13
4/15 and 4/16/13	Chloride EPA Method SM 4500-CL-E		28 days	4/23/13
4/15 and 4/16/13	Dissolved iron and manganese 6010B		6 months	4/24/13

Sample temperature within QC limits: Yes

Surrogate Recovery

Are all % recoveries within the allowable range ? Yes

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? No

If no, list sample ID where range was exceeded: see notes

Equipment Field Blank EB-3

Trip Blank ID : TB-2

	4/23, 4/24, 4/25, and
Method Blank: EPA 8260C	4/26/13
SM 4500-CL-E	4/23/13
6010B	4/24/13

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

VOC Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples OB38-DO(42), OB36-DO (46), OB35-DO(61), B-2(12), CL10-S(11) were re-analyzed at a larger dilution to bring target analytes within the calibration range of the method. The analytes over the calibration range are flagged with an "E" and the diluted analytes flagged with a "D".

The % recovery was outside limits in the LCS or LCSD for 1,4-dioxane and 2,2-dichloropropene in batch 337623 (samples STRHA-7A, STRHA-7B, Culvert outfall, CL6-BR(61), CL6-DO(42), OB38-DO(42), OB36-DO(46), OB37-DO(53.7), OB35-DO(61), B-2(12, and AP27-DO(59)), for bromoform in batch 337806 (samples OB38-DO(42) diluted, OB36-DO(46) diluted, OB35-DO(61) diluted, B-2(12) diluted, CL10-S(11), CL10-DO(30, CL10-BR(45), OB16-S(6), MW2-32Tozer(17), MW1-32Tozer(12) MW5-32Tozer(14), and MW4-32Tozer(14)), for 1,1-dichloropropene and bromoform in batch 338201 (sample CL10-S(11) diluted), and for 1,1-DCE, bromoform, and PCE in batch 337805 (samples AP13-S(16), CL11-DO(49), OB19-S(32), OB25-BR(95), OB26-BR(90), OB28-BR(84, B-3(12.5), CL11-S(22), OB27-BR(85) OB19-DO(57), and AP26-DO(67)). The data was not impacted since the analytical results were non-detect for these analytes in these batches except for PCE which was given a J qualifier in B-3(12.5), CL11-S(22), OB27-BR(85), OB19-DO(57), and AP26-DO(67)

The Continued Calibration Verification for 1,1-dichloropropene, 2,2-dichloropropene, carbon disulfide, and diisopropylether %D were outside range for batch 337623. Results were non-detect for these analytes, but associated data were given an UJ qualifier (samples STRHA-7A, STRHA-7B, Culvert outfall, CL6-BR(61), CL6-DO(42), OB38-DO(42), OB36-DO(46), OB37-DO(53.7), OB35-DO(61))

The Continued Calibration Verification for bromoform was outside range for batch 337805. Results were non-detect for these analytes, but associated data were given an UJ qualifier (samples AP13-S(16), CL11-DO(49), OB19-S(32), OB25-BR(95), OB26-BR(90), OB28-BR(84, B-3(12.5), CL11-S(22), OB27-BR(85), OB19-DO(57), and AP26-DO(67))

The Continued Calibration Verification for 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1-dichloropropene, bromoform, carbon disulfide, carbon tetrachloride, dibromochloromethane, and tetrahydrofuran were outside range for batch 337806.. Results were non-detect for these analytes, but associated data were given an UJ qualifier (samples OB38-DO(42) diluted, OB36-DO(46) diluted, OB35-DO(61) diluted, B-2(12) diluted, CL10-S(11), CL10-DO(30, CL10-BR(45), OB16-S(6), MW2-32Tozer(17), MW1-32Tozer(12), MW5-32Tozer(14), and MW4-32Tozer(14)) except for tetrahydrofuran which was qualified J in sample OB16-(16)

The Continued Calibration Verification for 1,1,1,2 tetrachloroethane, 1,1-dichloropropene, 2,2-dichloropropane, bromoform, carbon tetrachloride, and dibromochloromethane were outside range for batch 338201. Results were non-detect for these analytes, but associated data were given an UJ qualifier (sample CL10-S(11) diluted)

Reviewed By: Ray Cadorette 7/8/13



April 30, 2013

Service Request No: R1302629

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly/146899

Dear Mr. Cadorette:

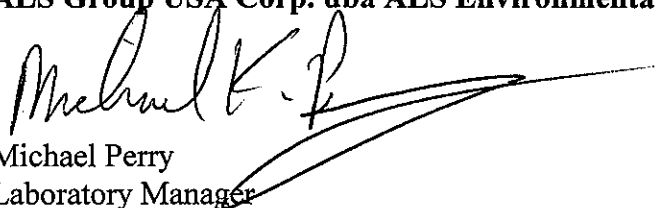
Enclosed are the results of the sample(s) submitted to our laboratory on April 17, 2013. For your reference, these analyses have been assigned our service request number **R1302629**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental


Michael Perry
Laboratory Manager

Page 1 of 150

ALS Environmental

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1302629
Project Number: 146899-06000000
Date Received: 4/17/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II, deliverables with Massachusetts CAM analyses reporting. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Water samples were collected on 4/15/13 and 4/16/13 and received at ALS in good condition at cooler temperatures of 2.4 – 5.8 °C as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. See the second page of the Case Narrative for a cross-reference between Client ID and ALS Job #.

Volatile Organics

Thirty-four water samples were analyzed for a site list of Volatile Organics by SW-846 Method 8260C.

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples OB38-DO (42), OB36-DO (46), OB35-DO (61), B-2 (12), and CL10-S (11) were re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

Note: Sample OB36-DO (46) was originally analyzed at a 1/100 dilution based on historical data. The sample was re-analyzed at 1/2000 dilution based on the original results. The sample was way over diluted on this analysis and was re-analyzed a third time at 1/500 dilution which confirmed the 1/2000 dilution. The original 1/100 dilution and the repeat 1/500 dilution have been reported.

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes except as noted on the attached CCV summary forms and are flagged with an "**".

All Surrogate Standard recoveries were within QC limits.

Several Bank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were outside QC limit and have been flagged with an "**". No data was affected.

All samples were analyzed within the required holding time of 14 days.

No other analytical or QC problems were encountered with these analyses.

Inorganic Analyses

Six water samples were analyzed for dissolved Iron and dissolved Manganese by SW-846 method 6010C and for Chloride by method SM 4500-CL-E.

The initial and continuing calibration criteria were met for all analytes.

All Blank Spike (LCS) recoveries were within QC limits.

No analytical or QC problems were encountered.

00002

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146899-06000000 non-bio

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1302629 – 001 - 034

Matrices: ☒ Groundwater ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other: _____

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6850 Perchlorate CAM VIII B	Other: Chloride

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (site list)	Yes <input type="checkbox"/> No ¹ <input checked="" type="checkbox"/>

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Manager

Printed Name: Michael K. Perry

Date: 4/30/13

00002A

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1302629

<u>Lab ID</u>	<u>Client ID</u>
R1302629-001	STRHA-7A
R1302629-002	STRHA-7B
R1302629-003	CULVERT OUTFALL
R1302629-004	CL6-BR (61)
R1302629-005	CL6-DO (42)
R1302629-006	OB38-DO (42)
R1302629-007	OB36-DO (46)
R1302629-008	OB37-DO (53.7)
R1302629-009	OB35-DO (61)
R1302629-010	B-2 (12)
R1302629-011	AP27-DO (59)
R1302629-012	MW-9A (13.3)
R1302629-013	B-3 (12.5)
R1302629-014	AP13-S (16)
R1302629-015	CL-11S (22)
R1302629-016	CL-11DO (49)
R1302629-017	OB27-BR (85)
R1302629-018	OB19-S (32)
R1302629-019	OB25-BR (95)
R1302629-020	OB19-DO (57)
R1302629-021	AP26-DO (67)
R1302629-022	OB26-BR (90)
R1302629-023	CL10-S (11)
R1302629-024	CL10-DO (30)
R1302629-025	C10-BR (45)
R1302629-026	OB16-S (16)
R1302629-027	OB16-BR (34)
R1302629-028	MW2-32 TOZER (17)
R1302629-029	MW1-32 TOZER (12)
R1302629-030	MW5-32 TOZER (14)
R1302629-031	MW4-32 TOZER (14)
R1302629-032	EB-3
R1302629-033	TB-2
R1302629-034	OB28-BR (84)

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for Massachusetts Certification
M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

Division of Environmental Analysis

Senator William X. Wall Experiment Station

certifies

M-NY032

COLUMBIA ANALYTICAL SERVICES
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Oscar E. Pascarella".

Director, Division of Environmental Analysis

Issued: 01 JUL 2012

Expires: 30 JUN 2013

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>				<u>Methods</u>
ALUMINUM				EPA 200.7
ANTIMONY				EPA 200.7
ANTIMONY				EPA 200.8
ARSENIC				EPA 200.7
ARSENIC				EPA 200.8
BERYLLIUM				EPA 200.7
BERYLLIUM				EPA 200.8
CADMIUM				EPA 200.7
CADMIUM				EPA 200.8
CHROMIUM				EPA 200.7
CHROMIUM				EPA 200.8
COBALT				EPA 200.7
COBALT				EPA 200.8
COPPER				EPA 200.7
COPPER				EPA 200.8
IRON				EPA 200.7
LEAD				EPA 200.7
LEAD				EPA 200.8
MANGANESE				EPA 200.7
MANGANESE				EPA 200.8
MERCURY				EPA 245.1
MOLYBDENUM				EPA 200.7
MOLYBDENUM				EPA 200.8
NICKEL				EPA 200.7
NICKEL				EPA 200.8
SELENIUM				EPA 200.7
SELENIUM				EPA 200.8
SILVER				EPA 200.7
SILVER				EPA 200.8
THALLIUM				EPA 200.7
THALLIUM				EPA 200.8
VANADIUM				EPA 200.7
VANADIUM				EPA 200.8
ZINC				EPA 200.7
ZINC				EPA 200.8
SPECIFIC CONDUCTIVITY				EPA 120.1
TOTAL DISSOLVED SOLIDS				SM 2540C
HARDNESS (CaCO3), TOTAL				SM 2340C
CALCIUM				EPA 200.7
MAGNESIUM				EPA 200.7
SODIUM				EPA 200.7
POTASSIUM				EPA 200.7
ALKALINITY, TOTAL				SM 2320B

June 29, 2012

*= Provisional Certification

Page 1 of 2

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
CHLORIDE			SM 4500-CL-E	
CHLORIDE			EPA 300.0	
FLUORIDE			EPA 300.0	
SULFATE			EPA 300.0	
AMMONIA-N			EPA 350.1	
NITRATE-N			EPA 300.0	
NITRATE-N			EPA 353.2	
KJELDAHL-N			EPA 351.2	
ORTHOPHOSPHATE			EPA 365.1	
PHOSPHORUS, TOTAL			EPA 365.1	
CHEMICAL OXYGEN DEMAND			EPA 410.4	
BIOCHEMICAL OXYGEN DEMAND			SM 5210B	
TOTAL ORGANIC CARBON			SM 5310C	
CYANIDE, TOTAL			EPA 335.4	
NON-FILTERABLE RESIDUE			SM 2540D	
OIL AND GREASE			EPA 1664	
PHENOLICS, TOTAL			EPA 420.4	
VOLATILE HALOCARBONS			EPA 601	
VOLATILE HALOCARBONS			EPA 624	
VOLATILE AROMATICS			EPA 602	
VOLATILE AROMATICS			EPA 624	
SVOC-ACID EXTRACTABLES			EPA 625	
SVOC-BASE/NEUTRAL EXTRACTABLES			EPA 625	
POLYCHLORINATED BIPHENYLS (WATER)			EPA 608	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1100
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 19:10

Sample Name: STRHA-7A
 Lab Code: R1302629-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8557.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1100
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 19:10

Sample Name: STRHA-7A
 Lab Code: R1302629-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8557.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	10	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	46	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	13	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1100
Date Received: 4/17/13
Date Analyzed: 4/23/13 19:10

Sample Name: STRHA-7A
Lab Code: R1302629-001

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8557.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/23/13 19:10	
Dibromofluoromethane	111	70-130	4/23/13 19:10	
Toluene-d8	95	70-130	4/23/13 19:10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1130
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 19:40

Sample Name: STRHA-7B
 Lab Code: R1302629-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8558.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1130
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 19:40

Sample Name: STRHA-7B
 Lab Code: R1302629-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8558.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	7.3	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	35	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	17	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1130
Date Received: 4/17/13
Date Analyzed: 4/23/13 19:40

Sample Name: STRHA-7B
Lab Code: R1302629-002

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8558.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 19:40	
Dibromofluoromethane	110	70-130	4/23/13 19:40	
Toluene-d8	96	70-130	4/23/13 19:40	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1200
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 20:09

Sample Name: CULVERT OUTFALL
 Lab Code: R1302629-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8559.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1200
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 20:09

Sample Name: CULVERT OUTFALL
 Lab Code: R1302629-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8559.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	9.3	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	56	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	58	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1200
Date Received: 4/17/13
Date Analyzed: 4/23/13 20:09

Sample Name: CULVERT OUTFALL
Lab Code: R1302629-003

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8559.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 20:09	
Dibromofluoromethane	111	70-130	4/23/13 20:09	
Toluene-d8	99	70-130	4/23/13 20:09	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 20:39

Sample Name: CL6-BR (61)
 Lab Code: R1302629-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8560.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 20:39

Sample Name: CL6-BR (61)
 Lab Code: R1302629-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8560.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1230
Date Received: 4/17/13
Date Analyzed: 4/23/13 20:39

Sample Name: CL6-BR (61)
Lab Code: R1302629-004

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa10\data\042313\E8560.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 20:39	
Dibromofluoromethane	109	70-130	4/23/13 20:39	
Toluene-d8	98	70-130	4/23/13 20:39	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 21:08

Sample Name: CL6-DO (42)
 Lab Code: R1302629-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDDATA\msvoa10\data\042313\E8561.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 21:08

Sample Name: CL6-DO (42)
 Lab Code: R1302629-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8561.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1300
Date Received: 4/17/13
Date Analyzed: 4/23/13 21:08

Sample Name: CL6-DO (42)
Lab Code: R1302629-005

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8561.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/23/13 21:08	
Dibromofluoromethane	108	70-130	4/23/13 21:08	
Toluene-d8	97	70-130	4/23/13 21:08	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 21:38

Sample Name: OB38-DO (42)
 Lab Code: R1302629-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8562.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
563-58-6	1,1-Dichloropropene	5.0	U	5.0	
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0	
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0	
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	
106-93-4	1,2-Dibromoethane	5.0	U	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
142-28-9	1,3-Dichloropropane	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
123-91-1	1,4-Dioxane	100	U	100	
594-20-7	2,2-Dichloropropane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	25	U	25	
95-49-8	2-Chlorotoluene	5.0	U	5.0	
591-78-6	2-Hexanone	25	U	25	
106-43-4	4-Chlorotoluene	5.0	U	5.0	
99-87-6	p-Isopropyltoluene	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone	25	U	25	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	5.0	U	5.0	
108-86-1	Bromobenzene	5.0	U	5.0	
74-97-5	Bromochloromethane	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 21:38

Sample Name: OB38-DO (42)
 Lab Code: R1302629-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8562.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	5.0 U	5.0	
56-23-5	Carbon Tetrachloride	5.0 U	5.0	
108-90-7	Chlorobenzene	5.0 U	5.0	
75-00-3	Chloroethane	5.0 U	5.0	
67-66-3	Chloroform	5.0 U	5.0	
74-87-3	Chloromethane	5.0 U	5.0	
124-48-1	Dibromochloromethane	5.0 U	5.0	
74-95-3	Dibromomethane	5.0 U	5.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.0 U	5.0	
75-09-2	Dichloromethane	5.0 U	5.0	
60-29-7	Diethyl Ether	5.0 U	5.0	
108-20-3	Diisopropyl Ether	5.0 U	5.0	
637-92-3	Ethyl tert-Butyl Ether	5.0 U	5.0	
100-41-4	Ethylbenzene	5.0 U	5.0	
87-68-3	Hexachlorobutadiene	5.0 U	5.0	
98-82-8	Isopropylbenzene (Cumene)	5.0 U	5.0	
1634-04-4	Methyl tert-Butyl Ether	5.0 U	5.0	
91-20-3	Naphthalene	5.0 U	5.0	
100-42-5	Styrene	5.0 U	5.0	
127-18-4	Tetrachloroethene (PCE)	450	5.0	
109-99-9	Tetrahydrofuran (THF)	5.0 U	5.0	
108-88-3	Toluene	5.0 U	5.0	
79-01-6	Trichloroethene (TCE)	630 E	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0 U	5.0	
75-01-4	Vinyl Chloride	6.1	5.0	
156-59-2	cis-1,2-Dichloroethene	120	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0 U	5.0	
179601-23-1	m,p-Xylenes	5.0 U	5.0	
104-51-8	n-Butylbenzene	5.0 U	5.0	
103-65-1	n-Propylbenzene	5.0 U	5.0	
95-47-6	o-Xylene	5.0 U	5.0	
135-98-8	sec-Butylbenzene	5.0 U	5.0	
994-05-8	tert-Amyl Methyl Ether	5.0 U	5.0	
98-06-6	tert-Butylbenzene	5.0 U	5.0	
156-60-5	trans-1,2-Dichloroethene	7.5	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1330
Date Received: 4/17/13
Date Analyzed: 4/23/13 21:38

Sample Name: OB38-DO (42)
Lab Code: R1302629-006

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8562.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/23/13 21:38	
Dibromofluoromethane	112	70-130	4/23/13 21:38	
Toluene-d8	98	70-130	4/23/13 21:38	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 08:10

Sample Name: OB38-DO (42)
 Lab Code: R1302629-006
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8628.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	10 U	10	
71-55-6	1,1,1-Trichloroethane (TCA)	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10 U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10 U	10	
563-58-6	1,1-Dichloropropene	10 U	10	
87-61-6	1,2,3-Trichlorobenzene	10 U	10	
96-18-4	1,2,3-Trichloropropane	10 U	10	
120-82-1	1,2,4-Trichlorobenzene	10 U	10	
95-63-6	1,2,4-Trimethylbenzene	10 U	10	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	10 U	10	
106-93-4	1,2-Dibromoethane	10 U	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
108-67-8	1,3,5-Trimethylbenzene	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
142-28-9	1,3-Dichloropropane	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
123-91-1	1,4-Dioxane	200 U	200	
594-20-7	2,2-Dichloropropane	10 U	10	
78-93-3	2-Butanone (MEK)	50 U	50	
95-49-8	2-Chlorotoluene	10 U	10	
591-78-6	2-Hexanone	50 U	50	
106-43-4	4-Chlorotoluene	10 U	10	
99-87-6	p-Isopropyltoluene	10 U	10	
108-10-1	4-Methyl-2-pentanone	50 U	50	
67-64-1	Acetone	50 U	50	
71-43-2	Benzene	10 U	10	
108-86-1	Bromobenzene	10 U	10	
74-97-5	Bromochloromethane	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 08:10

Sample Name: OB38-DO (42)
 Lab Code: R1302629-006
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8628.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	10 U	10	
56-23-5	Carbon Tetrachloride	10 U	10	
108-90-7	Chlorobenzene	10 U	10	
75-00-3	Chloroethane	10 U	10	
67-66-3	Chloroform	10 U	10	
74-87-3	Chloromethane	10 U	10	
124-48-1	Dibromochloromethane	10 U	10	
74-95-3	Dibromomethane	10 U	10	
75-71-8	Dichlorodifluoromethane (CFC 12)	10 U	10	
75-09-2	Dichloromethane	10 U	10	
60-29-7	Diethyl Ether	10 U	10	
108-20-3	Diisopropyl Ether	10 U	10	
637-92-3	Ethyl tert-Butyl Ether	10 U	10	
100-41-4	Ethylbenzene	10 U	10	
87-68-3	Hexachlorobutadiene	10 U	10	
98-82-8	Isopropylbenzene (Cumene)	10 U	10	
1634-04-4	Methyl tert-Butyl Ether	10 U	10	
91-20-3	Naphthalene	10 U	10	
100-42-5	Styrene	10 U	10	
127-18-4	Tetrachloroethene (PCE)	460 D	10	
109-99-9	Tetrahydrofuran (THF)	10 U	10	
108-88-3	Toluene	10 U	10	
79-01-6	Trichloroethene (TCE)	620 D	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10 U	10	
75-01-4	Vinyl Chloride	10 U	10	
156-59-2	cis-1,2-Dichloroethene	95 D	10	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	
179601-23-1	m,p-Xylenes	10 U	10	
104-51-8	n-Butylbenzene	10 U	10	
103-65-1	n-Propylbenzene	10 U	10	
95-47-6	o-Xylene	10 U	10	
135-98-8	sec-Butylbenzene	10 U	10	
994-05-8	tert-Amyl Methyl Ether	10 U	10	
98-06-6	tert-Butylbenzene	10 U	10	
156-60-5	trans-1,2-Dichloroethene	10 U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1330
Date Received: 4/17/13
Date Analyzed: 4/25/13 08:10

Sample Name: OB38-DO (42)
Lab Code: R1302629-006
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8628.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	87	70-130	4/25/13 08:10	
Dibromofluoromethane	111	70-130	4/25/13 08:10	
Toluene-d8	99	70-130	4/25/13 08:10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1350
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 22:09

Sample Name: OB36-DO (46)
 Lab Code: R1302629-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8563.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 100

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	200	U	200	
71-55-6	1,1,1-Trichloroethane (TCA)	200	U	200	
79-34-5	1,1,2,2-Tetrachloroethane	200	U	200	
79-00-5	1,1,2-Trichloroethane	200	U	200	
75-34-3	1,1-Dichloroethane (1,1-DCA)	200	U	200	
75-35-4	1,1-Dichloroethene (1,1-DCE)	200	U	200	
563-58-6	1,1-Dichloropropene	200	U	200	
87-61-6	1,2,3-Trichlorobenzene	200	U	200	
96-18-4	1,2,3-Trichloropropane	200	U	200	
120-82-1	1,2,4-Trichlorobenzene	200	U	200	
95-63-6	1,2,4-Trimethylbenzene	200	U	200	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	200	U	200	
106-93-4	1,2-Dibromoethane	200	U	200	
95-50-1	1,2-Dichlorobenzene	200	U	200	
107-06-2	1,2-Dichloroethane	200	U	200	
78-87-5	1,2-Dichloropropane	200	U	200	
108-67-8	1,3,5-Trimethylbenzene	200	U	200	
541-73-1	1,3-Dichlorobenzene	200	U	200	
142-28-9	1,3-Dichloropropane	200	U	200	
106-46-7	1,4-Dichlorobenzene	200	U	200	
123-91-1	1,4-Dioxane	4000	U	4000	
594-20-7	2,2-Dichloropropane	200	U	200	
78-93-3	2-Butanone (MEK)	1000	U	1000	
95-49-8	2-Chlorotoluene	200	U	200	
591-78-6	2-Hexanone	1000	U	1000	
106-43-4	4-Chlorotoluene	200	U	200	
99-87-6	p-Isopropyltoluene	200	U	200	
108-10-1	4-Methyl-2-pentanone	1000	U	1000	
67-64-1	Acetone	1000	U	1000	
71-43-2	Benzene	200	U	200	
108-86-1	Bromobenzene	200	U	200	
74-97-5	Bromochloromethane	200	U	200	
75-27-4	Bromodichloromethane	200	U	200	
75-25-2	Bromoform	200	U	200	
74-83-9	Bromomethane	200	U	200	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1350
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 22:09

Sample Name: OB36-DO (46)
 Lab Code: R1302629-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8563.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 100

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	200 U	200	
56-23-5	Carbon Tetrachloride	200 U	200	
108-90-7	Chlorobenzene	200 U	200	
75-00-3	Chloroethane	200 U	200	
67-66-3	Chloroform	200 U	200	
74-87-3	Chloromethane	200 U	200	
124-48-1	Dibromochloromethane	200 U	200	
74-95-3	Dibromomethane	200 U	200	
75-71-8	Dichlorodifluoromethane (CFC 12)	200 U	200	
75-09-2	Dichloromethane	200 U	200	
60-29-7	Diethyl Ether	200 U	200	
108-20-3	Diisopropyl Ether	200 U	200	
637-92-3	Ethyl tert-Butyl Ether	200 U	200	
100-41-4	Ethylbenzene	200 U	200	
87-68-3	Hexachlorobutadiene	200 U	200	
98-82-8	Isopropylbenzene (Cumene)	200 U	200	
1634-04-4	Methyl tert-Butyl Ether	200 U	200	
91-20-3	Naphthalene	200 U	200	
100-42-5	Styrene	200 U	200	
127-18-4	Tetrachloroethene (PCE)	28000 E	200	
109-99-9	Tetrahydrofuran (THF)	200 U	200	
108-88-3	Toluene	200 U	200	
79-01-6	Trichloroethene (TCE)	190000 E	200	
75-69-4	Trichlorofluoromethane (CFC 11)	200 U	200	
75-01-4	Vinyl Chloride	200 U	200	
156-59-2	cis-1,2-Dichloroethene	200 U	200	
10061-01-5	cis-1,3-Dichloropropene	200 U	200	
179601-23-1	m,p-Xylenes	200 U	200	
104-51-8	n-Butylbenzene	200 U	200	
103-65-1	n-Propylbenzene	200 U	200	
95-47-6	o-Xylene	200 U	200	
135-98-8	sec-Butylbenzene	200 U	200	
994-05-8	tert-Amyl Methyl Ether	200 U	200	
98-06-6	tert-Butylbenzene	200 U	200	
156-60-5	trans-1,2-Dichloroethene	200 U	200	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1350
Date Received: 4/17/13
Date Analyzed: 4/23/13 22:09

Sample Name: OB36-DO (46)
Lab Code: R1302629-007

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa10\data\042313\E8563.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 100

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	200 U	200	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/23/13 22:09	
Dibromofluoromethane	112	70-130	4/23/13 22:09	
Toluene-d8	103	70-130	4/23/13 22:09	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1350
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 10:45

Sample Name: OB36-DO (46)
 Lab Code: R1302629-007
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8633.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 500

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	1000	U	1000	
71-55-6	1,1,1-Trichloroethane (TCA)	1000	U	1000	
79-34-5	1,1,2,2-Tetrachloroethane	1000	U	1000	
79-00-5	1,1,2-Trichloroethane	1000	U	1000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	U	1000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1000	U	1000	
563-58-6	1,1-Dichloropropene	1000	U	1000	
87-61-6	1,2,3-Trichlorobenzene	1000	U	1000	
96-18-4	1,2,3-Trichloropropane	1000	U	1000	
120-82-1	1,2,4-Trichlorobenzene	1000	U	1000	
95-63-6	1,2,4-Trimethylbenzene	1000	U	1000	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	1000	U	1000	
106-93-4	1,2-Dibromoethane	1000	U	1000	
95-50-1	1,2-Dichlorobenzene	1000	U	1000	
107-06-2	1,2-Dichloroethane	1000	U	1000	
78-87-5	1,2-Dichloropropane	1000	U	1000	
108-67-8	1,3,5-Trimethylbenzene	1000	U	1000	
541-73-1	1,3-Dichlorobenzene	1000	U	1000	
142-28-9	1,3-Dichloropropane	1000	U	1000	
106-46-7	1,4-Dichlorobenzene	1000	U	1000	
123-91-1	1,4-Dioxane	20000	U	20000	
594-20-7	2,2-Dichloropropane	1000	U	1000	
78-93-3	2-Butanone (MEK)	5000	U	5000	
95-49-8	2-Chlorotoluene	1000	U	1000	
591-78-6	2-Hexanone	5000	U	5000	
106-43-4	4-Chlorotoluene	1000	U	1000	
99-87-6	p-Isopropyltoluene	1000	U	1000	
108-10-1	4-Methyl-2-pentanone	5000	U	5000	
67-64-1	Acetone	5000	U	5000	
71-43-2	Benzene	1000	U	1000	
108-86-1	Bromobenzene	1000	U	1000	
74-97-5	Bromochloromethane	1000	U	1000	
75-27-4	Bromodichloromethane	1000	U	1000	
75-25-2	Bromoform	1000	U	1000	
74-83-9	Bromomethane	1000	U	1000	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1350
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 10:45

Sample Name: OB36-DO (46)
 Lab Code: R1302629-007
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8633.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 500

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	1000	U	1000	
56-23-5	Carbon Tetrachloride	1000	U	1000	
108-90-7	Chlorobenzene	1000	U	1000	
75-00-3	Chloroethane	1000	U	1000	
67-66-3	Chloroform	1000	U	1000	
74-87-3	Chloromethane	1000	U	1000	
124-48-1	Dibromochloromethane	1000	U	1000	
74-95-3	Dibromomethane	1000	U	1000	
75-71-8	Dichlorodifluoromethane (CFC 12)	1000	U	1000	
75-09-2	Dichloromethane	1000	U	1000	
60-29-7	Diethyl Ether	1000	U	1000	
108-20-3	Diisopropyl Ether	1000	U	1000	
637-92-3	Ethyl tert-Butyl Ether	1000	U	1000	
100-41-4	Ethylbenzene	1000	U	1000	
87-68-3	Hexachlorobutadiene	1000	U	1000	
98-82-8	Isopropylbenzene (Cumene)	1000	U	1000	
1634-04-4	Methyl tert-Butyl Ether	1000	U	1000	
91-20-3	Naphthalene	1000	U	1000	
100-42-5	Styrene	1000	U	1000	
127-18-4	Tetrachloroethene (PCE)	8100	D	1000	
109-99-9	Tetrahydrofuran (THF)	1000	U	1000	
108-88-3	Toluene	1000	U	1000	
79-01-6	Trichloroethene (TCE)	48000	D	1000	
75-69-4	Trichlorofluoromethane (CFC 11)	1000	U	1000	
75-01-4	Vinyl Chloride	1000	U	1000	
156-59-2	cis-1,2-Dichloroethene	1000	U	1000	
10061-01-5	cis-1,3-Dichloropropene	1000	U	1000	
179601-23-1	m,p-Xylenes	1000	U	1000	
104-51-8	n-Butylbenzene	1000	U	1000	
103-65-1	n-Propylbenzene	1000	U	1000	
95-47-6	o-Xylene	1000	U	1000	
135-98-8	sec-Butylbenzene	1000	U	1000	
994-05-8	tert-Amyl Methyl Ether	1000	U	1000	
98-06-6	tert-Butylbenzene	1000	U	1000	
156-60-5	trans-1,2-Dichloroethene	1000	U	1000	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1350
Date Received: 4/17/13
Date Analyzed: 4/25/13 10:45

Sample Name: OB36-DO (46)
Lab Code: R1302629-007
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8633.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 500

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	1000	U	1000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/25/13 10:45	
Dibromofluoromethane	114	70-130	4/25/13 10:45	
Toluene-d8	101	70-130	4/25/13 10:45	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB37-DO (53.7)
Lab Code: R1302629-008

Service Request: R1302629
Date Collected: 4/15/13 1400
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	181		mg/L	2.0	2	NA	4/23/13 13:47	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB37-DO (53.7)
Lab Code: R1302629-008

Service Request: R1302629
Date Collected: 4/15/13 1400
Date Received: 4/17/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/22/13	4/24/13 03:31	
Manganese, Dissolved	6010C	65800		µg/L	200	20	4/22/13	4/24/13 17:08	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 22:39

Sample Name: OB37-DO (53.7)
 Lab Code: R1302629-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8564.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	50	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.5	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	18	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	25	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 22:39

Sample Name: OB37-DO (53.7)
 Lab Code: R1302629-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvov10\data\042313\B8564.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	4.8		2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	5.8		2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1400
Date Received: 4/17/13
Date Analyzed: 4/23/13 22:39

Sample Name: OB37-DO (53.7)
Lab Code: R1302629-008

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8564.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/23/13 22:39	
Dibromofluoromethane	112	70-130	4/23/13 22:39	
Toluene-d8	99	70-130	4/23/13 22:39	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB35-DO (61)
Lab Code: R1302629-009

Service Request: R1302629
Date Collected: 4/15/13 1430
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	135		mg/L	2.0	2	NA	4/23/13 13:48	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB35-DO (61)
Lab Code: R1302629-009

Service Request: R1302629
Date Collected: 4/15/13 1430
Date Received: 4/17/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/22/13	4/24/13 03:42	
Manganese, Dissolved	6010C	371		µg/L	10	1	4/22/13	4/24/13 17:14	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 23:08

Sample Name: OB35-DO (61)
 Lab Code: R1302629-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8565.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 200

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	400 U	400	
71-55-6	1,1,1-Trichloroethane (TCA)	400 U	400	
79-34-5	1,1,2,2-Tetrachloroethane	400 U	400	
79-00-5	1,1,2-Trichloroethane	400 U	400	
75-34-3	1,1-Dichloroethane (1,1-DCA)	400 U	400	
75-35-4	1,1-Dichloroethene (1,1-DCE)	400 U	400	
563-58-6	1,1-Dichloropropene	400 U	400	
87-61-6	1,2,3-Trichlorobenzene	400 U	400	
96-18-4	1,2,3-Trichloropropane	400 U	400	
120-82-1	1,2,4-Trichlorobenzene	400 U	400	
95-63-6	1,2,4-Trimethylbenzene	400 U	400	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	400 U	400	
106-93-4	1,2-Dibromoethane	400 U	400	
95-50-1	1,2-Dichlorobenzene	400 U	400	
107-06-2	1,2-Dichloroethane	400 U	400	
78-87-5	1,2-Dichloropropane	400 U	400	
108-67-8	1,3,5-Trimethylbenzene	400 U	400	
541-73-1	1,3-Dichlorobenzene	400 U	400	
142-28-9	1,3-Dichloropropane	400 U	400	
106-46-7	1,4-Dichlorobenzene	400 U	400	
123-91-1	1,4-Dioxane	8000 U	8000	
594-20-7	2,2-Dichloropropane	400 U	400	
78-93-3	2-Butanone (MEK)	2000 U	2000	
95-49-8	2-Chlorotoluene	400 U	400	
591-78-6	2-Hexanone	2000 U	2000	
106-43-4	4-Chlorotoluene	400 U	400	
99-87-6	p-Isopropyltoluene	400 U	400	
108-10-1	4-Methyl-2-pentanone	2000 U	2000	
67-64-1	Acetone	2000 U	2000	
71-43-2	Benzene	400 U	400	
108-86-1	Bromobenzene	400 U	400	
74-97-5	Bromochloromethane	400 U	400	
75-27-4	Bromodichloromethane	400 U	400	
75-25-2	Bromoform	400 U	400	
74-83-9	Bromomethane	400 U	400	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 23:08

Sample Name: OB35-DO (61)
 Lab Code: R1302629-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8565.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 200

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	400	U	400	
56-23-5	Carbon Tetrachloride	400	U	400	
108-90-7	Chlorobenzene	400	U	400	
75-00-3	Chloroethane	400	U	400	
67-66-3	Chloroform	400	U	400	
74-87-3	Chloromethane	400	U	400	
124-48-1	Dibromochloromethane	400	U	400	
74-95-3	Dibromomethane	400	U	400	
75-71-8	Dichlorodifluoromethane (CFC 12)	400	U	400	
75-09-2	Dichloromethane	400	U	400	
60-29-7	Diethyl Ether	400	U	400	
108-20-3	Diisopropyl Ether	400	U	400	
637-92-3	Ethyl tert-Butyl Ether	400	U	400	
100-41-4	Ethylbenzene	400	U	400	
87-68-3	Hexachlorobutadiene	400	U	400	
98-82-8	Isopropylbenzene (Cumene)	400	U	400	
1634-04-4	Methyl tert-Butyl Ether	400	U	400	
91-20-3	Naphthalene	400	U	400	
100-42-5	Styrene	400	U	400	
127-18-4	Tetrachloroethene (PCE)	47000	E	400	
109-99-9	Tetrahydrofuran (THF)	400	U	400	
108-88-3	Toluene	400	U	400	
79-01-6	Trichloroethene (TCE)	8600		400	
75-69-4	Trichlorofluoromethane (CFC 11)	400	U	400	
75-01-4	Vinyl Chloride	410		400	
156-59-2	cis-1,2-Dichloroethene	1400		400	
10061-01-5	cis-1,3-Dichloropropene	400	U	400	
179601-23-1	m,p-Xylenes	400	U	400	
104-51-8	n-Butylbenzene	400	U	400	
103-65-1	n-Propylbenzene	400	U	400	
95-47-6	o-Xylene	400	U	400	
135-98-8	sec-Butylbenzene	400	U	400	
994-05-8	tert-Amyl Methyl Ether	400	U	400	
98-06-6	tert-Butylbenzene	400	U	400	
156-60-5	trans-1,2-Dichloroethene	400	U	400	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1430
Date Received: 4/17/13
Date Analyzed: 4/23/13 23:08

Sample Name: OB35-DO (61)
Lab Code: R1302629-009

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa10\data\042313\E8565.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 200

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	400 U	400	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 23:08	
Dibromofluoromethane	113	70-130	4/23/13 23:08	
Toluene-d8	103	70-130	4/23/13 23:08	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 09:12

Sample Name: OB35-DO (61)
 Lab Code: R1302629-009
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8630.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 500

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	1000	U	1000	
71-55-6	1,1,1-Trichloroethane (TCA)	1000	U	1000	
79-34-5	1,1,2,2-Tetrachloroethane	1000	U	1000	
79-00-5	1,1,2-Trichloroethane	1000	U	1000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	U	1000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1000	U	1000	
563-58-6	1,1-Dichloropropene	1000	U	1000	
87-61-6	1,2,3-Trichlorobenzene	1000	U	1000	
96-18-4	1,2,3-Trichloropropane	1000	U	1000	
120-82-1	1,2,4-Trichlorobenzene	1000	U	1000	
95-63-6	1,2,4-Trimethylbenzene	1000	U	1000	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	1000	U	1000	
106-93-4	1,2-Dibromoethane	1000	U	1000	
95-50-1	1,2-Dichlorobenzene	1000	U	1000	
107-06-2	1,2-Dichloroethane	1000	U	1000	
78-87-5	1,2-Dichloropropane	1000	U	1000	
108-67-8	1,3,5-Trimethylbenzene	1000	U	1000	
541-73-1	1,3-Dichlorobenzene	1000	U	1000	
142-28-9	1,3-Dichloropropane	1000	U	1000	
106-46-7	1,4-Dichlorobenzene	1000	U	1000	
123-91-1	1,4-Dioxane	20000	U	20000	
594-20-7	2,2-Dichloropropane	1000	U	1000	
78-93-3	2-Butanone (MEK)	5000	U	5000	
95-49-8	2-Chlorotoluene	1000	U	1000	
591-78-6	2-Hexanone	5000	U	5000	
106-43-4	4-Chlorotoluene	1000	U	1000	
99-87-6	p-Isopropyltoluene	1000	U	1000	
108-10-1	4-Methyl-2-pentanone	5000	U	5000	
67-64-1	Acetone	5000	U	5000	
71-43-2	Benzene	1000	U	1000	
108-86-1	Bromobenzene	1000	U	1000	
74-97-5	Bromochloromethane	1000	U	1000	
75-27-4	Bromodichloromethane	1000	U	1000	
75-25-2	Bromoform	1000	U	1000	
74-83-9	Bromomethane	1000	U	1000	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 09:12

Sample Name: OB35-DO (61)
 Lab Code: R1302629-009
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8630.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 500

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	1000	U	1000	
56-23-5	Carbon Tetrachloride	1000	U	1000	
108-90-7	Chlorobenzene	1000	U	1000	
75-00-3	Chloroethane	1000	U	1000	
67-66-3	Chloroform	1000	U	1000	
74-87-3	Chloromethane	1000	U	1000	
124-48-1	Dibromochloromethane	1000	U	1000	
74-95-3	Dibromomethane	1000	U	1000	
75-71-8	Dichlorodifluoromethane (CFC 12)	1000	U	1000	
75-09-2	Dichloromethane	1000	U	1000	
60-29-7	Diethyl Ether	1000	U	1000	
108-20-3	Diisopropyl Ether	1000	U	1000	
637-92-3	Ethyl tert-Butyl Ether	1000	U	1000	
100-41-4	Ethylbenzene	1000	U	1000	
87-68-3	Hexachlorobutadiene	1000	U	1000	
98-82-8	Isopropylbenzene (Cumene)	1000	U	1000	
1634-04-4	Methyl tert-Butyl Ether	1000	U	1000	
91-20-3	Naphthalene	1000	U	1000	
100-42-5	Styrene	1000	U	1000	
127-18-4	Tetrachloroethene (PCE)	47000	D	1000	
109-99-9	Tetrahydrofuran (THF)	1000	U	1000	
108-88-3	Toluene	1000	U	1000	
79-01-6	Trichloroethene (TCE)	7900	D	1000	
75-69-4	Trichlorofluoromethane (CFC 11)	1000	U	1000	
75-01-4	Vinyl Chloride	1000	U	1000	
156-59-2	cis-1,2-Dichloroethene	1200	D	1000	
10061-01-5	cis-1,3-Dichloropropene	1000	U	1000	
179601-23-1	m,p-Xylenes	1000	U	1000	
104-51-8	n-Butylbenzene	1000	U	1000	
103-65-1	n-Propylbenzene	1000	U	1000	
95-47-6	o-Xylene	1000	U	1000	
135-98-8	sec-Butylbenzene	1000	U	1000	
994-05-8	tert-Amyl Methyl Ether	1000	U	1000	
98-06-6	tert-Butylbenzene	1000	U	1000	
156-60-5	trans-1,2-Dichloroethene	1000	U	1000	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/15/13 1430
Date Received: 4/17/13
Date Analyzed: 4/25/13 09:12

Sample Name: OB35-DO (61)
Lab Code: R1302629-009
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8630.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 500

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	1000 U	1000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/25/13 09:12	
Dibromofluoromethane	114	70-130	4/25/13 09:12	
Toluene-d8	100	70-130	4/25/13 09:12	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 23:38

Sample Name: B-2 (12)
 Lab Code: R1302629-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8566.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	4.0	U	4.0	
71-55-6	1,1,1-Trichloroethane (TCA)	4.0	U	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0	U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0	U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.2		4.0	
563-58-6	1,1-Dichloropropene	4.0	U	4.0	
87-61-6	1,2,3-Trichlorobenzene	4.0	U	4.0	
96-18-4	1,2,3-Trichloropropane	4.0	U	4.0	
120-82-1	1,2,4-Trichlorobenzene	4.0	U	4.0	
95-63-6	1,2,4-Trimethylbenzene	4.0	U	4.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	4.0	U	4.0	
106-93-4	1,2-Dibromoethane	4.0	U	4.0	
95-50-1	1,2-Dichlorobenzene	4.0	U	4.0	
107-06-2	1,2-Dichloroethane	4.0	U	4.0	
78-87-5	1,2-Dichloropropane	4.0	U	4.0	
108-67-8	1,3,5-Trimethylbenzene	4.0	U	4.0	
541-73-1	1,3-Dichlorobenzene	4.0	U	4.0	
142-28-9	1,3-Dichloropropane	4.0	U	4.0	
106-46-7	1,4-Dichlorobenzene	4.0	U	4.0	
123-91-1	1,4-Dioxane	80	U	80	
594-20-7	2,2-Dichloropropane	4.0	U	4.0	
78-93-3	2-Butanone (MEK)	20	U	20	
95-49-8	2-Chlorotoluene	4.0	U	4.0	
591-78-6	2-Hexanone	20	U	20	
106-43-4	4-Chlorotoluene	4.0	U	4.0	
99-87-6	p-Isopropyltoluene	4.0	U	4.0	
108-10-1	4-Methyl-2-pentanone	20	U	20	
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	4.0	U	4.0	
108-86-1	Bromobenzene	4.0	U	4.0	
74-97-5	Bromochloromethane	4.0	U	4.0	
75-27-4	Bromodichloromethane	4.0	U	4.0	
75-25-2	Bromoform	4.0	U	4.0	
74-83-9	Bromomethane	4.0	U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 0800
Date Received: 4/17/13
Date Analyzed: 4/23/13 23:38

Sample Name: B-2 (12)
Lab Code: R1302629-010

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8566.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	4.0 U	4.0	
56-23-5	Carbon Tetrachloride	4.0 U	4.0	
108-90-7	Chlorobenzene	4.0 U	4.0	
75-00-3	Chloroethane	4.0 U	4.0	
67-66-3	Chloroform	4.0 U	4.0	
74-87-3	Chloromethane	4.0 U	4.0	
124-48-1	Dibromochloromethane	4.0 U	4.0	
74-95-3	Dibromomethane	4.0 U	4.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.0 U	4.0	
75-09-2	Dichloromethane	4.0 U	4.0	
60-29-7	Diethyl Ether	4.0 U	4.0	
108-20-3	Diisopropyl Ether	4.0 U	4.0	
637-92-3	Ethyl tert-Butyl Ether	4.0 U	4.0	
100-41-4	Ethylbenzene	4.0 U	4.0	
87-68-3	Hexachlorobutadiene	4.0 U	4.0	
98-82-8	Isopropylbenzene (Cumene)	4.0 U	4.0	
1634-04-4	Methyl tert-Butyl Ether	4.0 U	4.0	
91-20-3	Naphthalene	4.0 U	4.0	
100-42-5	Styrene	4.0 U	4.0	
127-18-4	Tetrachloroethene (PCE)	15	4.0	
109-99-9	Tetrahydrofuran (THF)	4.0 U	4.0	
108-88-3	Toluene	4.0 U	4.0	
79-01-6	Trichloroethene (TCE)	570 E	4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0 U	4.0	
75-01-4	Vinyl Chloride	4.0 U	4.0	
156-59-2	cis-1,2-Dichloroethene	620 E	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0 U	4.0	
179601-23-1	m,p-Xylenes	4.0 U	4.0	
104-51-8	n-Butylbenzene	4.0 U	4.0	
103-65-1	n-Propylbenzene	4.0 U	4.0	
95-47-6	o-Xylene	4.0 U	4.0	
135-98-8	sec-Butylbenzene	4.0 U	4.0	
994-05-8	tert-Amyl Methyl Ether	4.0 U	4.0	
98-06-6	tert-Butylbenzene	4.0 U	4.0	
156-60-5	trans-1,2-Dichloroethene	8.1	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 0800
Date Received: 4/17/13
Date Analyzed: 4/23/13 23:38

Sample Name: B-2 (12)
Lab Code: R1302629-010

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8566.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	4.0 U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/23/13 23:38	
Dibromofluoromethane	114	70-130	4/23/13 23:38	
Toluene-d8	103	70-130	4/23/13 23:38	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 09:43

Sample Name: B-2 (12)
 Lab Code: R1302629-010
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8631.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	10 U	10	
71-55-6	1,1,1-Trichloroethane (TCA)	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10 U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10 U	10	
563-58-6	1,1-Dichloropropene	10 U	10	
87-61-6	1,2,3-Trichlorobenzene	10 U	10	
96-18-4	1,2,3-Trichloropropane	10 U	10	
120-82-1	1,2,4-Trichlorobenzene	10 U	10	
95-63-6	1,2,4-Trimethylbenzene	10 U	10	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	10 U	10	
106-93-4	1,2-Dibromoethane	10 U	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
108-67-8	1,3,5-Trimethylbenzene	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
142-28-9	1,3-Dichloropropane	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
123-91-1	1,4-Dioxane	200 U	200	
594-20-7	2,2-Dichloropropane	10 U	10	
78-93-3	2-Butanone (MEK)	50 U	50	
95-49-8	2-Chlorotoluene	10 U	10	
591-78-6	2-Hexanone	50 U	50	
106-43-4	4-Chlorotoluene	10 U	10	
99-87-6	p-Isopropyltoluene	10 U	10	
108-10-1	4-Methyl-2-pentanone	50 U	50	
67-64-1	Acetone	50 U	50	
71-43-2	Benzene	10 U	10	
108-86-1	Bromobenzene	10 U	10	
74-97-5	Bromochloromethane	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 09:43

Sample Name: B-2 (12)
 Lab Code: R1302629-010
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8631.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
74-95-3	Dibromomethane	10	U	10	
75-71-8	Dichlorodifluoromethane (CFC 12)	10	U	10	
75-09-2	Dichloromethane	10	U	10	
60-29-7	Diethyl Ether	10	U	10	
108-20-3	Diisopropyl Ether	10	U	10	
637-92-3	Ethyl tert-Butyl Ether	10	U	10	
100-41-4	Ethylbenzene	10	U	10	
87-68-3	Hexachlorobutadiene	10	U	10	
98-82-8	Isopropylbenzene (Cumene)	10	U	10	
1634-04-4	Methyl tert-Butyl Ether	10	U	10	
91-20-3	Naphthalene	10	U	10	
100-42-5	Styrene	10	U	10	
127-18-4	Tetrachloroethene (PCE)	13	D	10	
109-99-9	Tetrahydrofuran (THF)	10	U	10	
108-88-3	Toluene	10	U	10	
79-01-6	Trichloroethene (TCE)	560	D	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10	U	10	
75-01-4	Vinyl Chloride	10	U	10	
156-59-2	cis-1,2-Dichloroethene	530	D	10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
179601-23-1	m,p-Xylenes	10	U	10	
104-51-8	n-Butylbenzene	10	U	10	
103-65-1	n-Propylbenzene	10	U	10	
95-47-6	o-Xylene	10	U	10	
135-98-8	sec-Butylbenzene	10	U	10	
994-05-8	tert-Amyl Methyl Ether	10	U	10	
98-06-6	tert-Butylbenzene	10	U	10	
156-60-5	trans-1,2-Dichloroethene	10	U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 0800
Date Received: 4/17/13
Date Analyzed: 4/25/13 09:43

Sample Name: B-2 (12)
Lab Code: R1302629-010
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8631.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/25/13 09:43	
Dibromofluoromethane	114	70-130	4/25/13 09:43	
Toluene-d8	100	70-130	4/25/13 09:43	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP27-DO (59)
Lab Code: R1302629-011

Service Request: R1302629
Date Collected: 4/16/13 0915
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	79.6		mg/L	1.0	1	NA	4/23/13 13:49	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP27-DO (59)
Lab Code: R1302629-011

Service Request: R1302629
Date Collected: 4/16/13 0915
Date Received: 4/17/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/22/13	4/24/13 03:50	
Manganese, Dissolved	6010C	73		µg/L	10	1	4/22/13	4/24/13 17:20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 0915
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 00:08

Sample Name: AP27-DO (59)
 Lab Code: R1302629-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8567.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	16		10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 0915
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 00:08

Sample Name: AP27-DO (59)
 Lab Code: R1302629-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8567.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	23		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	3.9		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 0915
Date Received: 4/17/13
Date Analyzed: 4/24/13 00:08

Sample Name: AP27-DO (59)
Lab Code: R1302629-011

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDDATA\msvoa10\data\042313\E8567.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/24/13 00:08	
Dibromofluoromethane	113	70-130	4/24/13 00:08	
Toluene-d8	103	70-130	4/24/13 00:08	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 00:38

Sample Name: MW-9A (13.3)
 Lab Code: R1302629-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDDATA\msvoa10\data\042313\E8568.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	12	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
4-Bromofluorobenzene	92	70-130	4/24/13 00:38
Dibromofluoromethane	112	70-130	4/24/13 00:38
Toluene-d8	102	70-130	4/24/13 00:38

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 17:25

Sample Name: B-3 (12.5)
 Lab Code: R1302629-013

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8599.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	36	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	10 U	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	14	2.0	
79-01-6	Trichloroethene (TCE)	4.3	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/24/13 17:25	
Dibromofluoromethane	109	70-130	4/24/13 17:25	
Toluene-d8	97	70-130	4/24/13 17:25	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1320
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 17:55

Sample Name: AP13-S (16)
 Lab Code: R1302629-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8600.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	10 U	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	87	70-130	4/24/13 17:55	
Dibromofluoromethane	109	70-130	4/24/13 17:55	
Toluene-d8	96	70-130	4/24/13 17:55	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1340
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 18:24

Sample Name: CL-11S (22)
 Lab Code: R1302629-015

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8601.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	3.2	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	10 U	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	11	2.0	
79-01-6	Trichloroethene (TCE)	7.9	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	87	70-130	4/24/13 18:24	
Dibromofluoromethane	109	70-130	4/24/13 18:24	
Toluene-d8	97	70-130	4/24/13 18:24	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 18:54

Sample Name: CL-11DO (49)
 Lab Code: R1302629-016

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvov10\data\042413\E8602.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	5.6		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/24/13 18:54	
Dibromofluoromethane	110	70-130	4/24/13 18:54	
Toluene-d8	98	70-130	4/24/13 18:54	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB27-BR (85)
Lab Code: R1302629-017

Service Request: R1302629
Date Collected: 4/15/13 1415
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	113	mg/L	10	10	NA	4/23/13 13:50	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB27-BR (85)
Lab Code: R1302629-017

Service Request: R1302629
Date Collected: 4/15/13 1415
Date Received: 4/17/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	500	U	µg/L	500	1	4/22/13	4/24/13 04:18	
Manganese, Dissolved	6010C	769000		µg/L	2500	50	4/22/13	4/24/13 17:26	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1415
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 19:23

Sample Name: OB27-BR (85)
 Lab Code: R1302629-017

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8603.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	47		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	71		2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/24/13 19:23	
Dibromofluoromethane	111	70-130	4/24/13 19:23	
Toluene-d8	97	70-130	4/24/13 19:23	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 19:53

Sample Name: OB19-S (32)
 Lab Code: R1302629-018

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8604.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	12	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	87	70-130	4/24/13 19:53	
Dibromofluoromethane	110	70-130	4/24/13 19:53	
Toluene-d8	97	70-130	4/24/13 19:53	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1420
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 20:22

Sample Name: OB25-BR (95)
 Lab Code: R1302629-019

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDDATA\msvoa10\data\042413\E8605.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	19	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	15	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/24/13 20:22	
Dibromofluoromethane	112	70-130	4/24/13 20:22	
Toluene-d8	96	70-130	4/24/13 20:22	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB19-DO (57)
Lab Code: R1302629-020

Service Request: R1302629
Date Collected: 4/15/13 1450
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	28.3		mg/L	1.0	1	NA	4/23/13 13:31	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB19-DO (57)
Lab Code: R1302629-020

Service Request: R1302629
Date Collected: 4/15/13 1450
Date Received: 4/17/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/22/13	4/24/13 04:28	
Manganese, Dissolved	6010C	61		µg/L	10	1	4/22/13	4/24/13 17:32	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1450
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 20:52

Sample Name: OB19-DO (57)
 Lab Code: R1302629-020

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8606.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 25

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	50 U	50	
79-34-5	1,1,2,2-Tetrachloroethane	50 U	50	
79-00-5	1,1,2-Trichloroethane	50 U	50	
75-34-3	1,1-Dichloroethane (1,1-DCA)	50 U	50	
75-35-4	1,1-Dichloroethene (1,1-DCE)	50 U	50	
107-06-2	1,2-Dichloroethane	50 U	50	
78-87-5	1,2-Dichloropropane	50 U	50	
67-64-1	Acetone	250 U	250	
75-27-4	Bromodichloromethane	50 U	50	
75-25-2	Bromoform	50 U	50	
74-83-9	Bromomethane	50 U	50	
56-23-5	Carbon Tetrachloride	50 U	50	
108-90-7	Chlorobenzene	50 U	50	
75-00-3	Chloroethane	50 U	50	
67-66-3	Chloroform	50 U	50	
74-87-3	Chloromethane	50 U	50	
124-48-1	Dibromochloromethane	50 U	50	
75-09-2	Methylene Chloride	50 U	50	
127-18-4	Tetrachloroethene (PCE)	830	50	
79-01-6	Trichloroethene (TCE)	3800	50	
75-69-4	Trichlorofluoromethane (CFC 11)	50 U	50	
75-01-4	Vinyl Chloride	97	50	
156-59-2	cis-1,2-Dichloroethene	1300	50	
10061-01-5	cis-1,3-Dichloropropene	50 U	50	
156-60-5	trans-1,2-Dichloroethene	63	50	
10061-02-6	trans-1,3-Dichloropropene	50 U	50	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/24/13 20:52	
Dibromofluoromethane	112	70-130	4/24/13 20:52	
Toluene-d8	99	70-130	4/24/13 20:52	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP26-DO (67)
Lab Code: R1302629-021

Service Request: R1302629
Date Collected: 4/15/13 1500
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	39.4	mg/L	1.0	1	NA	4/23/13 13:33	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP26-DO (67)
Lab Code: R1302629-021

Service Request: R1302629
Date Collected: 4/15/13 1500
Date Received: 4/17/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/22/13	4/24/13 04:37	
Manganese, Dissolved	6010C	10		µg/L	10	1	4/22/13	4/24/13 17:38	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1500
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 21:22

Sample Name: AP26-DO (67)
 Lab Code: R1302629-021

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8607.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 100

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	200	U	200	
79-34-5	1,1,2,2-Tetrachloroethane	200	U	200	
79-00-5	1,1,2-Trichloroethane	200	U	200	
75-34-3	1,1-Dichloroethane (1,1-DCA)	200	U	200	
75-35-4	1,1-Dichloroethene (1,1-DCE)	200	U	200	
107-06-2	1,2-Dichloroethane	200	U	200	
78-87-5	1,2-Dichloropropane	200	U	200	
67-64-1	Acetone	1000	U	1000	
75-27-4	Bromodichloromethane	200	U	200	
75-25-2	Bromoform	200	U	200	
74-83-9	Bromomethane	200	U	200	
56-23-5	Carbon Tetrachloride	200	U	200	
108-90-7	Chlorobenzene	200	U	200	
75-00-3	Chloroethane	200	U	200	
67-66-3	Chloroform	200	U	200	
74-87-3	Chloromethane	200	U	200	
124-48-1	Dibromochloromethane	200	U	200	
75-09-2	Methylene Chloride	200	U	200	
127-18-4	Tetrachloroethene (PCE)	7400		200	
79-01-6	Trichloroethene (TCE)	17000		200	
75-69-4	Trichlorofluoromethane (CFC 11)	200	U	200	
75-01-4	Vinyl Chloride	200	U	200	
156-59-2	cis-1,2-Dichloroethene	200	U	200	
10061-01-5	cis-1,3-Dichloropropene	200	U	200	
156-60-5	trans-1,2-Dichloroethene	200	U	200	
10061-02-6	trans-1,3-Dichloropropene	200	U	200	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/24/13 21:22	
Dibromofluoromethane	112	70-130	4/24/13 21:22	
Toluene-d8	100	70-130	4/24/13 21:22	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1530
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 21:51

Sample Name: OB26-BR (90)
 Lab Code: R1302629-022

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8608.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	8.2		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	21		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/24/13 21:51	
Dibromofluoromethane	113	70-130	4/24/13 21:51	
Toluene-d8	99	70-130	4/24/13 21:51	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 03:28

Sample Name: CL10-S (11)
 Lab Code: R1302629-023

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQU\DATA\msvoa10\data\042413\E8619.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 03:28

Sample Name: CL10-S (11)
 Lab Code: R1302629-023

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8619.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	1100 E	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	150	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	33	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	3.8	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1000
Date Received: 4/17/13
Date Analyzed: 4/25/13 03:28

Sample Name: CL10-S (11)
Lab Code: R1302629-023

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoo10\data\042413\E8619.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/25/13 03:28	
Dibromofluoromethane	111	70-130	4/25/13 03:28	
Toluene-d8	97	70-130	4/25/13 03:28	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/26/13 19:04

Sample Name: CL10-S (11)
 Lab Code: R1302629-023
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042613\E8687.D\

Analysis Lot: 338201
 Instrument Name: R-MS-10
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	20	U	20	
71-55-6	1,1,1-Trichloroethane (TCA)	20	U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20	U	20	
79-00-5	1,1,2-Trichloroethane	20	U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20	U	20	
563-58-6	1,1-Dichloropropene	20	U	20	
87-61-6	1,2,3-Trichlorobenzene	20	U	20	
96-18-4	1,2,3-Trichloropropane	20	U	20	
120-82-1	1,2,4-Trichlorobenzene	20	U	20	
95-63-6	1,2,4-Trimethylbenzene	20	U	20	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	20	U	20	
106-93-4	1,2-Dibromoethane	20	U	20	
95-50-1	1,2-Dichlorobenzene	20	U	20	
107-06-2	1,2-Dichloroethane	20	U	20	
78-87-5	1,2-Dichloropropane	20	U	20	
108-67-8	1,3,5-Trimethylbenzene	20	U	20	
541-73-1	1,3-Dichlorobenzene	20	U	20	
142-28-9	1,3-Dichloropropane	20	U	20	
106-46-7	1,4-Dichlorobenzene	20	U	20	
123-91-1	1,4-Dioxane	400	U	400	
594-20-7	2,2-Dichloropropane	20	U	20	
78-93-3	2-Butanone (MEK)	100	U	100	
95-49-8	2-Chlorotoluene	20	U	20	
591-78-6	2-Hexanone	100	U	100	
106-43-4	4-Chlorotoluene	20	U	20	
99-87-6	p-Isopropyltoluene	20	U	20	
108-10-1	4-Methyl-2-pentanone	100	U	100	
67-64-1	Acetone	100	U	100	
71-43-2	Benzene	20	U	20	
108-86-1	Bromobenzene	20	U	20	
74-97-5	Bromochloromethane	20	U	20	
75-27-4	Bromodichloromethane	20	U	20	
75-25-2	Bromoform	20	U	20	
74-83-9	Bromomethane	20	U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/26/13 19:04

Sample Name: CL10-S (11)
 Lab Code: R1302629-023
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042613\E8687.D\

Analysis Lot: 338201
 Instrument Name: R-MS-10
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	20 U	20	
56-23-5	Carbon Tetrachloride	20 U	20	
108-90-7	Chlorobenzene	20 U	20	
75-00-3	Chloroethane	20 U	20	
67-66-3	Chloroform	20 U	20	
74-87-3	Chloromethane	20 U	20	
124-48-1	Dibromochloromethane	20 U	20	
74-95-3	Dibromomethane	20 U	20	
75-71-8	Dichlorodifluoromethane (CFC 12)	20 U	20	
75-09-2	Dichloromethane	20 U	20	
60-29-7	Diethyl Ether	20 U	20	
108-20-3	Diisopropyl Ether	20 U	20	
637-92-3	Ethyl tert-Butyl Ether	20 U	20	
100-41-4	Ethylbenzene	20 U	20	
87-68-3	Hexachlorobutadiene	20 U	20	
98-82-8	Isopropylbenzene (Cumene)	20 U	20	
1634-04-4	Methyl tert-Butyl Ether	20 U	20	
91-20-3	Naphthalene	20 U	20	
100-42-5	Styrene	20 U	20	
127-18-4	Tetrachloroethene (PCE)	1300 D	20	
109-99-9	Tetrahydrofuran (THF)	20 U	20	
108-88-3	Toluene	20 U	20	
79-01-6	Trichloroethene (TCE)	120 D	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20 U	20	
75-01-4	Vinyl Chloride	20 U	20	
156-59-2	cis-1,2-Dichloroethene	28 D	20	
10061-01-5	cis-1,3-Dichloropropene	20 U	20	
179601-23-1	m,p-Xylenes	20 U	20	
104-51-8	n-Butylbenzene	20 U	20	
103-65-1	n-Propylbenzene	20 U	20	
95-47-6	o-Xylene	20 U	20	
135-98-8	sec-Butylbenzene	20 U	20	
994-05-8	tert-Amyl Methyl Ether	20 U	20	
98-06-6	tert-Butylbenzene	20 U	20	
156-60-5	trans-1,2-Dichloroethene	20 U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1000
Date Received: 4/17/13
Date Analyzed: 4/26/13 19:04

Sample Name: CL10-S (11)
Lab Code: R1302629-023
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDDATA\msvoal0\data\042613\E8687.D\

Analysis Lot: 338201
Instrument Name: R-MS-10
Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/26/13 19:04	
Dibromofluoromethane	110	70-130	4/26/13 19:04	
Toluene-d8	98	70-130	4/26/13 19:04	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1040
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 04:00

Sample Name: CL10-DO (30)
 Lab Code: R1302629-024

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8620.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.3	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	3.3	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1040
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 04:00

Sample Name: CL10-DO (30)
 Lab Code: R1302629-024

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8620.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1040
Date Received: 4/17/13
Date Analyzed: 4/25/13 04:00

Sample Name: CL10-DO (30)
Lab Code: R1302629-024

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8620.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/25/13 04:00	
Dibromofluoromethane	110	70-130	4/25/13 04:00	
Toluene-d8	95	70-130	4/25/13 04:00	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1115
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 04:31

Sample Name: C10-BR (45)
 Lab Code: R1302629-025

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvov10\data\042413\E8621.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.5		2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1115
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 04:31

Sample Name: C10-BR (45)
 Lab Code: R1302629-025

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8621.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1115
Date Received: 4/17/13
Date Analyzed: 4/25/13 04:31

Sample Name: C10-BR (45)
Lab Code: R1302629-025

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa10\data\042413\E8621.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/25/13 04:31	
Dibromofluoromethane	110	70-130	4/25/13 04:31	
Toluene-d8	96	70-130	4/25/13 04:31	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1208
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 05:02

Sample Name: OB16-S (16)
 Lab Code: R1302629-026

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8622.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1208
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 05:02

Sample Name: OB16-S (16)
 Lab Code: R1302629-026

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8622.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	48	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	4.1	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1208
Date Received: 4/17/13
Date Analyzed: 4/25/13 05:02

Sample Name: OB16-S (16)
Lab Code: R1302629-026

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8622.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/25/13 05:02	
Dibromofluoromethane	112	70-130	4/25/13 05:02	
Toluene-d8	97	70-130	4/25/13 05:02	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1215
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 05:33

Sample Name: OB16-BR (34)
 Lab Code: R1302629-027

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8623.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1215
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 05:33

Sample Name: OB16-BR (34)
 Lab Code: R1302629-027

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8623.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	21	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1215
Date Received: 4/17/13
Date Analyzed: 4/25/13 05:33

Sample Name: OB16-BR (34)
Lab Code: R1302629-027

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8623.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/25/13 05:33	
Dibromofluoromethane	110	70-130	4/25/13 05:33	
Toluene-d8	98	70-130	4/25/13 05:33	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1200
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 11:16

Sample Name: MW2-32 TOZER (17)
 Lab Code: R1302629-028

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8634.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	100	U	100	
71-55-6	1,1,1-Trichloroethane (TCA)	100	U	100	
79-34-5	1,1,2,2-Tetrachloroethane	100	U	100	
79-00-5	1,1,2-Trichloroethane	100	U	100	
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	U	100	
75-35-4	1,1-Dichloroethene (1,1-DCE)	100	U	100	
563-58-6	1,1-Dichloropropene	100	U	100	
87-61-6	1,2,3-Trichlorobenzene	100	U	100	
96-18-4	1,2,3-Trichloropropane	100	U	100	
120-82-1	1,2,4-Trichlorobenzene	100	U	100	
95-63-6	1,2,4-Trimethylbenzene	100	U	100	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	100	U	100	
106-93-4	1,2-Dibromoethane	100	U	100	
95-50-1	1,2-Dichlorobenzene	100	U	100	
107-06-2	1,2-Dichloroethane	100	U	100	
78-87-5	1,2-Dichloropropane	100	U	100	
108-67-8	1,3,5-Trimethylbenzene	100	U	100	
541-73-1	1,3-Dichlorobenzene	100	U	100	
142-28-9	1,3-Dichloropropane	100	U	100	
106-46-7	1,4-Dichlorobenzene	100	U	100	
123-91-1	1,4-Dioxane	2000	U	2000	
594-20-7	2,2-Dichloropropane	100	U	100	
78-93-3	2-Butanone (MEK)	500	U	500	
95-49-8	2-Chlorotoluene	100	U	100	
591-78-6	2-Hexanone	500	U	500	
106-43-4	4-Chlorotoluene	100	U	100	
99-87-6	p-Isopropyltoluene	100	U	100	
108-10-1	4-Methyl-2-pentanone	500	U	500	
67-64-1	Acetone	500	U	500	
71-43-2	Benzene	100	U	100	
108-86-1	Bromobenzene	100	U	100	
74-97-5	Bromochloromethane	100	U	100	
75-27-4	Bromodichloromethane	100	U	100	
75-25-2	Bromoform	100	U	100	
74-83-9	Bromomethane	100	U	100	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1200
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 11:16

Sample Name: MW2-32 TOZER (17)
 Lab Code: R1302629-028

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8634.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	100	U	100	
56-23-5	Carbon Tetrachloride	100	U	100	
108-90-7	Chlorobenzene	100	U	100	
75-00-3	Chloroethane	100	U	100	
67-66-3	Chloroform	100	U	100	
74-87-3	Chloromethane	100	U	100	
124-48-1	Dibromochloromethane	100	U	100	
74-95-3	Dibromomethane	100	U	100	
75-71-8	Dichlorodifluoromethane (CFC 12)	100	U	100	
75-09-2	Dichloromethane	100	U	100	
60-29-7	Diethyl Ether	100	U	100	
108-20-3	Diisopropyl Ether	100	U	100	
637-92-3	Ethyl tert-Butyl Ether	100	U	100	
100-41-4	Ethylbenzene	100	U	100	
87-68-3	Hexachlorobutadiene	100	U	100	
98-82-8	Isopropylbenzene (Cumene)	100	U	100	
1634-04-4	Methyl tert-Butyl Ether	100	U	100	
91-20-3	Naphthalene	100	U	100	
100-42-5	Styrene	100	U	100	
127-18-4	Tetrachloroethene (PCE)	6700		100	
109-99-9	Tetrahydrofuran (THF)	100	U	100	
108-88-3	Toluene	100	U	100	
79-01-6	Trichloroethene (TCE)	3800		100	
75-69-4	Trichlorofluoromethane (CFC 11)	100	U	100	
75-01-4	Vinyl Chloride	100	U	100	
156-59-2	cis-1,2-Dichloroethene	4600		100	
10061-01-5	cis-1,3-Dichloropropene	100	U	100	
179601-23-1	m,p-Xylenes	100	U	100	
104-51-8	n-Butylbenzene	100	U	100	
103-65-1	n-Propylbenzene	100	U	100	
95-47-6	o-Xylene	100	U	100	
135-98-8	sec-Butylbenzene	100	U	100	
994-05-8	tert-Amyl Methyl Ether	100	U	100	
98-06-6	tert-Butylbenzene	100	U	100	
156-60-5	trans-1,2-Dichloroethene	100	U	100	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1200
Date Received: 4/17/13
Date Analyzed: 4/25/13 11:16

Sample Name: MW2-32 TOZER (17)
Lab Code: R1302629-028

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8634.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 50

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	100 U	100	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/25/13 11:16	
Dibromofluoromethane	115	70-130	4/25/13 11:16	
Toluene-d8	100	70-130	4/25/13 11:16	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1250
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 10:14

Sample Name: MW1-32 TOZER (12)
 Lab Code: R1302629-029

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8632.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1250
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 10:14

Sample Name: MW1-32 TOZER (12)
 Lab Code: R1302629-029

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8632.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	110		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1250
Date Received: 4/17/13
Date Analyzed: 4/25/13 10:14

Sample Name: MW1-32 TOZER (12)
Lab Code: R1302629-029

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8632.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	86	70-130	4/25/13 10:14	
Dibromofluoromethane	113	70-130	4/25/13 10:14	
Toluene-d8	98	70-130	4/25/13 10:14	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 07:07

Sample Name: MW5-32 TOZER (14)
 Lab Code: R1302629-030

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8626.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.7	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	3.0	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1330
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 07:07

Sample Name: MW5-32 TOZER (14)
 Lab Code: R1302629-030

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8626.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	4.3		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	29		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	43		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1330
Date Received: 4/17/13
Date Analyzed: 4/25/13 07:07

Sample Name: MW5-32 TOZER (14)
Lab Code: R1302629-030

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8626.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/25/13 07:07	
Dibromofluoromethane	112	70-130	4/25/13 07:07	
Toluene-d8	99	70-130	4/25/13 07:07	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 07:38

Sample Name: MW4-32 TOZER (14)
 Lab Code: R1302629-031

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8627.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1400
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 07:38

Sample Name: MW4-32 TOZER (14)
 Lab Code: R1302629-031

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8627.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1400
Date Received: 4/17/13
Date Analyzed: 4/25/13 07:38

Sample Name: MW4-32 TOZER (14)
Lab Code: R1302629-031

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8627.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/25/13 07:38	
Dibromofluoromethane	110	70-130	4/25/13 07:38	
Toluene-d8	98	70-130	4/25/13 07:38	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1425
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 02:26

Sample Name: EB-3
 Lab Code: R1302629-032

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8617.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1425
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 02:26

Sample Name: EB-3
 Lab Code: R1302629-032

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8617.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1425
Date Received: 4/17/13
Date Analyzed: 4/25/13 02:26

Sample Name: EB-3
Lab Code: R1302629-032

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8617.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/25/13 02:26	
Dibromofluoromethane	111	70-130	4/25/13 02:26	
Toluene-d8	96	70-130	4/25/13 02:26	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 02:57

Sample Name: TB-2
 Lab Code: R1302629-033

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8618.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/16/13 1430
 Date Received: 4/17/13
 Date Analyzed: 4/25/13 02:57

Sample Name: TB-2
 Lab Code: R1302629-033

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8618.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: 4/16/13 1430
Date Received: 4/17/13
Date Analyzed: 4/25/13 02:57

Sample Name: TB-2
Lab Code: R1302629-033

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8618.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/25/13 02:57	
Dibromofluoromethane	109	70-130	4/25/13 02:57	
Toluene-d8	95	70-130	4/25/13 02:57	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: 4/15/13 1600
 Date Received: 4/17/13
 Date Analyzed: 4/24/13 16:56

Sample Name: OB28-BR (84)
 Lab Code: R1302629-034

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8598.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	10 U	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	82	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	5.9	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	4/24/13 16:56	
Dibromofluoromethane	108	70-130	4/24/13 16:56	
Toluene-d8	97	70-130	4/24/13 16:56	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302629-MB1

Service Request: R1302629
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	1.0	U	mg/L	1.0	1	NA	4/23/13 13:24	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302629-MB2

Service Request: R1302629
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	1.0	U	mg/L	1.0	1	NA	4/23/13 13:44	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302629-MB

Service Request: R1302629
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/22/13	4/24/13 00:35	
Manganese, Dissolved	6010C	10	U	µg/L	10	1	4/22/13	4/24/13 16:56	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/23/13 16:43

Sample Name: Method Blank
 Lab Code: RQ1304191-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8552.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/23/13 16:43

Sample Name: Method Blank
 Lab Code: RQ1304191-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8552.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: NA
Date Received: NA
Date Analyzed: 4/23/13 16:43

Sample Name: Method Blank
Lab Code: RQ1304191-01

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8552.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 16:43	
Dibromofluoromethane	105	70-130	4/23/13 16:43	
Toluene-d8	99	70-130	4/23/13 16:43	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/24/13 16:26

Sample Name: Method Blank
 Lab Code: RQ1304330-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8597.D\

Analysis Lot: 337805
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/24/13 16:26	
Dibromofluoromethane	106	70-130	4/24/13 16:26	
Toluene-d8	97	70-130	4/24/13 16:26	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/25/13 01:55

Sample Name: Method Blank
 Lab Code: RQ1304349-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8616.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/25/13 01:55

Sample Name: Method Blank
 Lab Code: RQ1304349-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8616.D\

Analysis Lot: 337806
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: NA
Date Received: NA
Date Analyzed: 4/25/13 01:55

Sample Name: Method Blank
Lab Code: RQ1304349-01

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042413\E8616.D\

Analysis Lot: 337806
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/25/13 01:55	
Dibromofluoromethane	109	70-130	4/25/13 01:55	
Toluene-d8	98	70-130	4/25/13 01:55	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/26/13 14:09

Sample Name: Method Blank
 Lab Code: RQ1304362-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042613\E8677.D\

Analysis Lot: 338201
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: NA
Date Received: NA
Date Analyzed: 4/26/13 14:09

Sample Name: Method Blank
Lab Code: RQ1304362-01

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042613\E8677.D\

Analysis Lot: 338201
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Collected: NA
Date Received: NA
Date Analyzed: 4/26/13 14:09

Sample Name: Method Blank
Lab Code: RQ1304362-01

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDDATA\msvoa10\data\042613\E8677.D\

Analysis Lot: 338201
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/26/13 14:09	
Dibromofluoromethane	104	70-130	4/26/13 14:09	
Toluene-d8	96	70-130	4/26/13 14:09	

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Analyzed: 4/23/13

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample R1302629-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	SM 4500-Cl- E	24.1	25.0	96	86 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Analyzed: 4/23/13

Lab Control Sample Summary General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample R1302629-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	SM 4500-Cl- E	24.6	25.0	99	86 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629

Date Analyzed: 4/24/13

Lab Control Sample Summary Inorganic Parameters

Units: µg/L

Basis: NA

Lab Control Sample
R1302629-LCS

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	6010C	1140	1000	114	80 - 120
Manganese, Dissolved	6010C	529	500	106	80 - 120

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C

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SuperSet Reference: 13-0000245872 rev 00

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ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629

Date Analyzed: 4/23/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 337623

Analyte Name	Lab Control Sample RQ1304191-02			Duplicate Lab Control Sample RQ1304191-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	22.6	20.0	113	23.0	20.0	115	70 - 130	2	20
1,1,1-Trichloroethane (TCA)	20.4	20.0	102	20.4	20.0	102	70 - 130	<1	20
1,1,2,2-Tetrachloroethane	17.8	20.0	89	18.9	20.0	94	70 - 130	6	20
1,1,2-Trichloroethane	17.6	20.0	88	18.6	20.0	93	70 - 130	6	20
1,1-Dichloroethane (1,1-DCA)	20.6	20.0	103	20.9	20.0	105	70 - 130	1	20
1,1-Dichloroethene (1,1-DCE)	21.9	20.0	109	21.7	20.0	108	70 - 130	<1	20
1,1-Dichloropropene	15.8	20.0	79	15.9	20.0	79	70 - 130	<1	20
1,2,3-Trichlorobenzene	16.3	20.0	81	17.4	20.0	87	70 - 130	7	20
1,2,3-Trichloropropane	16.9	20.0	85	18.3	20.0	92	70 - 130	8	20
1,2,4-Trichlorobenzene	17.0	20.0	85	17.9	20.0	89	70 - 130	5	20
1,2,4-Trimethylbenzene	18.5	20.0	93	18.5	20.0	93	70 - 130	<1	20
1,2-Dibromo-3-chloropropane (DBCP)	18.6	20.0	93	20.6	20.0	103	70 - 130	10	20
1,2-Dibromoethane	17.7	20.0	89	19.0	20.0	95	70 - 130	7	20
1,2-Dichlorobenzene	18.2	20.0	91	18.8	20.0	94	70 - 130	3	20
1,2-Dichloroethane	16.8	20.0	84	17.8	20.0	89	70 - 130	6	20
1,2-Dichloropropane	20.2	20.0	101	20.7	20.0	104	70 - 130	3	20
1,3,5-Trimethylbenzene	18.7	20.0	94	18.9	20.0	95	70 - 130	1	20
1,3-Dichlorobenzene	18.1	20.0	90	18.7	20.0	93	70 - 130	3	20
1,3-Dichloropropane	17.3	20.0	86	18.4	20.0	92	70 - 130	6	20
1,4-Dichlorobenzene	17.7	20.0	89	18.6	20.0	93	70 - 130	5	20
1,4-Dioxane	506	400	126	398	400	100	40 - 160	24 *	20
2,2-Dichloropropane	29.7	20.0	149 *	28.9	20.0	145 *	70 - 130	3	20
2-Butanone (MEK)	17.4	20.0	87	18.5	20.0	93	40 - 160	6	20
2-Chlorotoluene	17.9	20.0	90	18.3	20.0	92	70 - 130	2	20
2-Hexanone	15.2	20.0	76	16.3	20.0	81	40 - 160	7	20
4-Chlorotoluene	18.7	20.0	94	18.9	20.0	95	70 - 130	<1	20
p-Isopropyltoluene	18.9	20.0	94	19.0	20.0	95	70 - 130	<1	20
4-Methyl-2-pentanone	16.9	20.0	84	17.9	20.0	90	40 - 160	6	20
Acetone	23.0	20.0	115	21.4	20.0	107	40 - 160	7	20
Benzene	18.0	20.0	90	18.3	20.0	91	70 - 130	1	20
Bromobenzene	17.3	20.0	86	18.1	20.0	90	70 - 130	5	20
Bromochloromethane	18.7	20.0	94	20.1	20.0	100	70 - 130	7	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Analyzed: 4/23/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337623

Analyte Name	Lab Control Sample RQ1304191-02			Duplicate Lab Control Sample RQ1304191-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	19.4	20.0	97	20.1	20.0	100	70 - 130	3	20
Bromoform	22.8	20.0	114	24.1	20.0	121	70 - 130	6	20
Bromomethane	18.4	20.0	92	17.6	20.0	88	40 - 160	5	20
Carbon Disulfide	25.6	20.0	128	23.6	20.0	118	70 - 130	8	20
Carbon Tetrachloride	23.2	20.0	116	23.0	20.0	115	70 - 130	1	20
Chlorobenzene	18.6	20.0	93	18.6	20.0	93	70 - 130	<1	20
Chloroethane	22.6	20.0	113	21.8	20.0	109	70 - 130	3	20
Chloroform	19.3	20.0	96	19.4	20.0	97	70 - 130	<1	20
Chloromethane	23.8	20.0	119	22.1	20.0	111	40 - 160	7	20
Dibromochloromethane	21.2	20.0	106	22.3	20.0	112	70 - 130	5	20
Dibromomethane	17.2	20.0	86	18.1	20.0	90	70 - 130	5	20
Dichlorodifluoromethane (CFC 12)	21.3	20.0	106	20.7	20.0	103	40 - 160	3	20
Methylene Chloride	19.6	20.0	98	19.8	20.0	99	70 - 130	1	20
Diethyl Ether	21.4	20.0	107	21.6	20.0	108	70 - 130	<1	20
Diisopropyl Ether	23.3	20.0	116	22.6	20.0	113	70 - 130	3	20
Ethyl tert-Butyl Ether	20.2	20.0	101	20.4	20.0	102	70 - 130	1	20
Ethylbenzene	18.1	20.0	90	18.0	20.0	90	70 - 130	<1	20
Hexachlorobutadiene	18.2	20.0	91	17.5	20.0	87	70 - 130	4	20
Isopropylbenzene (Cumene)	18.3	20.0	91	18.3	20.0	92	70 - 130	<1	20
Methyl tert-Butyl Ether	17.8	20.0	89	19.0	20.0	95	70 - 130	7	20
Naphthalene	16.1	20.0	80	17.9	20.0	90	70 - 130	11	20
Styrene	17.6	20.0	88	18.1	20.0	91	70 - 130	3	20
Tetrachloroethene (PCE)	17.9	20.0	89	17.5	20.0	88	70 - 130	2	20
Tetrahydrofuran (THF)	17.1	20.0	85	17.1	20.0	86	70 - 130	<1	20
Toluene	18.1	20.0	91	18.1	20.0	90	70 - 130	<1	20
Trichloroethene (TCE)	18.0	20.0	90	18.2	20.0	91	70 - 130	<1	20
Trichlorofluoromethane (CFC 11)	22.5	20.0	112	21.7	20.0	108	70 - 130	4	20
Vinyl Chloride	23.3	20.0	117	22.3	20.0	111	70 - 130	5	20
cis-1,2-Dichloroethene	18.7	20.0	94	18.9	20.0	95	70 - 130	1	20
cis-1,3-Dichloropropene	21.7	20.0	108	22.3	20.0	112	70 - 130	3	20
m,p-Xylenes	38.4	40.0	96	38.4	40.0	96	70 - 130	<1	20
n-Butylbenzene	19.0	20.0	95	19.0	20.0	95	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Analyzed: 4/23/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 337623

Analyte Name	Lab Control Sample RQ1304191-02			Duplicate Lab Control Sample RQ1304191-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	18.8	20.0	94	18.9	20.0	95	70 - 130	<1	20
o-Xylene	17.9	20.0	90	17.8	20.0	89	70 - 130	<1	20
sec-Butylbenzene	18.7	20.0	93	18.9	20.0	94	70 - 130	1	20
tert-Amyl Methyl Ether	18.5	20.0	92	19.0	20.0	95	70 - 130	3	20
tert-Butylbenzene	17.4	20.0	87	17.4	20.0	87	70 - 130	<1	20
trans-1,2-Dichloroethene	19.6	20.0	98	19.4	20.0	97	70 - 130	1	20
trans-1,3-Dichloropropene	22.4	20.0	112	23.7	20.0	118	70 - 130	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629

Date Analyzed: 4/24/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 337805

Analyte Name	Lab Control Sample RQ1304330-02			Duplicate Lab Control Sample RQ1304330-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	19.8	20.0	99	16.8	20.0	84	70 - 130	16	20
1,1,2,2-Tetrachloroethane	19.0	20.0	95	18.4	20.0	92	70 - 130	3	20
1,1,2-Trichloroethane	18.7	20.0	94	18.8	20.0	94	70 - 130	<1	20
1,1-Dichloroethane (1,1-DCA)	18.3	20.0	91	16.6	20.0	83	70 - 130	10	20
1,1-Dichloroethene (1,1-DCE)	20.7	20.0	103	15.5	20.0	77	70 - 130	29 *	20
1,2-Dichloroethane	17.0	20.0	85	16.7	20.0	84	70 - 130	2	20
1,2-Dichloropropane	18.9	20.0	95	18.2	20.0	91	70 - 130	4	20
Acetone	20.7	20.0	103	19.3	20.0	96	40 - 160	7	20
Bromodichloromethane	20.3	20.0	101	19.4	20.0	97	70 - 130	4	20
Bromoform	27.9	20.0	140 *	27.8	20.0	139 *	70 - 130	<1	20
Bromomethane	16.9	20.0	84	15.8	20.0	79	40 - 160	7	20
Carbon Tetrachloride	24.8	20.0	124	21.1	20.0	105	70 - 130	16	20
Chlorobenzene	19.3	20.0	96	17.7	20.0	89	70 - 130	8	20
Chloroethane	18.8	20.0	94	16.4	20.0	82	70 - 130	13	20
Chloroform	18.5	20.0	92	17.1	20.0	85	70 - 130	8	20
Chloromethane	19.3	20.0	96	16.9	20.0	84	40 - 160	13	20
Dibromochloromethane	24.4	20.0	122	24.0	20.0	120	70 - 130	2	20
Methylene Chloride	18.5	20.0	92	17.4	20.0	87	70 - 130	6	20
Tetrachloroethene (PCE)	20.3	20.0	102	16.2	20.0	81	70 - 130	22 *	20
Trichloroethene (TCE)	19.0	20.0	95	16.8	20.0	84	70 - 130	13	20
Trichlorofluoromethane (CFC 11)	20.9	20.0	104	17.4	20.0	87	70 - 130	18	20
Vinyl Chloride	19.5	20.0	97	16.6	20.0	83	70 - 130	16	20
cis-1,2-Dichloroethene	17.8	20.0	89	16.2	20.0	81	70 - 130	9	20
cis-1,3-Dichloropropene	21.2	20.0	106	20.7	20.0	104	70 - 130	2	20
trans-1,2-Dichloroethene	18.5	20.0	92	16.1	20.0	80	70 - 130	14	20
trans-1,3-Dichloropropene	22.9	20.0	114	22.6	20.0	113	70 - 130	1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629

Date Analyzed: 4/25/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 337806

Analyte Name	Lab Control Sample RQ1304349-02			Duplicate Lab Control Sample RQ1304349-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	25.4	20.0	127	25.7	20.0	129	70 - 130	1	20
1,1,1-Trichloroethane (TCA)	20.2	20.0	101	19.9	20.0	99	70 - 130	2	20
1,1,2,2-Tetrachloroethane	16.4	20.0	82	16.6	20.0	83	70 - 130	1	20
1,1,2-Trichloroethane	19.8	20.0	99	20.3	20.0	101	70 - 130	2	20
1,1-Dichloroethane (1,1-DCA)	18.8	20.0	94	18.6	20.0	93	70 - 130	<1	20
1,1-Dichloroethene (1,1-DCE)	21.2	20.0	106	20.9	20.0	104	70 - 130	1	20
1,1-Dichloropropene	15.1	20.0	75	15.1	20.0	75	70 - 130	<1	20
1,2,3-Trichlorobenzene	19.2	20.0	96	19.5	20.0	97	70 - 130	2	20
1,2,3-Trichloropropane	19.0	20.0	95	19.0	20.0	95	70 - 130	<1	20
1,2,4-Trichlorobenzene	19.0	20.0	95	19.2	20.0	96	70 - 130	1	20
1,2,4-Trimethylbenzene	18.1	20.0	91	18.3	20.0	92	70 - 130	1	20
1,2-Dibromo-3-chloropropane (DBCP)	23.3	20.0	116	24.2	20.0	121	70 - 130	4	20
1,2-Dibromoethane	20.9	20.0	104	21.2	20.0	106	70 - 130	2	20
1,2-Dichlorobenzene	19.7	20.0	99	19.9	20.0	100	70 - 130	<1	20
1,2-Dichloroethane	17.7	20.0	88	18.0	20.0	90	70 - 130	2	20
1,2-Dichloropropane	19.4	20.0	97	19.9	20.0	100	70 - 130	3	20
1,3,5-Trimethylbenzene	18.4	20.0	92	18.4	20.0	92	70 - 130	<1	20
1,3-Dichlorobenzene	18.9	20.0	94	19.2	20.0	96	70 - 130	2	20
1,3-Dichloropropane	18.8	20.0	94	19.7	20.0	98	70 - 130	5	20
1,4-Dichlorobenzene	19.2	20.0	96	19.3	20.0	96	70 - 130	<1	20
1,4-Dioxane	385	400	96	374	400	93	40 - 160	3	20
2,2-Dichloropropane	23.1	20.0	116	22.1	20.0	110	70 - 130	5	20
2-Butanone (MEK)	16.5	20.0	83	16.8	20.0	84	40 - 160	2	20
2-Chlorotoluene	17.3	20.0	87	17.1	20.0	86	70 - 130	1	20
2-Hexanone	14.4	20.0	72	17.0	20.0	85	40 - 160	17	20
4-Chlorotoluene	18.2	20.0	91	18.1	20.0	90	70 - 130	<1	20
p-Isopropyltoluene	19.0	20.0	95	19.0	20.0	95	70 - 130	<1	20
4-Methyl-2-pentanone	15.5	20.0	78	17.6	20.0	88	40 - 160	13	20
Acetone	20.0	20.0	100	22.3	20.0	111	40 - 160	11	20
Benzene	18.0	20.0	90	18.2	20.0	91	70 - 130	1	20
Bromobenzene	18.4	20.0	92	18.4	20.0	92	70 - 130	<1	20
Bromochloromethane	20.4	20.0	102	20.6	20.0	103	70 - 130	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Analyzed: 4/25/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 337806

Analyte Name	Lab Control Sample RQ1304349-02			Duplicate Lab Control Sample RQ1304349-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	20.9	20.0	104	21.3	20.0	106	70 - 130	2	20
Bromoform	29.1	20.0	145 *	30.0	20.0	150 *	70 - 130	3	20
Bromomethane	16.9	20.0	84	16.8	20.0	84	40 - 160	<1	20
Carbon Disulfide	20.4	20.0	102	20.6	20.0	103	70 - 130	<1	20
Carbon Tetrachloride	25.1	20.0	126	25.1	20.0	125	70 - 130	<1	20
Chlorobenzene	19.8	20.0	99	19.9	20.0	99	70 - 130	<1	20
Chloroethane	19.1	20.0	96	18.7	20.0	93	70 - 130	2	20
Chloroform	19.1	20.0	96	19.0	20.0	95	70 - 130	<1	20
Chloromethane	20.0	20.0	100	19.4	20.0	97	40 - 160	3	20
Dibromochloromethane	24.7	20.0	124	25.6	20.0	128	70 - 130	4	20
Dibromomethane	18.7	20.0	93	19.1	20.0	96	70 - 130	2	20
Dichlorodifluoromethane (CFC 12)	19.9	20.0	100	19.3	20.0	97	40 - 160	3	20
Dichloromethane	19.3	20.0	97	19.5	20.0	97	70 - 130	<1	20
Diethyl Ether	19.5	20.0	98	19.7	20.0	98	70 - 130	<1	20
Diisopropyl Ether	18.1	20.0	90	22.0	20.0	110	70 - 130	19	20
Ethyl tert-Butyl Ether	16.2	20.0	81	19.7	20.0	98	70 - 130	19	20
Ethylbenzene	19.1	20.0	95	18.9	20.0	95	70 - 130	<1	20
Hexachlorobutadiene	20.3	20.0	101	19.5	20.0	98	70 - 130	4	20
Isopropylbenzene (Cumene)	18.8	20.0	94	19.0	20.0	95	70 - 130	1	20
Methyl tert-Butyl Ether	17.7	20.0	88	18.5	20.0	92	70 - 130	4	20
Naphthalene	18.3	20.0	91	19.2	20.0	96	70 - 130	5	20
Styrene	18.9	20.0	94	19.2	20.0	96	70 - 130	2	20
Tetrachloroethene (PCE)	20.1	20.0	101	20.2	20.0	101	70 - 130	<1	20
Tetrahydrofuran (THF)	15.4	20.0	77	16.9	20.0	85	70 - 130	9	20
Toluene	18.3	20.0	92	18.2	20.0	91	70 - 130	<1	20
Trichloroethene (TCE)	22.0	20.0	110	22.2	20.0	111	70 - 130	<1	20
Trichlorofluoromethane (CFC 11)	21.2	20.0	106	20.9	20.0	105	70 - 130	1	20
Vinyl Chloride	19.8	20.0	99	19.0	20.0	95	70 - 130	4	20
cis-1,2-Dichloroethene	18.0	20.0	90	18.0	20.0	90	70 - 130	<1	20
cis-1,3-Dichloropropene	20.8	20.0	104	21.5	20.0	108	70 - 130	3	20
m,p-Xylenes	40.3	40.0	101	40.2	40.0	100	70 - 130	<1	20
n-Butylbenzene	18.0	20.0	90	17.9	20.0	89	70 - 130	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629

Date Analyzed: 4/25/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 337806

Analyte Name	Lab Control Sample RQ1304349-02			Duplicate Lab Control Sample RQ1304349-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	18.1	20.0	90	18.0	20.0	90	70 - 130	<1	20
o-Xylene	18.3	20.0	92	18.6	20.0	93	70 - 130	2	20
sec-Butylbenzene	18.1	20.0	91	18.1	20.0	90	70 - 130	<1	20
tert-Amyl Methyl Ether	15.6	20.0	78	18.9	20.0	94	70 - 130	19	20
tert-Butylbenzene	17.0	20.0	85	17.2	20.0	86	70 - 130	1	20
trans-1,2-Dichloroethene	19.3	20.0	97	18.7	20.0	94	70 - 130	3	20
trans-1,3-Dichloropropene	22.0	20.0	110	23.3	20.0	116	70 - 130	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629
Date Analyzed: 4/26/13

Lab Control Sample Summary Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 338201

Analyte Name	Lab Control Sample RQ1304362-02			Duplicate Lab Control Sample RQ1304362-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	23.5	20.0	118	23.7	20.0	118	70 - 130	<1	20
1,1,1-Trichloroethane (TCA)	18.6	20.0	93	17.7	20.0	89	70 - 130	5	20
1,1,2,2-Tetrachloroethane	18.5	20.0	92	19.6	20.0	98	70 - 130	6	20
1,1,2-Trichloroethane	18.9	20.0	95	19.7	20.0	98	70 - 130	4	20
1,1-Dichloroethane (1,1-DCA)	18.6	20.0	93	17.9	20.0	90	70 - 130	4	20
1,1-Dichloroethene (1,1-DCE)	19.7	20.0	98	16.3	20.0	82	70 - 130	19	20
1,1-Dichloropropene	14.6	20.0	73	13.7	20.0	68 *	70 - 130	7	20
1,2,3-Trichlorobenzene	18.1	20.0	90	19.0	20.0	95	70 - 130	5	20
1,2,3-Trichloropropane	17.7	20.0	88	19.3	20.0	96	70 - 130	9	20
1,2,4-Trichlorobenzene	18.7	20.0	94	19.0	20.0	95	70 - 130	1	20
1,2,4-Trimethylbenzene	18.2	20.0	91	17.8	20.0	89	70 - 130	2	20
1,2-Dibromo-3-chloropropane (DBCP)	21.5	20.0	107	24.1	20.0	120	70 - 130	11	20
1,2-Dibromoethane	19.8	20.0	99	20.3	20.0	101	70 - 130	2	20
1,2-Dichlorobenzene	19.4	20.0	97	19.7	20.0	98	70 - 130	1	20
1,2-Dichloroethane	17.2	20.0	86	17.2	20.0	86	70 - 130	<1	20
1,2-Dichloropropane	19.8	20.0	99	19.5	20.0	97	70 - 130	1	20
1,3,5-Trimethylbenzene	18.2	20.0	91	17.7	20.0	89	70 - 130	3	20
1,3-Dichlorobenzene	18.9	20.0	95	18.9	20.0	94	70 - 130	<1	20
1,3-Dichloropropane	17.7	20.0	89	18.2	20.0	91	70 - 130	2	20
1,4-Dichlorobenzene	18.9	20.0	95	18.8	20.0	94	70 - 130	<1	20
1,4-Dioxane	490	400	123	456	400	114	40 - 160	7	20
2,2-Dichloropropane	25.4	20.0	127	23.9	20.0	119	70 - 130	6	20
2-Butanone (MEK)	16.0	20.0	80	17.7	20.0	88	40 - 160	10	20
2-Chlorotoluene	17.6	20.0	88	17.1	20.0	85	70 - 130	3	20
2-Hexanone	14.1	20.0	71	16.6	20.0	83	40 - 160	16	20
4-Chlorotoluene	18.2	20.0	91	17.9	20.0	89	70 - 130	2	20
p-Isopropyltoluene	18.8	20.0	94	18.0	20.0	90	70 - 130	4	20
4-Methyl-2-pentanone	15.8	20.0	79	17.8	20.0	89	40 - 160	12	20
Acetone	19.8	20.0	99	19.0	20.0	95	40 - 160	4	20
Benzene	17.7	20.0	88	17.0	20.0	85	70 - 130	4	20
Bromobenzene	18.8	20.0	94	18.8	20.0	94	70 - 130	<1	20
Bromochloromethane	19.4	20.0	97	19.6	20.0	98	70 - 130	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302629
 Date Analyzed: 4/26/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 338201

Analyte Name	Lab Control Sample RQ1304362-02				Duplicate Lab Control Sample RQ1304362-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec		Result	Spike Amount	% Rec			
Bromodichloromethane	20.5	20.0	102		20.5	20.0	102	70 - 130	<1	20
Bromoform	27.7	20.0	139	*	28.7	20.0	143	70 - 130	3	20
Bromomethane	17.8	20.0	89		17.0	20.0	85	40 - 160	4	20
Carbon Disulfide	20.9	20.0	104		19.1	20.0	95	70 - 130	9	20
Carbon Tetrachloride	22.7	20.0	114		22.0	20.0	110	70 - 130	3	20
Chlorobenzene	18.7	20.0	93		18.2	20.0	91	70 - 130	3	20
Chloroethane	19.4	20.0	97		18.5	20.0	93	70 - 130	5	20
Chloroform	18.5	20.0	92		18.0	20.0	90	70 - 130	3	20
Chloromethane	19.5	20.0	97		18.7	20.0	94	40 - 160	4	20
Dibromochloromethane	23.6	20.0	118		24.5	20.0	122	70 - 130	4	20
Dibromomethane	17.9	20.0	89		18.6	20.0	93	70 - 130	4	20
Dichlorodifluoromethane (CFC 12)	17.2	20.0	86		16.1	20.0	80	40 - 160	7	20
Dichloromethane	18.7	20.0	94		18.8	20.0	94	70 - 130	<1	20
Diethyl Ether	19.4	20.0	97		20.3	20.0	101	70 - 130	4	20
Diisopropyl Ether	20.6	20.0	103		20.1	20.0	100	70 - 130	3	20
Ethyl tert-Butyl Ether	18.5	20.0	93		18.3	20.0	91	70 - 130	1	20
Ethylbenzene	18.2	20.0	91		17.6	20.0	88	70 - 130	3	20
Hexachlorobutadiene	21.5	20.0	107		19.4	20.0	97	70 - 130	10	20
Isopropylbenzene (Cumene)	18.3	20.0	91		17.5	20.0	88	70 - 130	4	20
Methyl tert-Butyl Ether	16.8	20.0	84		17.9	20.0	90	70 - 130	7	20
Naphthalene	17.5	20.0	87		19.4	20.0	97	70 - 130	11	20
Styrene	18.3	20.0	92		18.0	20.0	90	70 - 130	2	20
Tetrachloroethene (PCE)	18.9	20.0	95		18.0	20.0	90	70 - 130	5	20
Tetrahydrofuran (THF)	15.9	20.0	80		17.6	20.0	88	70 - 130	10	20
Toluene	18.1	20.0	90		17.4	20.0	87	70 - 130	4	20
Trichloroethene (TCE)	18.2	20.0	91		17.5	20.0	88	70 - 130	3	20
Trichlorofluoromethane (CFC 11)	19.4	20.0	97		18.1	20.0	90	70 - 130	7	20
Vinyl Chloride	19.0	20.0	95		18.2	20.0	91	70 - 130	4	20
cis-1,2-Dichloroethene	18.0	20.0	90		17.4	20.0	87	70 - 130	4	20
cis-1,3-Dichloropropene	21.6	20.0	108		21.7	20.0	108	70 - 130	<1	20
m,p-Xylenes	38.6	40.0	96		37.1	40.0	93	70 - 130	4	20
n-Butylbenzene	18.4	20.0	92		17.6	20.0	88	70 - 130	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302629

Date Analyzed: 4/26/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 338201

Analyte Name	Lab Control Sample RQ1304362-02			Duplicate Lab Control Sample RQ1304362-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	18.0	20.0	90	17.4	20.0	87	70 - 130	3	20
o-Xylene	18.3	20.0	91	17.6	20.0	88	70 - 130	4	20
sec-Butylbenzene	18.1	20.0	91	17.4	20.0	87	70 - 130	4	20
tert-Amyl Methyl Ether	16.6	20.0	83	16.8	20.0	84	70 - 130	<1	20
tert-Butylbenzene	17.2	20.0	86	16.3	20.0	81	70 - 130	5	20
trans-1,2-Dichloroethene	18.1	20.0	90	17.3	20.0	87	70 - 130	4	20
trans-1,3-Dichloropropene	23.2	20.0	116	23.3	20.0	117	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302629
Date Analyzed: 4/23/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 337623
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042313\E8548.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	55.7	NA	NA	NA	11.3	± 20 %	Quadratic
1,1,1-Trichloroethane (TCA)	50.0	51.2	0.5943	0.6083	2.4	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	46.4	0.5476	0.5085	-7.1	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	46.7	0.2247	0.2100	-6.6	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	51.8	0.7838	0.8119	3.6	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCE)	50.0	47.3	0.3401	0.3220	-5.3	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	35.7	0.4487	0.3208	-28.5 *	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	42.8	0.7566	0.6474	-14.4	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	43.4	0.1478	0.1283	-13.2	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	44.0	0.9360	0.8229	-12.1	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	48.1	2.340	2.248	-3.9	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	47.9	NA	NA	NA	-4.2	± 20 %	Quadratic
1,2-Dibromoethane	50.0	47.7	0.2429	0.2318	-4.6	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	46.3	1.364	1.263	-7.4	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	43.4	0.4043	0.3508	-13.2	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	50.8	0.3079	0.3130	1.7	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	48.3	2.293	2.217	-3.3	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	45.8	1.452	1.331	-8.3	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	45.4	0.4606	0.4187	-9.1	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	44.9	1.528	1.371	-10.3	NA	± 20 %	Average RF
1,4-Dioxane	1000	879	0.001404	0.001233	-12.1	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	65.2	NA	NA	NA	30.5 *	± 20 %	Quadratic
2-Butanone (MEK)	50.0	46.5	0.1413	0.1314	-7.0	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	46.0	2.029	1.866	-8.0	NA	± 20 %	Average RF
2-Hexanone	50.0	46.9	0.1270	0.1191	-6.2	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	46.5	2.369	2.201	-7.1	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	48.7	2.365	2.305	-2.5	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	49.0	0.1620	0.1589	-1.9	NA	± 60 %	Average RF
Acetone	50.0	49.5	0.08340	0.08252	-1.1	NA	± 60 %	Average RF
Benzene	50.0	45.6	1.252	1.142	-8.8	NA	± 20 %	Average RF
Bromobenzene	50.0	43.6	0.7585	0.6616	-12.8	NA	± 20 %	Average RF
Bromochloromethane	50.0	48.2	0.2843	0.2743	-3.5	NA	± 20 %	Average RF
Bromodichloromethane	50.0	50.7	0.3459	0.3509	1.4	NA	± 20 %	Average RF
Bromoform	50.0	57.8	NA	NA	NA	15.6	± 20 %	Quadratic
Bromomethane	50.0	43.0	0.2500	0.2147	-14.1	NA	± 60 %	Average RF
Carbon Disulfide	50.0	61.5	1.163	1.430	22.9 *	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	54.5	NA	NA	NA	9.0	± 20 %	Quadratic
Chlorobenzene	50.0	46.7	0.9949	0.9285	-6.7	NA	± 20 %	Average RF
Chloroethane	50.0	53.6	0.2513	0.2695	7.2	NA	± 20 %	Average RF

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QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302629
Date Analyzed: 4/23/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 337623
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042313\E8548.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	48.0	0.7964	0.7651	-3.9	NA	± 20 %	Average RF
Chloromethane	50.0	54.6	0.4672	0.5103	9.2	NA	± 60 %	Average RF
Dibromochloromethane	50.0	54.1	NA	NA	NA	8.3	± 20 %	Quadratic
Dibromomethane	50.0	44.3	0.1685	0.1491	-11.5	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	47.8	0.4276	0.4090	-4.3	NA	± 60 %	Average RF
Methylene Chloride	50.0	47.4	0.4601	0.4363	-5.2	NA	± 20 %	Average RF
Diethyl Ether	50.0	52.0	0.2762	0.2875	4.1	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	65.5	1.396	1.830	31.0 *	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	58.4	1.138	1.330	16.9	NA	± 20 %	Average RF
Ethylbenzene	50.0	46.7	0.4982	0.4657	-6.5	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	43.5	0.3905	0.3396	-13.0	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	48.2	1.460	1.408	-3.5	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	47.9	0.9951	0.9541	-4.1	NA	± 20 %	Average RF
Naphthalene	50.0	46.2	1.427	1.318	-7.7	NA	± 20 %	Average RF
Styrene	50.0	50.2	0.9573	0.9615	0.4	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	44.1	0.2876	0.2535	-11.9	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	46.2	0.07835	0.07245	-7.5	NA	± 20 %	Average RF
Toluene	50.0	46.1	1.266	1.167	-7.8	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	43.1	0.3153	0.2719	-13.8	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	51.4	0.5755	0.5914	2.8	NA	± 20 %	Average RF
Vinyl Chloride	50.0	51.0	0.4290	0.4376	2.0	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	47.6	0.4918	0.4680	-4.8	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	54.7	NA	NA	NA	9.3	± 20 %	Quadratic
m,p-Xylenes	100	98.5	0.5978	0.5891	-1.5	NA	± 20 %	Average RF
n-Butylbenzene	50.0	50.4	2.117	2.134	0.8	NA	± 20 %	Average RF
n-Propylbenzene	50.0	48.1	3.177	3.058	-3.7	NA	± 20 %	Average RF
o-Xylene	50.0	47.7	0.5985	0.5709	-4.6	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	48.5	2.754	2.672	-3.0	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	54.3	0.8959	0.9726	8.6	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	45.9	1.916	1.757	-8.3	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	48.1	0.4342	0.4178	-3.8	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	56.1	NA	NA	NA	12.2	± 20 %	Quadratic
4-Bromofluorobenzene	50.0	50.3	0.4700	0.4731	0.7	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	51.6	0.3088	0.3187	3.2	NA	± 20 %	Average RF
Toluene-d8	50.0	51.1	1.146	1.171	2.2	NA	± 20 %	Average RF

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QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302629
Date Analyzed: 4/24/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 337805
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042413\E8593.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	45.0	0.5943	0.5346	-10.0	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	44.9	0.5476	0.4917	-10.2	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	47.2	0.2247	0.2120	-5.6	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	44.0	0.7838	0.6892	-12.1	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	42.1	0.3401	0.2860	-15.9	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	42.2	0.4043	0.3411	-15.6	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	46.5	0.3079	0.2860	-7.1	NA	± 20 %	Average RF
Acetone	50.0	47.2	0.08340	0.07879	-5.5	NA	± 60 %	Average RF
Bromodichloromethane	50.0	50.9	0.3459	0.3519	1.7	NA	± 20 %	Average RF
Bromoform	50.0	65.0	NA	NA	NA	29.9 *	± 20 %	Quadratic
Bromomethane	50.0	39.0	0.2500	0.1950	-22.0	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	52.4	NA	NA	NA	4.8	± 20 %	Quadratic
Chlorobenzene	50.0	45.5	0.9949	0.9045	-9.1	NA	± 20 %	Average RF
Chloroethane	50.0	43.4	0.2513	0.2179	-13.3	NA	± 20 %	Average RF
Chloroform	50.0	43.6	0.7964	0.6948	-12.8	NA	± 20 %	Average RF
Chloromethane	50.0	45.2	0.4672	0.4219	-9.7	NA	± 60 %	Average RF
Dibromochloromethane	50.0	57.0	NA	NA	NA	14.0	± 20 %	Quadratic
Methylene Chloride	50.0	43.5	0.4601	0.4004	-13.0	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	44.0	0.2876	0.2530	-12.0	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	42.4	0.3153	0.2675	-15.2	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	45.6	0.5755	0.5248	-8.8	NA	± 20 %	Average RF
Vinyl Chloride	50.0	42.6	0.4290	0.3653	-14.9	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	43.8	0.4918	0.4305	-12.5	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	52.5	NA	NA	NA	5.0	± 20 %	Quadratic
trans-1,2-Dichloroethene	50.0	43.8	0.4342	0.3805	-12.4	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	54.7	NA	NA	NA	9.4	± 20 %	Quadratic
4-Bromofluorobenzene	50.0	49.1	0.4700	0.4612	-1.9	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	51.8	0.3088	0.3199	3.6	NA	± 20 %	Average RF
Toluene-d8	50.0	49.8	1.146	1.142	-0.4	NA	± 20 %	Average RF

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QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302629
Date Analyzed: 4/24/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 337806
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042413\E8612.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	63.9	NA	NA	NA	27.7 *	± 20 %	Quadratic
1,1,1-Trichloroethane (TCA)	50.0	55.8	0.5943	0.6632	11.6	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	39.9	0.5476	0.4371	-20.2 *	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	49.8	0.2247	0.2240	-0.3	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	49.6	0.7838	0.7775	-0.8	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	50.7	0.3401	0.3447	1.4	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	38.8	0.4487	0.3481	-22.4 *	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	46.3	0.7566	0.7011	-7.3	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	43.4	0.1478	0.1283	-13.2	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	48.4	0.9360	0.9052	-3.3	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	50.6	2.340	2.369	1.3	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	49.3	NA	NA	NA	-1.4	± 20 %	Quadratic
1,2-Dibromoethane	50.0	50.3	0.2429	0.2442	0.5	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	50.6	1.364	1.380	1.2	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	44.5	0.4043	0.3601	-10.9	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	51.5	0.3079	0.3174	3.1	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	50.9	2.293	2.336	1.9	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	50.7	1.452	1.473	1.4	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	47.2	0.4606	0.4349	-5.6	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	48.9	1.528	1.495	-2.2	NA	± 20 %	Average RF
1,4-Dioxane	1000	821	0.001404	0.001152	-17.9	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	56.0	NA	NA	NA	12.0	± 20 %	Quadratic
2-Butanone (MEK)	50.0	39.2	0.1413	0.1107	-21.6	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	47.4	2.029	1.924	-5.2	NA	± 20 %	Average RF
2-Hexanone	50.0	40.6	0.1270	0.1032	-18.7	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	49.4	2.369	2.341	-1.2	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	53.5	2.365	2.531	7.0	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	42.1	0.1620	0.1363	-15.9	NA	± 60 %	Average RF
Acetone	50.0	51.0	0.08340	0.08512	2.1	NA	± 60 %	Average RF
Benzene	50.0	49.3	1.252	1.235	-1.3	NA	± 20 %	Average RF
Bromobenzene	50.0	47.9	0.7585	0.7266	-4.2	NA	± 20 %	Average RF
Bromochloromethane	50.0	51.1	0.2843	0.2907	2.2	NA	± 20 %	Average RF
Bromodichloromethane	50.0	55.2	0.3459	0.3819	10.4	NA	± 20 %	Average RF
Bromoform	50.0	65.9	NA	NA	NA	31.8 *	± 20 %	Quadratic
Bromomethane	50.0	42.4	0.2500	0.2118	-15.3	NA	± 60 %	Average RF
Carbon Disulfide	50.0	62.4	1.163	1.453	24.9 *	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	66.9	NA	NA	NA	33.7 *	± 20 %	Quadratic
Chlorobenzene	50.0	52.2	0.9949	1.039	4.4	NA	± 20 %	Average RF
Chloroethane	50.0	50.2	0.2513	0.2522	0.3	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302629
Date Analyzed: 4/24/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 337806
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042413\E8612.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	49.8	0.7964	0.7928	-0.5	NA	± 20 %	Average RF
Chloromethane	50.0	50.3	0.4672	0.4703	0.7	NA	± 60 %	Average RF
Dibromochloromethane	50.0	60.9	NA	NA	NA	21.7 *	± 20 %	Quadratic
Dibromomethane	50.0	45.1	0.1685	0.1518	-9.9	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	54.7	0.4276	0.4674	9.3	NA	± 60 %	Average RF
Dichloromethane	50.0	48.0	0.4601	0.4413	-4.1	NA	± 20 %	Average RF
Diethyl Ether	50.0	43.2	0.2762	0.2385	-13.7	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	53.6	1.396	1.498	7.3	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	46.0	1.138	1.047	-8.0	NA	± 20 %	Average RF
Ethylbenzene	50.0	54.2	0.4982	0.5397	8.3	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	51.8	0.3905	0.4048	3.7	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	55.5	1.460	1.621	11.1	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	42.6	0.9951	0.8482	-14.8	NA	± 20 %	Average RF
Naphthalene	50.0	46.9	1.427	1.338	-6.3	NA	± 20 %	Average RF
Styrene	50.0	56.0	0.9573	1.072	12.0	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	56.6	0.2876	0.3253	13.1	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	35.8	0.07835	0.05604	-28.5 *	NA	± 20 %	Average RF
Toluene	50.0	51.1	1.266	1.294	2.2	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	56.5	0.3153	0.3561	12.9	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	59.3	0.5755	0.6827	18.6	NA	± 20 %	Average RF
Vinyl Chloride	50.0	50.1	0.4290	0.4298	0.2	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	48.1	0.4918	0.4732	-3.8	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	52.9	NA	NA	NA	5.7	± 20 %	Quadratic
m,p-Xylenes	100	113	0.5978	0.6752	12.9	NA	± 20 %	Average RF
n-Butylbenzene	50.0	52.6	2.117	2.226	5.2	NA	± 20 %	Average RF
n-Propylbenzene	50.0	51.0	3.177	3.243	2.1	NA	± 20 %	Average RF
o-Xylene	50.0	53.5	0.5985	0.6400	6.9	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	51.9	2.754	2.856	3.7	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	44.5	0.8959	0.7976	-11.0	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	50.1	1.916	1.921	0.3	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	52.0	0.4342	0.4513	3.9	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	54.4	NA	NA	NA	8.9	± 20 %	Quadratic
4-Bromofluorobenzene	50.0	49.7	0.4700	0.4672	-0.6	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	53.0	0.3088	0.3274	6.0	NA	± 20 %	Average RF
Toluene-d8	50.0	50.5	1.146	1.158	1.0	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302629
Date Analyzed: 4/26/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 338201
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042613\E8673.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	60.5	NA	NA	NA	20.9 *	± 20 %	Quadratic
1,1,1-Trichloroethane (TCA)	50.0	52.8	0.5943	0.6272	5.5	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	47.5	0.5476	0.5201	-5.0	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	50.7	0.2247	0.2277	1.3	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	50.4	0.7838	0.7906	0.9	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	49.3	0.3401	0.3354	-1.4	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	37.9	0.4487	0.3402	-24.2 *	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	46.1	0.7566	0.6982	-7.7	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	45.7	0.1478	0.1351	-8.6	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	49.0	0.9360	0.9172	-2.0	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	49.8	2.340	2.330	-0.4	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	52.0	NA	NA	NA	4.1	± 20 %	Quadratic
1,2-Dibromoethane	50.0	51.8	0.2429	0.2517	3.6	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	50.7	1.364	1.383	1.4	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	44.2	0.4043	0.3574	-11.6	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	53.1	0.3079	0.3267	6.1	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	49.3	2.293	2.261	-1.4	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	50.5	1.452	1.467	1.0	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	47.1	0.4606	0.4335	-5.9	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	49.1	1.528	1.502	-1.7	NA	± 20 %	Average RF
1,4-Dioxane	1000	869	0.001404	0.001220	-13.1	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	62.7	NA	NA	NA	25.3 *	± 20 %	Quadratic
2-Butanone (MEK)	50.0	42.3	0.1413	0.1195	-15.5	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	47.5	2.029	1.927	-5.0	NA	± 20 %	Average RF
2-Hexanone	50.0	46.1	0.1270	0.1170	-7.8	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	47.5	2.369	2.249	-5.1	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	50.7	2.365	2.398	1.4	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	49.1	0.1620	0.1590	-1.8	NA	± 60 %	Average RF
Acetone	50.0	50.3	0.08340	0.08390	0.6	NA	± 60 %	Average RF
Benzene	50.0	48.8	1.252	1.222	-2.4	NA	± 20 %	Average RF
Bromobenzene	50.0	49.6	0.7585	0.7523	-0.8	NA	± 20 %	Average RF
Bromochloromethane	50.0	51.3	0.2843	0.2918	2.6	NA	± 20 %	Average RF
Bromodichloromethane	50.0	55.9	0.3459	0.3865	11.7	NA	± 20 %	Average RF
Bromoform	50.0	67.4	NA	NA	NA	34.9 *	± 20 %	Quadratic
Bromomethane	50.0	43.6	0.2500	0.2180	-12.8	NA	± 60 %	Average RF
Carbon Disulfide	50.0	56.7	1.163	1.318	13.3	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	61.8	NA	NA	NA	23.6 *	± 20 %	Quadratic
Chlorobenzene	50.0	49.9	0.9949	0.9927	-0.2	NA	± 20 %	Average RF
Chloroethane	50.0	53.1	0.2513	0.2670	6.2	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302629
Date Analyzed: 4/26/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 338201
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042613\E8673.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	49.5	0.7964	0.7876	-1.1	NA	± 20 %	Average RF
Chloromethane	50.0	52.7	0.4672	0.4925	5.4	NA	± 60 %	Average RF
Dibromochloromethane	50.0	60.1	NA	NA	NA	20.3 *	± 20 %	Quadratic
Dibromomethane	50.0	46.4	0.1685	0.1565	-7.1	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	51.7	0.4276	0.4424	3.5	NA	± 60 %	Average RF
Dichloromethane	50.0	48.6	0.4601	0.4474	-2.8	NA	± 20 %	Average RF
Diethyl Ether	50.0	48.2	0.2762	0.2662	-3.6	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	56.4	1.396	1.574	12.7	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	49.3	1.138	1.122	-1.4	NA	± 20 %	Average RF
Ethylbenzene	50.0	50.8	0.4982	0.5062	1.6	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	56.9	0.3905	0.4442	13.8	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	51.5	1.460	1.505	3.1	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	44.0	0.9951	0.8754	-12.0	NA	± 20 %	Average RF
Naphthalene	50.0	49.0	1.427	1.399	-2.0	NA	± 20 %	Average RF
Styrene	50.0	54.5	0.9573	1.043	9.0	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	51.9	0.2876	0.2985	3.8	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	41.2	0.07835	0.06449	-17.7	NA	± 20 %	Average RF
Toluene	50.0	49.9	1.266	1.264	-0.2	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	51.4	0.3153	0.3240	2.7	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	55.6	0.5755	0.6398	11.2	NA	± 20 %	Average RF
Vinyl Chloride	50.0	51.6	0.4290	0.4424	3.1	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	49.9	0.4918	0.4912	-0.1	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	56.1	NA	NA	NA	12.1	± 20 %	Quadratic
m,p-Xylenes	100	105	0.5978	0.6267	4.8	NA	± 20 %	Average RF
n-Butylbenzene	50.0	51.8	2.117	2.192	3.6	NA	± 20 %	Average RF
n-Propylbenzene	50.0	49.7	3.177	3.155	-0.7	NA	± 20 %	Average RF
o-Xylene	50.0	51.2	0.5985	0.6129	2.4	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	50.1	2.754	2.759	0.2	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	45.0	0.8959	0.8071	-9.9	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	48.1	1.916	1.842	-3.9	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	51.5	0.4342	0.4470	2.9	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	57.2	NA	NA	NA	14.5	± 20 %	Quadratic
4-Bromofluorobenzene	50.0	50.0	0.4700	0.4703	0.1	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	51.5	0.3088	0.3183	3.1	NA	± 20 %	Average RF
Toluene-d8	50.0	49.4	1.146	1.131	-1.3	NA	± 20 %	Average RF



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

7175

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 3 OF 8

Project Name Varian Beverly		Project Number 146899-06000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																			
Project Manager Raymond Cadorette		Report CC																					
Company/Address Shaw Environmental, A CB&I Company 150 Royall Street Canton, MA 02021		Email Raymond.Cadorette@CBI.com																					
Phone # 617-589-6102		Sample's Printed Name DAVID C. CANN																					
Sample's Signature <i>David C. Cann</i>		FOR OFFICE USE ONLY LAB ID		DATE		SAMPLING TIME		MATRIX		NUMBER OF CONTAINERS		PRESERVATIVE											
1. SORHA-7A		4/15/13		1100		GW		3		3		GC/MS SVOCs • 8270 • 825											
2. SORHA-7B		4/15/13		1130				3		3		GC/MS SVOCs • 8270 • 825											
3. CLUB-OR		4/15/13		1200				3		3		GC/MS SVOCs • 8270 • 825											
4. CLB-BR (61')		4/15/13		1230				3		3		GC/MS SVOCs • 8270 • 825											
5. CLB-DO (42')		4/15/13		1300				3		3		GC/MS SVOCs • 8270 • 825											
6. OB38-DO (42')		4/15/13		1330				3		3		GC/MS SVOCs • 8270 • 825											
7. OB36-DO (46')		4/15/13		1350				3		3		GC/MS SVOCs • 8270 • 825											
8. OB37-DO (53.7')		4/18/13		1400				3		3		GC/MS SVOCs • 8270 • 825											
9. OB35-DO (61')		4/15/13		1430				3		3		GC/MS SVOCs • 8270 • 825											
10. B-2 (12')		4/16/13		0800				3		3		GC/MS SVOCs • 8270 • 825											
11. AP27-DO (59')		4/16/13		0915				3		3		GC/MS SVOCs • 8270 • 825											
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site specific VOC list Massachusetts CAM analyses reporting and QA/QC. Email GISKey formatted EDD and PDF of report to: Catherine.Mainville@CBI.com																							
See QAPP <input type="checkbox"/>																							
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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 7177

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Project Name Varian Beverly		Project Number 146899-06000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)											
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE		1		20		20		20		20	
Company/Address Shaw Environmental, A CB&I Company 150 Royall Street Canton, MA 02021 Phone # 617-589-6102		Email Raymond.Cadorette@CBI.com		Sample's Signature <i>Raymond Cadorette</i>		Sample's Printed Name Raymond Cadorette		Sample's Title Analyst		Sample's Date 4-15-13		Sample's Time 12:30		Matrix GW	
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID		DATE		SAMPLING TIME		MATRIX		NUMBER OF CONTAINERS		GC/MS VOAS • 8280 • 624 • CLP • 8270 • 625 • 8021 • 601/602 • 8081 • 608 • 8082 • 608 PCBs • 8081 • 608 PESTICIDES • 8081 • 608 METALS TOTAL (List in comments below) METALS DISSOLVED (List in comments below) Chloride + mg		REMARKS/ ALTERNATE DESCRIPTION	
Mw-94 (13.3')				4-15-13	12:30	GW	3	3							
B-3 (12.5')				4-15-13	13:00		3	3							
AP13-S (16')				4-15-13	13:20		3	3							
CL-115 (22')				4-15-13	13:40		3	3							
CL-1100 (44')				4-15-13	14:00		3	3							
OB27-BR (85')				4-15-13	14:15		5	3							
OB19-S (32')				4-15-13	14:30		3	3							
OB25-BR (95')				4-15-13	14:20		3	3							
OB19-DO (57')				4-15-13	14:50		5	3							
AP26-DO (67')				4-15-13	15:00		5	3							
OB26-BR (90')				4-15-13	15:30		3	3							

SPECIAL INSTRUCTIONS/COMMENTS
Metals = Field Filtered

Site specific VOC list
Massachusetts CAM analyses reporting and QA/QC.
Email GISKey formatted EDD and PDF of report to:
Catherine.Mainville@CBI.com.

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	SIGNATURE	PRINTED NAME	FIRM	DATE/TIME
	<i>Raymond Cadorette</i>	Raymond Cadorette	ALS	4-16-13 14:30

RECEIVED BY	SIGNATURE	PRINTED NAME	FIRM	DATE/TIME
	<i>Alan Mainville</i>	Alan Mainville	ALS	4-17-13 10:30

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 7179

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OF

PAGE 7

Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Varian Beverly		146899-06000000			
Project Manager		Report CC			
Raymond Cadorette					
Company/Address					
Shaw Environmental, A CB&I Company					
150 Royall Street					
Canton, MA 02021					
Phone #		Email		Preservative	
617-589-6102		Raymond.Cadorette@cbi.com		1	
Signature		Sample's Printed Name		NUMBER OF CONTAINERS	
[Signature]		DANIEL C. VENTURA		3	
CLIENT SAMPLE ID	DATE	SAMPLING TIME	MATRIX		
CL10-S (W)	4/16/13	1000	GW	3	
CL10-DD (30')	4/16/13	1040		3	
CL10-BR (45')	4/16/13	1115		3	
OR16-S (16')	4/16/13	1200		3	
OR16-BR (34')	4/16/13	1215		3	
MW12-32-TOZ1AR (67')	4/16/13	1200		3	
MW1-32-TOZ1AR (14')	4/16/13	1250		3	
MW5-32-TOZ1AR (14')	4/16/13	1330		3	
MW4-32-TOZ1AR (14')	4/16/13	1400		3	
EB-3	4/16/13	1425		3	
VB-2	4/16/13	1430		3	
SPECIAL INSTRUCTIONS/COMMENTS				TURNAROUND REQUIREMENTS	
Metals = Field Filtered				RUSH (SURCHARGES APPLY)	
Site specific VOC list PML 0150				1 day 2 day 3 day	
Massachusetts CAM analyses reporting and QA/QC.				4 day 5 day	
Email GISKey formatted EDD and PDF of report to:				Standard	
Catherine.Mainville@CBI.com.				REQUESTED REPORT DATE	
See QAPP <input type="checkbox"/>				RECEIVED BY	
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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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PAGE ~~11~~ OF

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[illegible]



Cooler Receipt and Preservation Check Form

Project/Client CB & I Folder Number R13 2629

Cooler received on 4/17/13 by: UPS COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: 2.4 5.8 3.8°

Is the temperature within 0° - 6° C?: Y N Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 4/17/13 10:40

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location Room by JD on 4/17/13 at 11:05
5035 samples placed in storage location by on at

PC Secondary Review:

Cooler Breakdown: Date: 4/17/13 Time: 1945 by: JS JD

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
≥12	NaOH									
≤2	HNO ₃	✓		<u>20026126 F</u>	<u>2/11</u>					No = Samples were preserved at lab as listed
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						PM OK to Adjust:
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet				
	Zn Aceta	-	-							
	HCl	*	*	<u>4/12/10</u>	<u>3/14</u>					

Bottle lot numbers: 022513-2H, 3-043-002, Client

Other Comments:

PC Secondary Review: MS 4/17/13

G:\SMODOCS\Cooler Receipt 6.doc

11/6/12

*significant air bubbles: VOA > 5-6 mm ; WC > 1 in. diameter

00150

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc
Job Number : 146898
Prepared By: Pernilla Haley
Date : 6/20/2013
Matrix: Groundwater
Analyte Group : Volatile Organics
 Total Organics
 Methane, Ethane, Ethylene
Analytical Method : EPA Method 8260C
 EPA Method SM20 5310 C
 EPA Method RSK 175
Completed MADEP CAM Certification Form included: Yes
Laboratory ID No. : R1302631
Chain of Custody included in Data Package ? Yes
Is it Complete ? Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
4/11 and 4/12/13	8260C		14 Days	4/22 and 4/23/13
4/11/2013	SM20 5310 C		28 Days	4/24 and 5/1/13
4/11/2013	RSK 175		14 Days	4/23 and 4/24/13

Sample temperature within QC limits: Yes

Surrogate Recovery

Are all % recoveries within the allowable range ? yes

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? No

If no, list sample ID where range was exceeded: See Notes

Equipment Field Blank None

Trip Blank ID : Trip Blank

Method Blank: 8260C 4/22 and 4/23/13
 RSK 175 4/23 and 4/24/13
 SM20 5310 C 4/24 and 5/1/13

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

VOC Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples MW-8(17.9) and OB12-S(27) were re-analyzed at a larger dilution to bring target analytes within the calibration range of the method. The analytes over the calibration range are flagged with an "E" and the diluted analytes flagged with a "D".

RSK-175 Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples Unnamed Stream, BW-6(13.1), OB9-DO(94), BW-6(13), and BW-4(13) were re-analyzed at a larger dilution to bring target analytes within the calibration range of the method. The analytes over the calibration range are flagged with an "E" and the diluted analytes flagged with a "D".

The % recovery was outside limits in the LCS or LCSD for bromoform, carbon tetrachloride, dibromochloromethane, and trans-1,3-dichloropropene in batch 337353 (samples MW-8(17.9), OB9-S(23), unnamed stream, OB9-D(94), BW-9(12.5), BW-6(13), BW-8(17.5), BW-5(9), MW-9(19), BW-4(13), OB15-S(19), and OB12-S(27)). The RPD for LCS and LCSD was outside the limits for 1,1-DCE in this same batch. The data was not impacted since the analytical results were non-detect for these analytes in the associated batch except for sample 1,1-DCE which was given a qualifier of J in MW-8(17.9)

The Continued Calibration Verification for bromoform %D was outside range for batch 337353. Results for this compound were non-detect in this batch. but were given an UJ qualifier (samples MW-8(17.9), OB9-S(23), unnamed stream, OB9-D(94), BW-9(12.5), BW-6(13), BW-8(17.5), BW-5(9), MW-9(19), BW-4(13), OB15-S(19), and OB12-S(27)).

Reviewed By: Ray Cadorette 7/8/13



May 02, 2013

Service Request No: R1302631

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly/146898

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on April 17, 2013. For your reference, these analyses have been assigned our service request number **R1302631**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Michael Perry
Laboratory Manager

Page 1 of 71

ALS Environmental

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1302631
Project Number: 146898-02000000
Date Received: 4/17/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II, deliverables with Massachusetts CAM analyses reporting. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Water samples were collected on 4/11/13 and 4/12/13 and received at ALS in good condition at cooler temperatures of 2.4 – 5.8 °C as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. See the second page of the Case Narrative for a cross-reference between Client ID and ALS Job #.

Volatile Organics

Fifteen water samples were analyzed for a site list of Volatile Organics by SW-846 Method 8260C.

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples MW-8 (17.9) and OB12-S (27) were re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes.

All Surrogate Standard recoveries were within QC limits.

Several Bank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were outside QC limits and have been flagged with an "***". No data was affected.

All samples were analyzed within the required holding time of 14 days.

No other analytical or QC problems were encountered with these analyses.

Modified RSK-175

Eleven water samples were analyzed for the hydrocarbon gases Methane, Ethane, and Ethene by modified RSK-175.

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples Unnamed Stream, BW-6 (13.1), OB9-DO (94), BW-6 (13), and BW-4 (13) were re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All the initial and continuing calibration criteria were met for all analytes.

The Blank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were all within the QC limits.

The Method Blanks associated with these samples were free of contamination.

No other analytical or QC problems were encountered.

TOC Analyses

Eleven water samples were analyzed for TOC by method SM20 5310C.

The initial and continuing calibration criteria were met for all analytes.

All Blank Spike (LCS) recoveries were within QC limits.

No analytical or QC problems were encountered.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146898-02000000 Bio

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1302631 - 001 - 015

Matrices: ☒ Groundwater ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other: _____

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6850 Perchlorate CAM VIII B	Other: TOC/RSK- 175

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
----------	-----------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (site list)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Director

Printed Name: Michael K. Perry

Date: 5/02/13 **000011**

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1302631

<u>Lab ID</u>	<u>Client ID</u>
R1302631-001	MW-8 (17.9)
R1302631-002	STR-3
R1302631-003	OB9-S (23)
R1302631-004	UNNAMED STREAM
R1302631-005	OB9-DO (94)
R1302631-006	OB9-BR (120)
R1302631-007	BW-9 (12.5)
R1302631-008	BW-6 (13)
R1302631-009	BW-8 (17.5)
R1302631-010	BW-5 (9)
R1302631-011	MW-9 (19)
R1302631-012	BW-4 (13)
R1302631-013	OB15-S (19)
R1302631-014	OB12-S (27)
R1302631-015	TRIP BLANK

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for Massachusetts Certification
M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

COLUMBIA ANALYTICAL SERVICES
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in dark ink, appearing to read "Oscar C. Pascala".

Director, Division of Environmental Analysis

Issued: 01 JUL 2012

Expires: 30 JUN 2013

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
ALUMINUM			EPA 200.7	
ANTIMONY			EPA 200.7	
ANTIMONY			EPA 200.8	
ARSENIC			EPA 200.7	
ARSENIC			EPA 200.8	
BERYLLIUM			EPA 200.7	
BERYLLIUM			EPA 200.8	
CADMIUM			EPA 200.7	
CADMIUM			EPA 200.8	
CHROMIUM			EPA 200.7	
CHROMIUM			EPA 200.8	
COBALT			EPA 200.7	
COBALT			EPA 200.8	
COPPER			EPA 200.7	
COPPER			EPA 200.8	
IRON			EPA 200.7	
LEAD			EPA 200.7	
LEAD			EPA 200.8	
MANGANESE			EPA 200.7	
MANGANESE			EPA 200.8	
MERCURY			EPA 245.1	
MOLYBDENUM			EPA 200.7	
MOLYBDENUM			EPA 200.8	
NICKEL			EPA 200.7	
NICKEL			EPA 200.8	
SELENIUM			EPA 200.7	
SELENIUM			EPA 200.8	
SILVER			EPA 200.7	
SILVER			EPA 200.8	
THALLIUM			EPA 200.7	
THALLIUM			EPA 200.8	
VANADIUM			EPA 200.7	
VANADIUM			EPA 200.8	
ZINC			EPA 200.7	
ZINC			EPA 200.8	
SPECIFIC CONDUCTIVITY			EPA 120.1	
TOTAL DISSOLVED SOLIDS			SM 2540C	
HARDNESS (CaCO3), TOTAL			SM 2340C	
CALCIUM			EPA 200.7	
MAGNESIUM			EPA 200.7	
SODIUM			EPA 200.7	
POTASSIUM			EPA 200.7	
ALKALINITY, TOTAL			SM 2320B	

June 29, 2012

*= Provisional Certification

Page 1 of 2

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
CHLORIDE			SM 4500-CL-E	
CHLORIDE			EPA 300.0	
FLUORIDE			EPA 300.0	
SULFATE			EPA 300.0	
AMMONIA-N			EPA 350.1	
NITRATE-N			EPA 300.0	
NITRATE-N			EPA 353.2	
KJELDAHL-N			EPA 351.2	
ORTHOPHOSPHATE			EPA 365.1	
PHOSPHORUS, TOTAL			EPA 365.1	
CHEMICAL OXYGEN DEMAND			EPA 410.4	
BIOCHEMICAL OXYGEN DEMAND			SM 5210B	
TOTAL ORGANIC CARBON			SM 5310C	
CYANIDE, TOTAL			EPA 335.4	
NON-FILTERABLE RESIDUE			SM 2540D	
OIL AND GREASE			EPA 1664	
PHENOLICS, TOTAL			EPA 420.4	
VOLATILE HALOCARBONS			EPA 601	
VOLATILE HALOCARBONS			EPA 624	
VOLATILE AROMATICS			EPA 602	
VOLATILE AROMATICS			EPA 624	
SVOC-ACID EXTRACTABLES			EPA 625	
SVOC-BASE/NEUTRAL EXTRACTABLES			EPA 625	
POLYCHLORINATED BIPHENYLS (WATER)			EPA 608	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 15:44

Sample Name: MW-8 (17.9)
 Lab Code: R1302631-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8506.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	420		5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	890	E	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	29		5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
67-64-1	Acetone	25	U	25	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	320		5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-09-2	Methylene Chloride	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	44		5.0	
79-01-6	Trichloroethene (TCE)	29		5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	720	E	5.0	
156-59-2	cis-1,2-Dichloroethene	190		5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 15:44	
Dibromofluoromethane	103	70-130	4/22/13 15:44	
Toluene-d8	98	70-130	4/22/13 15:44	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 0800
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 17:12

Sample Name: MW-8 (17.9)
 Lab Code: R1302631-001
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8553.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	460	D	20	
79-34-5	1,1,2,2-Tetrachloroethane	20	U	20	
79-00-5	1,1,2-Trichloroethane	20	U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1100	D	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	33	D	20	
107-06-2	1,2-Dichloroethane	20	U	20	
78-87-5	1,2-Dichloropropane	20	U	20	
67-64-1	Acetone	100	U	100	
75-27-4	Bromodichloromethane	20	U	20	
75-25-2	Bromoform	20	U	20	
74-83-9	Bromomethane	20	U	20	
56-23-5	Carbon Tetrachloride	20	U	20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	390	D	20	
67-66-3	Chloroform	20	U	20	
74-87-3	Chloromethane	20	U	20	
124-48-1	Dibromochloromethane	20	U	20	
75-09-2	Methylene Chloride	20	U	20	
127-18-4	Tetrachloroethene (PCE)	39	D	20	
79-01-6	Trichloroethene (TCE)	27	D	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20	U	20	
75-01-4	Vinyl Chloride	930	D	20	
156-59-2	cis-1,2-Dichloroethene	190	D	20	
10061-01-5	cis-1,3-Dichloropropene	20	U	20	
156-60-5	trans-1,2-Dichloroethene	20	U	20	
10061-02-6	trans-1,3-Dichloropropene	20	U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/23/13 17:12	
Dibromofluoromethane	108	70-130	4/23/13 17:12	
Toluene-d8	101	70-130	4/23/13 17:12	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 0900
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 17:41

Sample Name: STR-3
 Lab Code: R1302631-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8554.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	4.0		2.0	
79-01-6	Trichloroethene (TCE)	8.3		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	9.2		2.0	
156-59-2	cis-1,2-Dichloroethene	170		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	3.7		2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 17:41	
Dibromofluoromethane	108	70-130	4/23/13 17:41	
Toluene-d8	94	70-130	4/23/13 17:41	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: OB9-S (23)
Lab Code: R1302631-003

Service Request: R1302631
Date Collected: 4/11/13 0830
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	34.9		mg/L	2.0	2	NA	4/24/13 14:27	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 0830
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 16:47

Sample Name: OB9-S (23)
 Lab Code: R1302631-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8508.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.4		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	11		2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	3.0		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	35		2.0	
156-59-2	cis-1,2-Dichloroethene	23		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 16:47	
Dibromofluoromethane	103	70-130	4/22/13 16:47	
Toluene-d8	98	70-130	4/22/13 16:47	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 0830
Date Received: 4/17/13
Date Analyzed: 4/23/13 14:13

Sample Name: OB9-S (23)
Lab Code: R1302631-003

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1013.run

Analysis Lot: 337685
Instrument Name: R-GC-02
Dilution Factor: 200

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	200	U	200	
74-85-1	Ethene	200	U	200	
74-82-8	Methane	18000		200	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: UNNAMED STREAM
Lab Code: R1302631-004

Service Request: R1302631
Date Collected: 4/11/13 0930
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	13.8		mg/L	1.0	1	NA	4/24/13 14:47	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 0930
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 17:19

Sample Name: UNNAMED STREAM
 Lab Code: R1302631-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8509.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 20

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	40 U	40	
79-34-5	1,1,2,2-Tetrachloroethane	40 U	40	
79-00-5	1,1,2-Trichloroethane	40 U	40	
75-34-3	1,1-Dichloroethane (1,1-DCA)	40 U	40	
75-35-4	1,1-Dichloroethene (1,1-DCE)	40 U	40	
107-06-2	1,2-Dichloroethane	40 U	40	
78-87-5	1,2-Dichloropropane	40 U	40	
67-64-1	Acetone	200 U	200	
75-27-4	Bromodichloromethane	40 U	40	
75-25-2	Bromoform	40 U	40	
74-83-9	Bromomethane	40 U	40	
56-23-5	Carbon Tetrachloride	40 U	40	
108-90-7	Chlorobenzene	40 U	40	
75-00-3	Chloroethane	40 U	40	
67-66-3	Chloroform	40 U	40	
74-87-3	Chloromethane	40 U	40	
124-48-1	Dibromochloromethane	40 U	40	
75-09-2	Methylene Chloride	40 U	40	
127-18-4	Tetrachloroethene (PCE)	65	40	
79-01-6	Trichloroethene (TCE)	71	40	
75-69-4	Trichlorofluoromethane (CFC 11)	40 U	40	
75-01-4	Vinyl Chloride	140	40	
156-59-2	cis-1,2-Dichloroethene	2900	40	
10061-01-5	cis-1,3-Dichloropropene	40 U	40	
156-60-5	trans-1,2-Dichloroethene	40 U	40	
10061-02-6	trans-1,3-Dichloropropene	40 U	40	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	4/22/13 17:19	
Dibromofluoromethane	106	70-130	4/22/13 17:19	
Toluene-d8	96	70-130	4/22/13 17:19	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 0930
Date Received: 4/17/13
Date Analyzed: 4/23/13 14:35

Sample Name: UNNAMED STREAM
Lab Code: R1302631-004

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1014.run

Analysis Lot: 337685
Instrument Name: R-GC-02
Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	17		2.5	
74-85-1	Ethene	35		2.5	
74-82-8	Methane	360	E	2.5	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 0930
Date Received: 4/17/13
Date Analyzed: 4/23/13 14:48

Sample Name: UNNAMED STREAM
Lab Code: R1302631-004
Run Type: Dilution

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1015.run

Analysis Lot: 337685
Instrument Name: R-GC-02
Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	16	D	5.0	
74-85-1	Ethene	35	D	5.0	
74-82-8	Methane	370	D	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: OB9-DO (94)
Lab Code: R1302631-005

Service Request: R1302631
Date Collected: 4/11/13 1000
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	5.5		mg/L	1.0	1	NA	4/24/13 15:07	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1000
Date Received: 4/17/13
Date Analyzed: 4/22/13 17:50

Sample Name: OB9-DO (94)
Lab Code: R1302631-005

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8510.D\

Analysis Lot: 337353
Instrument Name: R-MS-10
Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20	U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20	U	20	
79-00-5	1,1,2-Trichloroethane	20	U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20	U	20	
107-06-2	1,2-Dichloroethane	20	U	20	
78-87-5	1,2-Dichloropropane	20	U	20	
67-64-1	Acetone	100	U	100	
75-27-4	Bromodichloromethane	20	U	20	
75-25-2	Bromoform	20	U	20	
74-83-9	Bromomethane	20	U	20	
56-23-5	Carbon Tetrachloride	20	U	20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	20	U	20	
67-66-3	Chloroform	20	U	20	
74-87-3	Chloromethane	20	U	20	
124-48-1	Dibromochloromethane	20	U	20	
75-09-2	Methylene Chloride	20	U	20	
127-18-4	Tetrachloroethene (PCE)	20	U	20	
79-01-6	Trichloroethene (TCE)	20	U	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20	U	20	
75-01-4	Vinyl Chloride	1500		20	
156-59-2	cis-1,2-Dichloroethene	1800		20	
10061-01-5	cis-1,3-Dichloropropene	20	U	20	
156-60-5	trans-1,2-Dichloroethene	20	U	20	
10061-02-6	trans-1,3-Dichloropropene	20	U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 17:50	
Dibromofluoromethane	104	70-130	4/22/13 17:50	
Toluene-d8	98	70-130	4/22/13 17:50	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1000
Date Received: 4/17/13
Date Analyzed: 4/23/13 14:58

Sample Name: OB9-DO (94)
Lab Code: R1302631-005

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1016.run

Analysis Lot: 337685
Instrument Name: R-GC-02
Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	5.0	U	5.0	
74-85-1	Ethene	5.6		5.0	
74-82-8	Methane	830	E	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1000
Date Received: 4/17/13
Date Analyzed: 4/23/13 15:08

Sample Name: OB9-DO (94)
Lab Code: R1302631-005
Run Type: Dilution

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1017.run

Analysis Lot: 337685
Instrument Name: R-GC-02
Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	10 U	10	
74-85-1	Ethene	10 U	10	
74-82-8	Methane	840 D	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1000
Date Received: 4/17/13

Sample Name: OB9-BR (120)
Lab Code: R1302631-006

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	11.5		mg/L	1.0	1	NA	4/24/13 15:27	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 1000
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 18:11

Sample Name: OB9-BR (120)
 Lab Code: R1302631-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8555.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 25

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	50 U	50	
79-34-5	1,1,2,2-Tetrachloroethane	50 U	50	
79-00-5	1,1,2-Trichloroethane	50 U	50	
75-34-3	1,1-Dichloroethane (1,1-DCA)	50 U	50	
75-35-4	1,1-Dichloroethene (1,1-DCE)	50 U	50	
107-06-2	1,2-Dichloroethane	50 U	50	
78-87-5	1,2-Dichloropropane	50 U	50	
67-64-1	Acetone	250 U	250	
75-27-4	Bromodichloromethane	50 U	50	
75-25-2	Bromoform	50 U	50	
74-83-9	Bromomethane	50 U	50	
56-23-5	Carbon Tetrachloride	50 U	50	
108-90-7	Chlorobenzene	50 U	50	
75-00-3	Chloroethane	50 U	50	
67-66-3	Chloroform	50 U	50	
74-87-3	Chloromethane	50 U	50	
124-48-1	Dibromochloromethane	50 U	50	
75-09-2	Methylene Chloride	50 U	50	
127-18-4	Tetrachloroethene (PCE)	2400	50	
79-01-6	Trichloroethene (TCE)	3100	50	
75-69-4	Trichlorofluoromethane (CFC 11)	50 U	50	
75-01-4	Vinyl Chloride	50 U	50	
156-59-2	cis-1,2-Dichloroethene	2700	50	
10061-01-5	cis-1,3-Dichloropropene	50 U	50	
156-60-5	trans-1,2-Dichloroethene	50 U	50	
10061-02-6	trans-1,3-Dichloropropene	50 U	50	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/23/13 18:11	
Dibromofluoromethane	108	70-130	4/23/13 18:11	
Toluene-d8	101	70-130	4/23/13 18:11	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1000
Date Received: 4/17/13
Date Analyzed: 4/23/13 15:19

Sample Name: OB9-BR (120)
Lab Code: R1302631-006

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1018.run

Analysis Lot: 337685
Instrument Name: R-GC-02
Dilution Factor: 25

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	25	U	25	
74-85-1	Ethene	58		25	
74-82-8	Methane	1800		25	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898.
Sample Matrix: Water
Sample Name: BW-9 (12.5)
Lab Code: R1302631-007

Service Request: R1302631
Date Collected: 4/11/13 1030
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	144		mg/L	10	10	NA	4/24/13 16:28	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 1030
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 18:53

Sample Name: BW-9 (12.5)
 Lab Code: R1302631-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8512.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	11		10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	25		2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/22/13 18:53	
Dibromofluoromethane	104	70-130	4/22/13 18:53	
Toluene-d8	99	70-130	4/22/13 18:53	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1030
Date Received: 4/17/13
Date Analyzed: 4/24/13 11:27

Sample Name: BW-9 (12.5)
Lab Code: R1302631-007

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1003.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 200

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	200	U	200	
74-85-1	Ethene	200	U	200	
74-82-8	Methane	17000		200	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: BW-6 (13)
Lab Code: R1302631-008

Service Request: R1302631
Date Collected: 4/11/13 1100
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	72.2		mg/L	4.0	4	NA	4/24/13 17:29	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 1100
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 19:25

Sample Name: BW-6 (13)
 Lab Code: R1302631-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8513.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	4.4		2.0	
156-59-2	cis-1,2-Dichloroethene	2.3		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 19:25	
Dibromofluoromethane	104	70-130	4/22/13 19:25	
Toluene-d8	98	70-130	4/22/13 19:25	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1100
Date Received: 4/17/13
Date Analyzed: 4/24/13 11:38

Sample Name: BW-6 (13)
Lab Code: R1302631-008

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1004.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 100

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	100	U	100	
74-85-1	Ethene	100	U	100	
74-82-8	Methane	13000	E	100	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1100
Date Received: 4/17/13
Date Analyzed: 4/24/13 12:17

Sample Name: BW-6 (13)
Lab Code: R1302631-008
Run Type: Dilution

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1007.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 200

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	200	U	200	
74-85-1	Ethene	200	U	200	
74-82-8	Methane	13000	D	200	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1115
Date Received: 4/17/13

Sample Name: BW-8 (17.5)
Lab Code: R1302631-009

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	52		mg/L	10	10	NA	5/1/13 03:44	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 1115
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 19:56

Sample Name: BW-8 (17.5)
 Lab Code: R1302631-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8514.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	15		2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	4/22/13 19:56	
Dibromofluoromethane	105	70-130	4/22/13 19:56	
Toluene-d8	97	70-130	4/22/13 19:56	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1115
Date Received: 4/17/13
Date Analyzed: 4/24/13 12:27

Sample Name: BW-8 (17.5)
Lab Code: R1302631-009

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1008.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 200

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	200	U	200	
74-85-1	Ethene	200	U	200	
74-82-8	Methane	19000		200	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: BW-5 (9)
Lab Code: R1302631-010

Service Request: R1302631
Date Collected: 4/11/13 1140
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	180		mg/L	10	10	NA	4/24/13 18:09	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 1140
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 20:28

Sample Name: BW-5 (9)
 Lab Code: R1302631-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8515.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	4.4		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 20:28	
Dibromofluoromethane	105	70-130	4/22/13 20:28	
Toluene-d8	97	70-130	4/22/13 20:28	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1140
Date Received: 4/17/13
Date Analyzed: 4/24/13 12:37

Sample Name: BW-5 (9)
Lab Code: R1302631-010

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1009.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 200

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	200	U	200	
74-85-1	Ethene	200	U	200	
74-82-8	Methane	18000		200	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: MW-9 (19)
Lab Code: R1302631-011

Service Request: R1302631
Date Collected: 4/11/13 1200
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	5800		mg/L	1000	1000	NA	4/24/13 18:29	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 1200
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 21:00

Sample Name: MW-9 (19)
 Lab Code: R1302631-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8516.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	10	U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	10	
79-00-5	1,1,2-Trichloroethane	10	U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10	U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10	U	10	
107-06-2	1,2-Dichloroethane	10	U	10	
78-87-5	1,2-Dichloropropane	10	U	10	
67-64-1	Acetone	50	U	50	
75-27-4	Bromodichloromethane	10	U	10	
75-25-2	Bromoform	10	U	10	
74-83-9	Bromomethane	10	U	10	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
75-09-2	Methylene Chloride	10	U	10	
127-18-4	Tetrachloroethene (PCE)	10	U	10	
79-01-6	Trichloroethene (TCE)	22		10	
75-69-4	Trichlorofluoromethane (CFC 11)	10	U	10	
75-01-4	Vinyl Chloride	630		10	
156-59-2	cis-1,2-Dichloroethene	740		10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
156-60-5	trans-1,2-Dichloroethene	10	U	10	
10061-02-6	trans-1,3-Dichloropropene	10	U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	4/22/13 21:00	
Dibromofluoromethane	106	70-130	4/22/13 21:00	
Toluene-d8	98	70-130	4/22/13 21:00	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1200
Date Received: 4/17/13
Date Analyzed: 4/24/13 12:48

Sample Name: MW-9 (19)
Lab Code: R1302631-011

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1010.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	1200	250	
74-85-1	Ethene	5400	250	
74-82-8	Methane	15000	250	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: BW-4 (13)
Lab Code: R1302631-012

Service Request: R1302631
Date Collected: 4/11/13 1230
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	6.8		mg/L	1.0	1	NA	4/24/13 19:30	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 1230
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 21:31

Sample Name: BW-4 (13)
 Lab Code: R1302631-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8517.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 21:31	
Dibromofluoromethane	106	70-130	4/22/13 21:31	
Toluene-d8	99	70-130	4/22/13 21:31	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1230
Date Received: 4/17/13
Date Analyzed: 4/24/13 13:59

Sample Name: BW-4 (13)
Lab Code: R1302631-012

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1013.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	23		20	
74-85-1	Ethene	20	U	20	
74-82-8	Methane	3000	E	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1230
Date Received: 4/17/13
Date Analyzed: 4/24/13 14:10

Sample Name: BW-4 (13)
Lab Code: R1302631-012
Run Type: Dilution

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1014.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 40

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	40 U	40	
74-85-1	Ethene	40 U	40	
74-82-8	Methane	3100 D	40	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: OB15-S (19)
Lab Code: R1302631-013

Service Request: R1302631
Date Collected: 4/11/13 1300
Date Received: 4/17/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	543	mg/L	40	40	NA	4/24/13 20:51	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 1300
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 22:03

Sample Name: OB15-S (19)
 Lab Code: R1302631-013

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8518.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	14		10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	3.5		2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	150		2.0	
156-59-2	cis-1,2-Dichloroethene	24		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/22/13 22:03	
Dibromofluoromethane	108	70-130	4/22/13 22:03	
Toluene-d8	99	70-130	4/22/13 22:03	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: 4/11/13 1300
Date Received: 4/17/13
Date Analyzed: 4/24/13 13:04

Sample Name: OB15-S (19)
Lab Code: R1302631-013

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1011.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	280	250	
74-85-1	Ethene	250 U	250	
74-82-8	Methane	15000	250	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/12/13 0900
 Date Received: 4/17/13
 Date Analyzed: 4/23/13 18:40

Sample Name: OB12-S (27)
 Lab Code: R1302631-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8556.D\

Analysis Lot: 337623
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	4.0	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	10 U	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.8	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	3.8	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	210 E	2.0	
79-01-6	Trichloroethene (TCE)	120	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 18:40	
Dibromofluoromethane	107	70-130	4/23/13 18:40	
Toluene-d8	100	70-130	4/23/13 18:40	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/12/13 0900
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 22:35

Sample Name: OB12-S (27)
 Lab Code: R1302631-014
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8519.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	4.0	U	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0	U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0	U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0	U	4.0	
107-06-2	1,2-Dichloroethane	4.0	U	4.0	
78-87-5	1,2-Dichloropropane	4.0	U	4.0	
67-64-1	Acetone	20	U	20	
75-27-4	Bromodichloromethane	4.0	U	4.0	
75-25-2	Bromoform	4.0	U	4.0	
74-83-9	Bromomethane	4.0	U	4.0	
56-23-5	Carbon Tetrachloride	4.0	U	4.0	
108-90-7	Chlorobenzene	4.0	U	4.0	
75-00-3	Chloroethane	4.0	U	4.0	
67-66-3	Chloroform	4.0	U	4.0	
74-87-3	Chloromethane	4.0	U	4.0	
124-48-1	Dibromochloromethane	4.0	U	4.0	
75-09-2	Methylene Chloride	4.0	U	4.0	
127-18-4	Tetrachloroethene (PCE)	180	D	4.0	
79-01-6	Trichloroethene (TCE)	110	D	4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0	U	4.0	
75-01-4	Vinyl Chloride	4.0	U	4.0	
156-59-2	cis-1,2-Dichloroethene	4.0	U	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0	U	4.0	
156-60-5	trans-1,2-Dichloroethene	4.0	U	4.0	
10061-02-6	trans-1,3-Dichloropropene	4.0	U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/22/13 22:35	
Dibromofluoromethane	107	70-130	4/22/13 22:35	
Toluene-d8	94	70-130	4/22/13 22:35	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: 4/11/13 0000
 Date Received: 4/17/13
 Date Analyzed: 4/22/13 15:12

Sample Name: TRIP BLANK
 Lab Code: R1302631-015

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8505.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	10 U	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	4/22/13 15:12	
Dibromofluoromethane	102	70-130	4/22/13 15:12	
Toluene-d8	97	70-130	4/22/13 15:12	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302631-MB1

Service Request: R1302631
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	4/24/13 12:05	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302631-MB2

Service Request: R1302631
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	4/24/13 20:11	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302631-MB3

Service Request: R1302631
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	5/1/13 03:04	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/22/13 14:41

Sample Name: Method Blank
 Lab Code: RQ1304154-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\042213\E8504.D\

Analysis Lot: 337353
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/22/13 14:41	
Dibromofluoromethane	101	70-130	4/22/13 14:41	
Toluene-d8	98	70-130	4/22/13 14:41	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: NA
Date Received: NA
Date Analyzed: 4/23/13 16:43

Sample Name: Method Blank
Lab Code: RQ1304191-01

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\042313\E8552.D\

Analysis Lot: 337623
Instrument Name: R-MS-10
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	4/23/13 16:43	
Dibromofluoromethane	105	70-130	4/23/13 16:43	
Toluene-d8	99	70-130	4/23/13 16:43	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: NA
Date Received: NA
Date Analyzed: 4/23/13 10:38

Sample Name: Method Blank
Lab Code: RQ1304208-01

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1001.run

Analysis Lot: 337685
Instrument Name: R-GC-02
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	1.0	U	1.0	
74-85-1	Ethene	1.0	U	1.0	
74-82-8	Methane	1.0	U	1.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Collected: NA
Date Received: NA
Date Analyzed: 4/24/13 10:35

Sample Name: Method Blank
Lab Code: RQ1304237-01

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1001.run

Analysis Lot: 337940
Instrument Name: R-GC-02
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	1.0 U	1.0	
74-85-1	Ethene	1.0 U	1.0	
74-82-8	Methane	1.0 U	1.0	

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Analyzed: 4/24/13

Lab Control Sample Summary General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
R1302631-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.92	10.0	99	86 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Analyzed: 4/24/13

Lab Control Sample Summary General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample R1302631-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.59	10.0	96	86 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Analyzed: 5/ 1/13

Lab Control Sample Summary General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample R1302631-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.52	10.0	95	86 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Analyzed: 4/22/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 337353

Analyte Name	Lab Control Sample RQ1304154-02			Duplicate Lab Control Sample RQ1304154-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	21.7	20.0	108	19.0	20.0	95	70 - 130	13	20
1,1,2,2-Tetrachloroethane	21.2	20.0	106	18.6	20.0	93	70 - 130	13	20
1,1,2-Trichloroethane	20.8	20.0	104	18.2	20.0	91	70 - 130	13	20
1,1-Dichloroethane (1,1-DCA)	21.7	20.0	109	18.8	20.0	94	70 - 130	15	20
1,1-Dichloroethene (1,1-DCE)	23.9	20.0	119	19.2	20.0	96	70 - 130	22 *	20
1,2-Dichloroethane	18.8	20.0	94	16.5	20.0	82	70 - 130	13	20
1,2-Dichloropropane	22.4	20.0	112	19.0	20.0	95	70 - 130	16	20
Acetone	18.3	20.0	92	17.5	20.0	87	40 - 160	5	20
Bromodichloromethane	22.5	20.0	113	19.4	20.0	97	70 - 130	15	20
Bromoform	29.7	20.0	148 *	26.2	20.0	131 *	70 - 130	13	20
Bromomethane	17.4	20.0	87	15.6	20.0	78	40 - 160	11	20
Carbon Tetrachloride	26.2	20.0	131 *	23.0	20.0	115	70 - 130	13	20
Chlorobenzene	21.8	20.0	109	19.0	20.0	95	70 - 130	14	20
Chloroethane	21.8	20.0	109	19.7	20.0	99	70 - 130	10	20
Chloroform	20.4	20.0	102	17.6	20.0	88	70 - 130	14	20
Chloromethane	22.1	20.0	111	19.4	20.0	97	40 - 160	13	20
Dibromochloromethane	26.1	20.0	131 *	22.9	20.0	115	70 - 130	13	20
Methylene Chloride	21.3	20.0	106	18.5	20.0	92	70 - 130	14	20
Tetrachloroethene (PCE)	22.0	20.0	110	18.9	20.0	95	70 - 130	15	20
Trichloroethene (TCE)	21.6	20.0	108	18.4	20.0	92	70 - 130	16	20
Trichlorofluoromethane (CFC 11)	21.3	20.0	107	19.1	20.0	96	70 - 130	11	20
Vinyl Chloride	22.6	20.0	113	20.3	20.0	101	70 - 130	11	20
cis-1,2-Dichloroethene	20.8	20.0	104	18.0	20.0	90	70 - 130	14	20
cis-1,3-Dichloropropene	25.9	20.0	129	22.4	20.0	112	70 - 130	14	20
trans-1,2-Dichloroethene	21.2	20.0	106	18.4	20.0	92	70 - 130	14	20
trans-1,3-Dichloropropene	27.4	20.0	137 *	23.6	20.0	118	70 - 130	15	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146898
 Sample Matrix: Water

Service Request: R1302631
 Date Analyzed: 4/23/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 337623

Analyte Name	Lab Control Sample RQ1304191-02			Duplicate Lab Control Sample RQ1304191-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	20.4	20.0	102	20.4	20.0	102	70 - 130	<1	20
1,1,2,2-Tetrachloroethane	17.8	20.0	89	18.9	20.0	94	70 - 130	6	20
1,1,2-Trichloroethane	17.6	20.0	88	18.6	20.0	93	70 - 130	6	20
1,1-Dichloroethane (1,1-DCA)	20.6	20.0	103	20.9	20.0	105	70 - 130	1	20
1,1-Dichloroethene (1,1-DCE)	21.9	20.0	109	21.7	20.0	108	70 - 130	<1	20
1,2-Dichloroethane	16.8	20.0	84	17.8	20.0	89	70 - 130	6	20
1,2-Dichloropropane	20.2	20.0	101	20.7	20.0	104	70 - 130	3	20
Acetone	23.0	20.0	115	21.4	20.0	107	40 - 160	7	20
Bromodichloromethane	19.4	20.0	97	20.1	20.0	100	70 - 130	3	20
Bromoform	22.8	20.0	114	24.1	20.0	121	70 - 130	6	20
Bromomethane	18.4	20.0	92	17.6	20.0	88	40 - 160	5	20
Carbon Tetrachloride	23.2	20.0	116	23.0	20.0	115	70 - 130	1	20
Chlorobenzene	18.6	20.0	93	18.6	20.0	93	70 - 130	<1	20
Chloroethane	22.6	20.0	113	21.8	20.0	109	70 - 130	3	20
Chloroform	19.3	20.0	96	19.4	20.0	97	70 - 130	<1	20
Chloromethane	23.8	20.0	119	22.1	20.0	111	40 - 160	7	20
Dibromochloromethane	21.2	20.0	106	22.3	20.0	112	70 - 130	5	20
Methylene Chloride	19.6	20.0	98	19.8	20.0	99	70 - 130	1	20
Tetrachloroethene (PCE)	17.9	20.0	89	17.5	20.0	88	70 - 130	2	20
Trichloroethene (TCE)	18.0	20.0	90	18.2	20.0	91	70 - 130	<1	20
Trichlorofluoromethane (CFC 11)	22.5	20.0	112	21.7	20.0	108	70 - 130	4	20
Vinyl Chloride	23.3	20.0	117	22.3	20.0	111	70 - 130	5	20
cis-1,2-Dichloroethene	18.7	20.0	94	18.9	20.0	95	70 - 130	1	20
cis-1,3-Dichloropropene	21.7	20.0	108	22.3	20.0	112	70 - 130	3	20
trans-1,2-Dichloroethene	19.6	20.0	98	19.4	20.0	97	70 - 130	1	20
trans-1,3-Dichloropropene	22.4	20.0	112	23.7	20.0	118	70 - 130	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Analyzed: 4/23/13

Lab Control Sample Summary Dissolved Gases by GC/FID

Analytical Method: RSK 175

Units: µg/L

Basis: NA

Analysis Lot: 337685

Lab Control Sample RQ1304208-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Ethane	24.7	26.1	95	82 - 127
Ethene	23.7	24.3	98	76 - 119
Methane	24.6	26.2	94	82 - 126

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146898
Sample Matrix: Water

Service Request: R1302631
Date Analyzed: 4/24/13

Lab Control Sample Summary Dissolved Gases by GC/FID

Analytical Method: RSK 175

Units: µg/L

Basis: NA

Analysis Lot: 337940

Lab Control Sample RQ1304237-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Ethane	23.8	26.1	91	82 - 127
Ethene	23.6	24.3	97	76 - 119
Methane	22.4	26.2	86	82 - 126

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146898

Service Request: R1302631
Date Analyzed: 4/22/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 337353
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042213\E8500.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	49.8	0.5943	0.5918	-0.4	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	45.9	0.5476	0.5024	-8.3	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	46.6	0.2247	0.2095	-6.7	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	48.5	0.7838	0.7595	-3.1	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	43.9	0.3401	0.2987	-12.2	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	41.2	0.4043	0.3334	-17.5	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	49.1	0.3079	0.3021	-1.9	NA	± 20 %	Average RF
Acetone	50.0	40.7	0.08340	0.06780	-18.7	NA	± 60 %	Average RF
Bromodichloromethane	50.0	50.8	0.3459	0.3517	1.7	NA	± 20 %	Average RF
Bromoform	50.0	63.1	NA	NA	NA	26.3 *	± 20 %	Quadratic
Bromomethane	50.0	37.5	0.2500	0.1875	-25.0	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	57.5	NA	NA	NA	15.1	± 20 %	Quadratic
Chlorobenzene	50.0	49.0	0.9949	0.9744	-2.1	NA	± 20 %	Average RF
Chloroethane	50.0	49.7	0.2513	0.2497	-0.6	NA	± 20 %	Average RF
Chloroform	50.0	45.2	0.7964	0.7202	-9.6	NA	± 20 %	Average RF
Chloromethane	50.0	48.4	0.4672	0.4522	-3.2	NA	± 60 %	Average RF
Dibromochloromethane	50.0	57.2	NA	NA	NA	14.3	± 20 %	Quadratic
Methylene Chloride	50.0	45.1	0.4601	0.4148	-9.8	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	51.0	0.2876	0.2933	2.0	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	48.7	0.3153	0.3070	-2.7	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	48.6	0.5755	0.5589	-2.9	NA	± 20 %	Average RF
Vinyl Chloride	50.0	48.8	0.4290	0.4187	-2.4	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	47.0	0.4918	0.4620	-6.1	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	55.9	NA	NA	NA	11.8	± 20 %	Quadratic
trans-1,2-Dichloroethene	50.0	47.6	0.4342	0.4137	-4.7	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	57.1	NA	NA	NA	14.2	± 20 %	Quadratic
4-Bromofluorobenzene	50.0	48.7	0.4700	0.4578	-2.6	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	50.1	0.3088	0.3093	0.2	NA	± 20 %	Average RF
Toluene-d8	50.0	49.5	1.146	1.136	-0.9	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146898

Service Request: R1302631
Date Analyzed: 4/23/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/19/13
Calibration ID: RC1300027
Analysis Lot: 337623
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\042313\E8548.D\

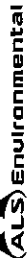
Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	51.2	0.5943	0.6083	2.4	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	46.4	0.5476	0.5085	-7.1	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	46.7	0.2247	0.2100	-6.6	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	51.8	0.7838	0.8119	3.6	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	47.3	0.3401	0.3220	-5.3	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	43.4	0.4043	0.3508	-13.2	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	50.8	0.3079	0.3130	1.7	NA	± 20 %	Average RF
Acetone	50.0	49.5	0.08340	0.08252	-1.1	NA	± 60 %	Average RF
Bromodichloromethane	50.0	50.7	0.3459	0.3509	1.4	NA	± 20 %	Average RF
Bromoform	50.0	57.8	NA	NA	NA	15.6	± 20 %	Quadratic
Bromomethane	50.0	43.0	0.2500	0.2147	-14.1	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	54.5	NA	NA	NA	9.0	± 20 %	Quadratic
Chlorobenzene	50.0	46.7	0.9949	0.9285	-6.7	NA	± 20 %	Average RF
Chloroethane	50.0	53.6	0.2513	0.2695	7.2	NA	± 20 %	Average RF
Chloroform	50.0	48.0	0.7964	0.7651	-3.9	NA	± 20 %	Average RF
Chloromethane	50.0	54.6	0.4672	0.5103	9.2	NA	± 60 %	Average RF
Dibromochloromethane	50.0	54.1	NA	NA	NA	8.3	± 20 %	Quadratic
Methylene Chloride	50.0	47.4	0.4601	0.4363	-5.2	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	44.1	0.2876	0.2535	-11.9	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	43.1	0.3153	0.2719	-13.8	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	51.4	0.5755	0.5914	2.8	NA	± 20 %	Average RF
Vinyl Chloride	50.0	51.0	0.4290	0.4376	2.0	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	47.6	0.4918	0.4680	-4.8	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	54.7	NA	NA	NA	9.3	± 20 %	Quadratic
trans-1,2-Dichloroethene	50.0	48.1	0.4342	0.4178	-3.8	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	56.1	NA	NA	NA	12.2	± 20 %	Quadratic
4-Bromofluorobenzene	50.0	50.3	0.4700	0.4731	0.7	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	51.6	0.3088	0.3187	3.2	NA	± 20 %	Average RF
Toluene-d8	50.0	51.1	1.146	1.171	2.2	NA	± 20 %	Average RF



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 4905

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Project Name Varian Beverly		Project Number 146898-020000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																	
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE		1		1		3											
Company/Address Shaw Environmental, A CB&I Company 150 Royall Street Canton, MA 02021				Phone # 617-589-6102		Email Raymond.Cadorette@CBI.com		Sampler's Signature <i>Raymond Cadorette</i>		Sampler's Printed Name Raymond Cadorette		Matrix		TIME							
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID		DATE		SAMPLING		TIME		MATRIX											
MW-8 (17.9)				4-11-13		0800				GW		3									
STR-3				4-11-13		0900						3									
OB 95 (23)				4-11-13		0830						7									
Unnamed stream				4-11-13		0930						7									
OB 9-DO (94)				4-11-13		1000						7									
OB 9-OR (120)				4-11-13		1000						7									
BW-9 (12.5)				4-11-13		1030						7									
BW-6 (13)				4-11-13		1100						7									
BW-8 (17.5)				4-11-13		1115						7									
BW-5 (9)				4-11-13		1140						7									
Mw-9 (19)				4-11-13		1200						7									
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site Specific VOC list Massachusetts CAM analyses reporting and QA/QC. Email GISKey formatted EDD and PDF of report to: Catherine.Mainville@CBI.com														TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 1 day 2 day 3 day 4 day 5 day STANDARD REQUESTED REPORT DATE		REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MS/MSD as required) III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data		INVOICE INFORMATION PO # 842749 BILL TO: Shaw Environmental		R1302631 7 Y CB&I Environmental & Infrastructure Varian Beverly	
STATE WHERE SAMPLES WERE COLLECTED Massachusetts				RECEIVED BY <i>Raymond Cadorette</i>				RELINQUISHED BY <i>Raymond Cadorette</i>				RECEIVED BY <i>Raymond Cadorette</i>				RELINQUISHED BY <i>Raymond Cadorette</i>					
Signature <i>Raymond Cadorette</i>				Signature <i>Raymond Cadorette</i>				Signature <i>Raymond Cadorette</i>				Signature <i>Raymond Cadorette</i>				Signature <i>Raymond Cadorette</i>					
Printed Name Raymond Cadorette				Printed Name Raymond Cadorette				Printed Name Raymond Cadorette				Printed Name Raymond Cadorette				Printed Name Raymond Cadorette					
Firm Shaw / CB&I				Firm Shaw / CB&I				Firm Shaw / CB&I				Firm Shaw / CB&I				Firm Shaw / CB&I					
Date/Time 4-16-13 1430				Date/Time 4-17-13 1030				Date/Time 4-17-13 1030				Date/Time 4-17-13 1030				Date/Time 4-17-13 1030					



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 49111

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[illegible]

10-12-12
Distribution: White - Lab Copy: Yellow - Return to Originator



Cooler Receipt and Preservation Check Form

Project/Client CB & I Folder Number _____

Cooler received on 4/17/13 by: ☐ COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: 2.4 5.8 3.8° _____

Is the temperature within 0° - 6° C?: (Y)N (Y)N (Y)N Y N Y N
If No, Explain Below Date/Time Temperatures Taken: 4/17/13 10:40

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location Room by (Y) on 4/17/13 at 11:05
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: _____

Cooler Breakdown: Date: 4/17/13 Time: 1810 by: KF (K)

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: C.O.C. says TW-8 (17.5')

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	
≥12	NaOH									Yes = All samples OK
≤2	HNO ₃									
≤2	H ₂ SO ₄	✓		<u>WC112214G</u>	<u>3/14</u>					
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						No = Samples were preserved at lab as listed
	Na ₂ S ₂ O ₃	-	-							
	Zn Aceta	-	-							
	HCl	*	*	<u>4112110</u>	<u>3/14</u>					
*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet										PM OK to Adjust: _____

Bottle lot numbers: 0-3 3-043-002, 031813-1K,
Other Comments: _____

also added Trip Blank
not on C.O.C. but received!
8260 set is correct
TOC bottle says (13')
RSK set says (13')

PC Secondary Review: _____
G:\SMODOCS\Cooler Receipt 6.doc 11/6/12 * * Also Noticed that MW-9 (19') is white/opaque for TOC + RSK, but colorless/clear for 8260s

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc **Job Number :** 146899.13
Prepared By: Jennifer Gailey **Date :** 7/11/2013
Matrix: Air
Analyte Group : Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1302701
Chain of Custody included in Data Package ? Yes **Is it Complete ?** Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
4/18/13	VOC TO-15		30 Days	4/24, 4/25/2013

Sample temperature within QC limits: NA - Air

Surrogate Recovery

Are all % recoveries within the allowable range ? **No**

If No, List sample ID where range was exceeded: Surrogate recoveries for sample BLDG5-SV5 were outside for 4- Bromofluorobenzene. The sample was re-analyzed at a smaller dilution and the recovery was within QC limits. Both were reported.

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? Yes

If no, list sample ID where range was exceeded: NA

Equipment Field Blank ID : NA

Trip Blank ID : NA

Method Blank: EPA TO-15 4/24, 4/25/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

Sample BLDG5-SV2 was re-analyzed at a larger dilution to bring target analytes within the calibration range of the method. Both dilutions were reported with target analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D"

Reviewed By: Pernilla Haley - 7/15/13



April 30, 2013

Service Request No: R1302701

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly Air Samples/146899

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on April 19, 2013. For your reference, these analyses have been assigned our service request number **R1302701**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental



Michael Perry
Laboratory Manager

Page 1 of 33

ALS Environmental

Client: CB&I.
Project: Varian Beverly
Sample Matrix: Air

Service Request No.: R1302701
Project No.: 146899
Date Received: 4/19/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS environmental. This report contains analytical results for samples designated for Tier II, MASS. CAM deliverables. When appropriate to the method, blank and LCS results have been reported with each analytical test.

Sample Receipt

CB&I air samples were collected on 4/18/13 and received at ALS in good condition as noted on the receipt and preservation check form. The samples were stored in the laboratory at room temperature prior to analysis. See the ALS case narrative for a cross-reference between Client ID and ALS Job #.

TO - 15 Air Analysis

Eight air samples were analyzed for a site list of Volatile Organics by EPA method TO-15.

All samples were initially analyzed at appropriate dilutions based on prescreening of the samples and/or historical data to bring the target analytes within the calibration range of the method. Sample BLDG5-SV2 was re-analyzed at a larger dilution to bring target analytes within the calibration range of the method. Both dilutions were reported with target analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All initial and continuing calibrations were compliant.

All surrogate standard recoveries were within QC limits except 4-BFB for sample BLDG-SV5. The sample was re-analyzed at a smaller dilutions and the recovery was within QC limits. Both dilutions were reported.

The LCS recoveries were all within QC limits of 70 – 130 %. All RPD data were within QC limits.

No other analytical or QC problems were encountered with these analyses.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146899

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1302701-001 - 008

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water ☒ Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B <input checked="" type="checkbox"/>
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (Site list as requested)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Manager

Printed Name: Michael K. Perry

Date: 4/30/13 00000

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1302701

<u>Lab ID</u>	<u>Client ID</u>
R1302701-001	BLDG5-SV1
R1302701-002	BLDG5-SV2
R1302701-003	BLDG5-SV3
R1302701-004	BLDG5-SV5
R1302701-005	BLDG5-SV6
R1302701-006	BLDG5-1
R1302701-007	BLDG5-2
R1302701-008	BLDG5-3

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for Massachusetts Certification
M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

COLUMBIA ANALYTICAL SERVICES
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Oscar C. Jacobo".

Director, Division of Environmental Analysis

Issued: 01 JUL 2012

Expires: 30 JUN 2013

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
ALUMINUM			EPA 200.7	
ANTIMONY			EPA 200.7	
ANTIMONY			EPA 200.8	
ARSENIC			EPA 200.7	
ARSENIC			EPA 200.8	
BERYLLIUM			EPA 200.7	
BERYLLIUM			EPA 200.8	
CADMIUM			EPA 200.7	
CADMIUM			EPA 200.8	
CHROMIUM			EPA 200.7	
CHROMIUM			EPA 200.8	
COBALT			EPA 200.7	
COBALT			EPA 200.8	
COPPER			EPA 200.7	
COPPER			EPA 200.8	
IRON			EPA 200.7	
LEAD			EPA 200.7	
LEAD			EPA 200.8	
MANGANESE			EPA 200.7	
MANGANESE			EPA 200.8	
MERCURY			EPA 245.1	
MOLYBDENUM			EPA 200.7	
MOLYBDENUM			EPA 200.8	
NICKEL			EPA 200.7	
NICKEL			EPA 200.8	
SELENIUM			EPA 200.7	
SELENIUM			EPA 200.8	
SILVER			EPA 200.7	
SILVER			EPA 200.8	
THALLIUM			EPA 200.7	
THALLIUM			EPA 200.8	
VANADIUM			EPA 200.7	
VANADIUM			EPA 200.8	
ZINC			EPA 200.7	
ZINC			EPA 200.8	
SPECIFIC CONDUCTIVITY			EPA 120.1	
TOTAL DISSOLVED SOLIDS			SM 2540C	
HARDNESS (CaCO3), TOTAL			SM 2340C	
CALCIUM			EPA 200.7	
MAGNESIUM			EPA 200.7	
SODIUM			EPA 200.7	
POTASSIUM			EPA 200.7	
ALKALINITY, TOTAL			SM 2320B	

June 29, 2012

*= Provisional Certification

Page 1 of 2

000007

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY) Effective Date 01 JUL 2012 Expiration Date 30 JUN 2013

<u>Analytes</u>	<u>Methods</u>
CHLORIDE	SM 4500-CL-E
CHLORIDE	EPA 300.0
FLUORIDE	EPA 300.0
SULFATE	EPA 300.0
AMMONIA-N	EPA 350.1
NITRATE-N	EPA 300.0
NITRATE-N	EPA 353.2
KJELDAHL-N	EPA 351.2
ORTHOPHOSPHATE	EPA 365.1
PHOSPHORUS, TOTAL	EPA 365.1
CHEMICAL OXYGEN DEMAND	EPA 410.4
BIOCHEMICAL OXYGEN DEMAND	SM 5210B
TOTAL ORGANIC CARBON	SM 5310C
CYANIDE, TOTAL	EPA 335.4
NON-FILTERABLE RESIDUE	SM 2540D
OIL AND GREASE	EPA 1664
PHENOLICS, TOTAL	EPA 420.4
VOLATILE HALOCARBONS	EPA 601
VOLATILE HALOCARBONS	EPA 624
VOLATILE AROMATICS	EPA 602
VOLATILE AROMATICS	EPA 624
SVOC-ACID EXTRACTABLES	EPA 625
SVOC-BASE/NEUTRAL EXTRACTABLES	EPA 625
POLYCHLORINATED BIPHENYLS (WATER)	EPA 608

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-SV1
Lab Code: R1302701-001

Service Request: R1302701
Date Collected: 4/18/13 1225
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/24/13 1603
Canister Dilution Factor: 1.59

Initial Pressure (psig): -3.19

Final Pressure (psig): 3.56

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	22	33	33	16	16	U
75-01-4	Vinyl Chloride	22	4.3	4.3	1.7	1.7	U
74-83-9	Bromomethane	22	31	31	8.0	8.0	U
75-00-3	Chloroethane	22	42	42	16	16	U
67-64-1	Acetone	22	1300	360	530	150	
75-69-4	Trichlorofluoromethane (CFC 11)	22	45	45	8.0	8.0	U
75-35-4	1,1-Dichloroethene	22	32	32	8.0	8.0	U
75-09-2	Methylene Chloride	22	27	27	7.9	7.9	U
156-60-5	trans-1,2-Dichloroethene	22	32	32	8.0	8.0	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	22	33	33	8.0	8.0	U
156-59-2	cis-1,2-Dichloroethene	22	32	32	8.0	8.0	U
67-66-3	Chloroform	22	39	39	8.0	8.0	U
107-06-2	1,2-Dichloroethane	22	33	33	8.0	8.0	U
71-55-6	1,1,1-Trichloroethane (TCA)	22	43	43	8.0	8.0	U
56-23-5	Carbon Tetrachloride	22	5.1	5.1	0.80	0.80	U
78-87-5	1,2-Dichloropropane	22	37	37	8.0	8.0	U
75-27-4	Bromodichloromethane	22	11	11	1.6	1.6	U
79-01-6	Trichloroethene (TCE)	22	5.1	4.3	0.95	0.81	
10061-01-5	cis-1,3-Dichloropropene	22	72	72	16	16	U
10061-02-6	trans-1,3-Dichloropropene	22	36	36	8.0	8.0	U
79-00-5	1,1,2-Trichloroethane	22	43	43	8.0	8.0	U
124-48-1	Dibromochloromethane	22	14	14	1.6	1.6	U
127-18-4	Tetrachloroethene (PCE)	22	5.8	5.8	0.85	0.85	U
108-90-7	Chlorobenzene	22	37	37	8.0	8.0	U
100-41-4	Ethylbenzene	22	69	69	16	16	U
179601-23-1	m,p-Xylenes	22	140	140	32	32	U
75-25-2	Bromoform	22	82	82	8.0	8.0	U
95-47-6	o-Xylene	22	69	69	16	16	U
79-34-5	1,1,2,2-Tetrachloroethane	22	11	11	1.6	1.6	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	108	70-130	4/24/13 1603	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-SV2
Lab Code: R1302701-002

Service Request: R1302701
Date Collected: 4/18/13 1218
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/24/13 1826
Canister Dilution Factor: 1.60

Initial Pressure (psig): -3.29

Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	800	0.90	0.90	0.44	0.44	U
75-01-4	Vinyl Chloride	800	0.12	0.12	0.047	0.047	U
74-83-9	Bromomethane	800	0.86	0.86	0.22	0.22	U
75-00-3	Chloroethane	800	1.2	1.2	0.44	0.44	U
67-64-1	Acetone	800	70	10	29	4.2	E
75-69-4	Trichlorofluoromethane (CFC 11)	800	2.6	1.2	0.46	0.22	
75-35-4	1,1-Dichloroethene	800	0.88	0.88	0.22	0.22	U
75-09-2	Methylene Chloride	800	0.76	0.76	0.22	0.22	U
156-60-5	trans-1,2-Dichloroethene	800	0.88	0.88	0.22	0.22	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	800	0.90	0.90	0.22	0.22	U
156-59-2	cis-1,2-Dichloroethene	800	0.88	0.88	0.22	0.22	U
67-66-3	Chloroform	800	1.1	1.1	0.22	0.22	U
107-06-2	1,2-Dichloroethane	800	0.90	0.90	0.22	0.22	U
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.2	1.2	0.22	0.22	U
56-23-5	Carbon Tetrachloride	800	0.62	0.14	0.099	0.022	
78-87-5	1,2-Dichloropropane	800	1.0	1.0	0.22	0.22	U
75-27-4	Bromodichloromethane	800	0.30	0.30	0.045	0.045	U
79-01-6	Trichloroethene (TCE)	800	80	0.12	15	0.022	
10061-01-5	cis-1,3-Dichloropropene	800	2.0	2.0	0.44	0.44	U
10061-02-6	trans-1,3-Dichloropropene	800	1.0	1.0	0.22	0.22	U
79-00-5	1,1,2-Trichloroethane	800	1.2	1.2	0.22	0.22	U
124-48-1	Dibromochloromethane	800	0.38	0.38	0.045	0.045	U
127-18-4	Tetrachloroethene (PCE)	800	22	0.16	3.3	0.024	
108-90-7	Chlorobenzene	800	1.0	1.0	0.22	0.22	U
100-41-4	Ethylbenzene	800	2.5	1.9	0.57	0.44	
179601-23-1	m,p-Xylenes	800	9.5	3.8	2.2	0.88	
75-25-2	Bromoform	800	2.3	2.3	0.22	0.22	U
95-47-6	o-Xylene	800	2.3	1.9	0.54	0.44	
79-34-5	1,1,2,2-Tetrachloroethane	800	0.30	0.30	0.044	0.044	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	108	70-130	4/24/13 1826	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-SV2
Lab Code: R1302701-002
Run Type: Dilution

Service Request: R1302701
Date Collected: 4/18/13 1218
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/25/13 1538
Canister Dilution Factor: 1.60

Initial Pressure (psig): -3.29

Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	400	1.8	1.8	0.87	0.87	U
75-01-4	Vinyl Chloride	400	0.24	0.24	0.094	0.094	U
74-83-9	Bromomethane	400	1.7	1.7	0.44	0.44	U
75-00-3	Chloroethane	400	2.3	2.3	0.88	0.88	U
67-64-1	Acetone	400	68	20	29	8.4	D
75-69-4	Trichlorofluoromethane (CFC 11)	400	2.5	2.5	0.44	0.44	U
75-35-4	1,1-Dichloroethene	400	1.8	1.8	0.44	0.44	U
75-09-2	Methylene Chloride	400	1.5	1.5	0.44	0.44	U
156-60-5	trans-1,2-Dichloroethene	400	1.8	1.8	0.44	0.44	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	400	1.8	1.8	0.44	0.44	U
156-59-2	cis-1,2-Dichloroethene	400	1.8	1.8	0.44	0.44	U
67-66-3	Chloroform	400	2.2	2.2	0.44	0.44	U
107-06-2	1,2-Dichloroethane	400	1.8	1.8	0.44	0.44	U
71-55-6	1,1,1-Trichloroethane (TCA)	400	2.4	2.4	0.44	0.44	U
56-23-5	Carbon Tetrachloride	400	0.60	0.28	0.095	0.045	D
78-87-5	1,2-Dichloropropane	400	2.0	2.0	0.44	0.44	U
75-27-4	Bromodichloromethane	400	0.60	0.60	0.090	0.090	U
79-01-6	Trichloroethene (TCE)	400	73	0.24	14	0.045	D
10061-01-5	cis-1,3-Dichloropropene	400	4.0	4.0	0.88	0.88	U
10061-02-6	trans-1,3-Dichloropropene	400	2.0	2.0	0.44	0.44	U
79-00-5	1,1,2-Trichloroethane	400	2.4	2.4	0.44	0.44	U
124-48-1	Dibromochloromethane	400	0.76	0.76	0.089	0.089	U
127-18-4	Tetrachloroethene (PCE)	400	20	0.32	3.0	0.047	D
108-90-7	Chlorobenzene	400	2.0	2.0	0.44	0.44	U
100-41-4	Ethylbenzene	400	3.8	3.8	0.88	0.88	U
179601-23-1	m,p-Xylenes	400	8.2	7.6	1.9	1.8	D
75-25-2	Bromoform	400	4.6	4.6	0.44	0.44	U
95-47-6	o-Xylene	400	3.8	3.8	0.88	0.88	U
79-34-5	1,1,2,2-Tetrachloroethane	400	0.60	0.60	0.087	0.087	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	4/25/13 1538	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-SV3
Lab Code: R1302701-003

Service Request: R1302701
Date Collected: 4/18/13 1221
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/24/13 1736
Canister Dilution Factor: 1.52

Initial Pressure (psig): -2.70

Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	38	18	18	8.7	8.7	U
75-01-4	Vinyl Chloride	38	2.4	2.4	0.94	0.94	U
74-83-9	Bromomethane	38	17	17	4.4	4.4	U
75-00-3	Chloroethane	38	23	23	8.8	8.8	U
67-64-1	Acetone	38	840	200	350	84	
75-69-4	Trichlorofluoromethane (CFC 11)	38	25	25	4.4	4.4	U
75-35-4	1,1-Dichloroethene	38	18	18	4.4	4.4	U
75-09-2	Methylene Chloride	38	15	15	4.4	4.4	U
156-60-5	trans-1,2-Dichloroethene	38	18	18	4.4	4.4	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	38	18	18	4.4	4.4	U
156-59-2	cis-1,2-Dichloroethene	38	18	18	4.4	4.4	U
67-66-3	Chloroform	38	22	22	4.4	4.4	U
107-06-2	1,2-Dichloroethane	38	18	18	4.4	4.4	U
71-55-6	1,1,1-Trichloroethane (TCA)	38	24	24	4.4	4.4	U
56-23-5	Carbon Tetrachloride	38	2.8	2.8	0.45	0.45	U
78-87-5	1,2-Dichloropropane	38	20	20	4.4	4.4	U
75-27-4	Bromodichloromethane	38	6.0	6.0	0.90	0.90	U
79-01-6	Trichloroethene (TCE)	38	1100	2.4	200	0.45	
10061-01-5	cis-1,3-Dichloropropene	38	40	40	8.8	8.8	U
10061-02-6	trans-1,3-Dichloropropene	38	20	20	4.4	4.4	U
79-00-5	1,1,2-Trichloroethane	38	24	24	4.4	4.4	U
124-48-1	Dibromochloromethane	38	7.6	7.6	0.89	0.89	U
127-18-4	Tetrachloroethene (PCE)	38	160	3.2	23	0.47	
108-90-7	Chlorobenzene	38	20	20	4.4	4.4	U
100-41-4	Ethylbenzene	38	38	38	8.8	8.8	U
179601-23-1	m,p-Xylenes	38	76	76	18	18	U
75-25-2	Bromoform	38	46	46	4.4	4.4	U
95-47-6	o-Xylene	38	38	38	8.8	8.8	U
79-34-5	1,1,2,2-Tetrachloroethane	38	6.0	6.0	0.87	0.87	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	112	70-130	4/24/13 1736	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-SV5
Lab Code: R1302701-004

Service Request: R1302701
Date Collected: 4/18/13 1228
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/24/13 1915
Canister Dilution Factor: 1.65

Initial Pressure (psig): -3.68

Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	800	0.93	0.93	0.45	0.45	U
75-01-4	Vinyl Chloride	800	0.18	0.12	0.071	0.048	
74-83-9	Bromomethane	800	0.89	0.89	0.23	0.23	U
75-00-3	Chloroethane	800	1.2	1.2	0.45	0.45	U
67-64-1	Acetone	800	44	10	18	4.3	
75-69-4	Trichlorofluoromethane (CFC 11)	800	2.7	1.3	0.47	0.23	
75-35-4	1,1-Dichloroethene	800	0.91	0.91	0.23	0.23	U
75-09-2	Methylene Chloride	800	0.78	0.78	0.23	0.23	U
156-60-5	trans-1,2-Dichloroethene	800	0.91	0.91	0.23	0.23	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	800	0.93	0.93	0.23	0.23	U
156-59-2	cis-1,2-Dichloroethene	800	2.1	0.91	0.53	0.23	
67-66-3	Chloroform	800	1.1	1.1	0.23	0.23	U
107-06-2	1,2-Dichloroethane	800	0.93	0.93	0.23	0.23	U
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.2	1.2	0.23	0.23	U
56-23-5	Carbon Tetrachloride	800	0.57	0.14	0.091	0.023	
78-87-5	1,2-Dichloropropane	800	1.1	1.1	0.23	0.23	U
75-27-4	Bromodichloromethane	800	0.31	0.31	0.046	0.046	U
79-01-6	Trichloroethene (TCE)	800	3.5	0.12	0.65	0.023	
10061-01-5	cis-1,3-Dichloropropene	800	2.1	2.1	0.45	0.45	U
10061-02-6	trans-1,3-Dichloropropene	800	1.0	1.0	0.23	0.23	U
79-00-5	1,1,2-Trichloroethane	800	1.2	1.2	0.23	0.23	U
124-48-1	Dibromochloromethane	800	0.39	0.39	0.046	0.046	U
127-18-4	Tetrachloroethene (PCE)	800	3.1	0.17	0.46	0.024	
108-90-7	Chlorobenzene	800	1.1	1.1	0.23	0.23	U
100-41-4	Ethylbenzene	800	11	2.0	2.5	0.45	
179601-23-1	m,p-Xylenes	800	35	3.9	8.2	0.91	
75-25-2	Bromoform	800	2.4	2.4	0.23	0.23	U
95-47-6	o-Xylene	800	15	2.0	3.5	0.45	
79-34-5	1,1,2,2-Tetrachloroethane	800	0.31	0.31	0.045	0.045	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	141 *	70-130	4/24/13 1915	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-SV5
Lab Code: R1302701-004
Run Type: Reanalysis

Service Request: R1302701
Date Collected: 4/18/13 1228
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/25/13 1623
Canister Dilution Factor: 1.65

Initial Pressure (psig): -3.68

Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	350	2.1	2.1	1.0	1.0	U
75-01-4	Vinyl Chloride	350	0.28	0.28	0.11	0.11	U
74-83-9	Bromomethane	350	2.0	2.0	0.52	0.52	U
75-00-3	Chloroethane	350	2.7	2.7	1.0	1.0	U
67-64-1	Acetone	350	42	24	17	9.9	
75-69-4	Trichlorofluoromethane (CFC 11)	350	2.9	2.9	0.52	0.52	U
75-35-4	1,1-Dichloroethene	350	2.1	2.1	0.52	0.52	U
75-09-2	Methylene Chloride	350	1.8	1.8	0.52	0.52	U
156-60-5	trans-1,2-Dichloroethene	350	2.1	2.1	0.52	0.52	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	350	2.1	2.1	0.52	0.52	U
156-59-2	cis-1,2-Dichloroethene	350	2.3	2.1	0.58	0.52	
67-66-3	Chloroform	350	2.5	2.5	0.52	0.52	U
107-06-2	1,2-Dichloroethane	350	2.1	2.1	0.52	0.52	U
71-55-6	1,1,1-Trichloroethane (TCA)	350	2.8	2.8	0.52	0.52	U
56-23-5	Carbon Tetrachloride	350	0.60	0.33	0.095	0.052	
78-87-5	1,2-Dichloropropane	350	2.4	2.4	0.52	0.52	U
75-27-4	Bromodichloromethane	350	0.71	0.71	0.11	0.11	U
79-01-6	Trichloroethene (TCE)	350	3.3	0.28	0.62	0.053	
10061-01-5	cis-1,3-Dichloropropene	350	4.7	4.7	1.0	1.0	U
10061-02-6	trans-1,3-Dichloropropene	350	2.4	2.4	0.52	0.52	U
79-00-5	1,1,2-Trichloroethane	350	2.8	2.8	0.52	0.52	U
124-48-1	Dibromochloromethane	350	0.90	0.90	0.11	0.11	U
127-18-4	Tetrachloroethene (PCE)	350	3.0	0.38	0.44	0.056	
108-90-7	Chlorobenzene	350	2.4	2.4	0.52	0.52	U
100-41-4	Ethylbenzene	350	9.5	4.5	2.2	1.0	
179601-23-1	m,p-Xylenes	350	31	9.0	7.2	2.1	
75-25-2	Bromoform	350	5.4	5.4	0.52	0.52	U
95-47-6	o-Xylene	350	13	4.5	3.0	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	350	0.71	0.71	0.10	0.10	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	126	70-130	4/25/13 1623	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-SV6
Lab Code: R1302701-005

Service Request: R1302701
Date Collected: 4/18/13 1230
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/24/13 1344
Canister Dilution Factor: 1.56

Initial Pressure (psig): -3.00 Final Pressure (psig): 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	9.2	76	76	37	37	U
75-01-4	Vinyl Chloride	9.2	85	10	33	4.0	
74-83-9	Bromomethane	9.2	73	73	19	19	U
75-00-3	Chloroethane	9.2	98	98	37	37	U
67-64-1	Acetone	9.2	850	850	360	360	U
75-69-4	Trichlorofluoromethane (CFC 11)	9.2	110	110	19	19	U
75-35-4	1,1-Dichloroethene	9.2	480	75	120	19	
75-09-2	Methylene Chloride	9.2	64	64	19	19	U
156-60-5	trans-1,2-Dichloroethene	9.2	75	75	19	19	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	9.2	2700	76	660	19	
156-59-2	cis-1,2-Dichloroethene	9.2	3200	75	800	19	
67-66-3	Chloroform	9.2	92	92	19	19	U
107-06-2	1,2-Dichloroethane	9.2	76	76	19	19	U
71-55-6	1,1,1-Trichloroethane (TCA)	9.2	2000	100	370	19	
56-23-5	Carbon Tetrachloride	9.2	12	12	1.9	1.9	U
78-87-5	1,2-Dichloropropane	9.2	86	86	19	19	U
75-27-4	Bromodichloromethane	9.2	25	25	3.8	3.8	U
79-01-6	Trichloroethene (TCE)	9.2	9000	10	1700	1.9	
10061-01-5	cis-1,3-Dichloropropene	9.2	170	170	37	37	U
10061-02-6	trans-1,3-Dichloropropene	9.2	85	85	19	19	U
79-00-5	1,1,2-Trichloroethane	9.2	100	100	19	19	U
124-48-1	Dibromochloromethane	9.2	32	32	3.8	3.8	U
127-18-4	Tetrachloroethene (PCE)	9.2	570	14	85	2.0	
108-90-7	Chlorobenzene	9.2	86	86	19	19	U
100-41-4	Ethylbenzene	9.2	160	160	37	37	U
179601-23-1	m,p-Xylenes	9.2	320	320	75	75	U
75-25-2	Bromoform	9.2	190	190	19	19	U
95-47-6	o-Xylene	9.2	160	160	37	37	U
79-34-5	1,1,2,2-Tetrachloroethane	9.2	25	25	3.7	3.7	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	4/24/13 1344	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-1
Lab Code: R1302701-006

Service Request: R1302701
Date Collected: 4/18/13 1424
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/24/13 1430
Canister Dilution Factor: 1.66

Initial Pressure (psig): -3.68

Final Pressure (psig): 3.59

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	11	68	68	33	33	U
75-01-4	Vinyl Chloride	11	9.1	9.1	3.5	3.5	U
74-83-9	Bromomethane	11	65	65	17	17	U
75-00-3	Chloroethane	11	88	88	33	33	U
67-64-1	Acetone	11	3300	750	1400	320	
75-69-4	Trichlorofluoromethane (CFC 11)	11	94	94	17	17	U
75-35-4	1,1-Dichloroethene	11	66	66	17	17	U
75-09-2	Methylene Chloride	11	57	57	17	17	U
156-60-5	trans-1,2-Dichloroethene	11	66	66	17	17	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	11	68	68	17	17	U
156-59-2	cis-1,2-Dichloroethene	11	66	66	17	17	U
67-66-3	Chloroform	11	81	81	17	17	U
107-06-2	1,2-Dichloroethane	11	68	68	17	17	U
71-55-6	1,1,1-Trichloroethane (TCA)	11	91	91	17	17	U
56-23-5	Carbon Tetrachloride	11	11	11	1.7	1.7	U
78-87-5	1,2-Dichloropropane	11	77	77	17	17	U
75-27-4	Bromodichloromethane	11	23	23	3.4	3.4	U
79-01-6	Trichloroethene (TCE)	11	9.1	9.1	1.7	1.7	U
10061-01-5	cis-1,3-Dichloropropene	11	150	150	33	33	U
10061-02-6	trans-1,3-Dichloropropene	11	75	75	17	17	U
79-00-5	1,1,2-Trichloroethane	11	91	91	17	17	U
124-48-1	Dibromochloromethane	11	29	29	3.4	3.4	U
127-18-4	Tetrachloroethene (PCE)	11	12	12	1.8	1.8	U
108-90-7	Chlorobenzene	11	77	77	17	17	U
100-41-4	Ethylbenzene	11	140	140	33	33	U
179601-23-1	m,p-Xylenes	11	290	290	66	66	U
75-25-2	Bromoform	11	170	170	17	17	U
95-47-6	o-Xylene	11	140	140	33	33	U
79-34-5	1,1,2,2-Tetrachloroethane	11	23	23	3.3	3.3	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	4/24/13 1430	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-2
Lab Code: R1302701-007

Service Request: R1302701
Date Collected: 4/18/13 1426
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/24/13 1517
Canister Dilution Factor: 1.57

Initial Pressure (psig): -3.09

Final Pressure (psig): 3.57

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	21	34	34	16	16	U
75-01-4	Vinyl Chloride	21	4.5	4.5	1.8	1.8	U
74-83-9	Bromomethane	21	32	32	8.3	8.3	U
75-00-3	Chloroethane	21	43	43	16	16	U
67-64-1	Acetone	21	1400	370	600	160	
75-69-4	Trichlorofluoromethane (CFC 11)	21	46	46	8.3	8.3	U
75-35-4	1,1-Dichloroethene	21	33	33	8.3	8.3	U
75-09-2	Methylene Chloride	21	28	28	8.2	8.2	U
156-60-5	trans-1,2-Dichloroethene	21	33	33	8.3	8.3	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	21	34	34	8.3	8.3	U
156-59-2	cis-1,2-Dichloroethene	21	33	33	8.3	8.3	U
67-66-3	Chloroform	21	40	40	8.3	8.3	U
107-06-2	1,2-Dichloroethane	21	34	34	8.3	8.3	U
71-55-6	1,1,1-Trichloroethane (TCA)	21	45	45	8.2	8.2	U
56-23-5	Carbon Tetrachloride	21	5.2	5.2	0.83	0.83	U
78-87-5	1,2-Dichloropropane	21	38	38	8.3	8.3	U
75-27-4	Bromodichloromethane	21	11	11	1.7	1.7	U
79-01-6	Trichloroethene (TCE)	21	4.5	4.5	0.84	0.84	U
10061-01-5	cis-1,3-Dichloropropene	21	75	75	16	16	U
10061-02-6	trans-1,3-Dichloropropene	21	37	37	8.2	8.2	U
79-00-5	1,1,2-Trichloroethane	21	45	45	8.2	8.2	U
124-48-1	Dibromochloromethane	21	14	14	1.7	1.7	U
127-18-4	Tetrachloroethene (PCE)	21	6.0	6.0	0.88	0.88	U
108-90-7	Chlorobenzene	21	38	38	8.3	8.3	U
100-41-4	Ethylbenzene	21	71	71	16	16	U
179601-23-1	m,p-Xylenes	21	140	140	33	33	U
75-25-2	Bromoform	21	85	85	8.2	8.2	U
95-47-6	o-Xylene	21	71	71	16	16	U
79-34-5	1,1,2,2-Tetrachloroethane	21	11	11	1.6	1.6	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	4/24/13 1517	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG5-3
Lab Code: R1302701-008

Service Request: R1302701
Date Collected: 4/18/13 1421
Date Received: 4/19/13

Analytical Method: TO-15

Date Analyzed: 4/24/13 1650
Canister Dilution Factor: 1.59

Initial Pressure (psig): -2.90

Final Pressure (psig): 4.03

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	33	22	22	11	11	U
75-01-4	Vinyl Chloride	33	2.9	2.9	1.1	1.1	U
74-83-9	Bromomethane	33	21	21	5.3	5.3	U
75-00-3	Chloroethane	33	28	28	11	11	U
67-64-1	Acetone	33	1000	240	430	100	
75-69-4	Trichlorofluoromethane (CFC 11)	33	30	30	5.3	5.3	U
75-35-4	1,1-Dichloroethene	33	21	21	5.3	5.3	U
75-09-2	Methylene Chloride	33	18	18	5.3	5.3	U
156-60-5	trans-1,2-Dichloroethene	33	21	21	5.3	5.3	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	33	22	22	5.4	5.4	U
156-59-2	cis-1,2-Dichloroethene	33	21	21	5.3	5.3	U
67-66-3	Chloroform	33	26	26	5.3	5.3	U
107-06-2	1,2-Dichloroethane	33	22	22	5.4	5.4	U
71-55-6	1,1,1-Trichloroethane (TCA)	33	29	29	5.3	5.3	U
56-23-5	Carbon Tetrachloride	33	3.4	3.4	0.54	0.54	U
78-87-5	1,2-Dichloropropane	33	25	25	5.3	5.3	U
75-27-4	Bromodichloromethane	33	7.2	7.2	1.1	1.1	U
79-01-6	Trichloroethene (TCE)	33	2.9	2.9	0.54	0.54	U
10061-01-5	cis-1,3-Dichloropropene	33	48	48	11	11	U
10061-02-6	trans-1,3-Dichloropropene	33	24	24	5.3	5.3	U
79-00-5	1,1,2-Trichloroethane	33	29	29	5.3	5.3	U
124-48-1	Dibromochloromethane	33	9.2	9.2	1.1	1.1	U
127-18-4	Tetrachloroethene (PCE)	33	3.9	3.9	0.57	0.57	U
108-90-7	Chlorobenzene	33	25	25	5.3	5.3	U
100-41-4	Ethylbenzene	33	46	46	11	11	U
179601-23-1	m,p-Xylenes	33	92	92	21	21	U
75-25-2	Bromoform	33	55	55	5.3	5.3	U
95-47-6	o-Xylene	33	46	46	11	11	U
79-34-5	1,1,2,2-Tetrachloroethane	33	7.2	7.2	1.1	1.1	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	4/24/13 1650	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1304254-01

Service Request: R1302701
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 4/24/13 1037

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
100-41-4	Ethylbenzene	1000	0.95	0.95	0.22	0.22	U
179601-23-1	m,p-Xylenes	1000	1.9	1.9	0.44	0.44	U
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
95-47-6	o-Xylene	1000	0.95	0.95	0.22	0.22	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	106	70-130	4/24/13 1037	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1304305-01

Service Request: R1302701
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 4/25/13 1452

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
100-41-4	Ethylbenzene	1000	0.95	0.95	0.22	0.22	U
179601-23-1	m,p-Xylenes	1000	1.9	1.9	0.44	0.44	U
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
95-47-6	o-Xylene	1000	0.95	0.95	0.22	0.22	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	107	70-130	4/25/13 1452	

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly Air Samples/146899
 Sample Matrix: Air

Service Request: R1302701
 Date Analyzed: 4/24/13

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: $\mu\text{g}/\text{m}^3$
 Basis: NA

Analysis Lot: 338036

Lab Control Sample
 RQ1304254-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.67	5.26	89	70 - 130
Vinyl Chloride	6.59	6.58	100	70 - 130
Bromomethane	10.0	9.89	102	70 - 130
Chloroethane	6.44	6.66	97	70 - 130
Acetone	6.26	6.47	97	50 - 150
Trichlorofluoromethane (CFC 11)	15.8	14.3	110	70 - 130
1,1-Dichloroethene	10.3	10.4	99	70 - 130
Methylene Chloride	8.31	9.03	92	70 - 130
trans-1,2-Dichloroethene	9.81	10.4	94	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.80	10.5	93	70 - 130
cis-1,2-Dichloroethene	9.51	10.5	91	70 - 130
Chloroform	12.8	13.2	97	70 - 130
1,2-Dichloroethane	12.4	10.6	117	70 - 130
1,1,1-Trichloroethane (TCA)	15.6	14.3	109	70 - 130
Carbon Tetrachloride	17.2	15.9	108	70 - 130
1,2-Dichloropropane	10.5	12.1	87	70 - 130
Bromodichloromethane	18.4	17.4	105	70 - 130
Trichloroethene (TCE)	13.6	14.0	97	70 - 130
cis-1,3-Dichloropropene	12.4	12.3	101	70 - 130
trans-1,3-Dichloropropene	11.1	11.0	100	70 - 130
1,1,2-Trichloroethane	13.5	14.6	93	70 - 130
Dibromochloromethane	24.6	23.4	105	70 - 130
Tetrachloroethene (PCE)	18.9	18.0	105	70 - 130
Chlorobenzene	11.7	12.3	95	70 - 130
Ethylbenzene	11.0	11.5	95	70 - 130
m,p-Xylenes	21.9	22.4	98	70 - 130
Bromoform	28.8	26.6	108	70 - 130
o-Xylene	11.3	11.9	94	70 - 130
1,1,2,2-Tetrachloroethane	15.7	18.9	83	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly Air Samples/146899
 Sample Matrix: Air

Service Request: R1302701
 Date Analyzed: 4/25/13

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: $\mu\text{g}/\text{m}^3$
 Basis: NA

Analysis Lot: 338171

Analyte Name	Lab Control Sample RQ1304305-02			Duplicate Lab Control Sample RQ1304305-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chloromethane	4.42	5.26	84	4.38	5.26	83	70 - 130	1	25
Vinyl Chloride	6.28	6.58	95	6.12	6.58	93	70 - 130	3	25
Bromomethane	9.67	9.89	98	9.43	9.89	95	70 - 130	3	25
Chloroethane	6.35	6.66	95	6.20	6.66	93	70 - 130	2	25
Acetone	6.22	6.47	96	5.98	6.47	92	50 - 150	4	25
Trichlorofluoromethane (CFC 11)	15.3	14.3	107	15.0	14.3	105	70 - 130	2	25
1,1-Dichloroethene	10.1	10.4	97	9.92	10.4	95	70 - 130	2	25
Methylene Chloride	8.06	9.03	89	7.72	9.03	86	70 - 130	4	25
trans-1,2-Dichloroethene	9.67	10.4	93	9.37	10.4	90	70 - 130	3	25
1,1-Dichloroethane (1,1-DCA)	9.66	10.5	92	9.31	10.5	89	70 - 130	4	25
cis-1,2-Dichloroethene	9.46	10.5	90	9.29	10.5	88	70 - 130	2	25
Chloroform	12.5	13.2	95	12.3	13.2	93	70 - 130	2	25
1,2-Dichloroethane	12.0	10.6	113	11.7	10.6	110	70 - 130	2	25
1,1,1-Trichloroethane (TCA)	14.9	14.3	104	14.7	14.3	102	70 - 130	2	25
Carbon Tetrachloride	16.8	15.9	106	16.4	15.9	103	70 - 130	2	25
1,2-Dichloropropane	10.2	12.1	84	10.2	12.1	84	70 - 130	<1	25
Bromodichloromethane	17.8	17.4	102	17.4	17.4	100	70 - 130	3	25
Trichloroethene (TCE)	13.2	14.0	94	13.0	14.0	93	70 - 130	1	25
cis-1,3-Dichloropropene	12.0	12.3	98	11.8	12.3	96	70 - 130	2	25
trans-1,3-Dichloropropene	10.8	11.0	99	10.6	11.0	96	70 - 130	2	25
1,1,2-Trichloroethane	13.0	14.6	89	13.1	14.6	90	70 - 130	<1	25
Dibromochloromethane	23.7	23.4	101	23.4	23.4	100	70 - 130	1	25
Tetrachloroethene (PCE)	18.0	18.0	100	18.0	18.0	100	70 - 130	<1	25
Chlorobenzene	11.3	12.3	92	11.1	12.3	90	70 - 130	2	25
Ethylbenzene	11.0	11.5	95	10.5	11.5	91	70 - 130	5	25
m,p-Xylenes	21.9	22.4	98	21.0	22.4	94	70 - 130	4	25
Bromoform	28.3	26.6	107	27.8	26.6	104	70 - 130	2	25
o-Xylene	11.3	11.9	95	10.8	11.9	91	70 - 130	5	25
1,1,2,2-Tetrachloroethane	15.7	18.9	83	15.1	18.9	80	70 - 130	4	25

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: CB&I

Folder: R1302701

Project: Varian Beverly Air Samples 146899

Detailed Sample Information

CAS Sample ID	Client Sample ID	Container Type	Pi1 (Hg)	Pi1 (psig)	Pf1 (Hg)	Pi2 (psig)	Cont ID	Order #	FC ID	Corrected
R1302701-001.01	BLDG5-SV1	6.0 L-Non-Specified SC	-6.50	-3.19	3.56		SLC00180	38849	FC00842 ✓	FC00756
R1302701-002.01	BLDG5-SV2	6.0 L-Non-Specified SC	-6.70	-3.29	3.51		SLC00113	38658 ^{PA}	FC00760 ✓	
R1302701-003.01	BLDG5-SV3	6.0 L-Non-Specified SC	-5.50	-2.70	3.52		SLC00055	38658 ^{PA}	FC00740 ✓	FC00842
R1302701-004.01	BLDG5-SV5	6.0 L-Non-Specified SC	-7.50	-3.68	3.52		SLC00165	38658	FC00766 ✓	FC00720
R1302701-005.01	BLDG5-SV6	6.0 L-Non-Specified SC	-6.10	-3.00	3.51		SLC00183	38849	FC00760 ✓	FC00740
R1302701-006.01	BLDG5-1	6.0 L-Non-Specified SC	-7.50	-3.68	3.59		SLC00074	38658	FC00828	
R1302701-007.01	BLDG5-2	6.0 L-Non-Specified SC	-6.30	-3.09	3.57		SLC00173	38658	FC00721	
R1302701-008.01	BLDG5-3	6.0 L-Non-Specified SC	-5.90	-2.90	4.03		SLC00177	38658	FC00725	

Miscellaneous Items - received

- SMO did not properly scan in flow controller FC00720 and have FC00760 scanned in as being used for 2 different samples -
- 4 flow controllers not properly associated w/correct canister in UMS,
- Corrected associations according to COC by R# on 4/29/13.

00023



ALS Environmental

ALS Environmental
1565 Jefferson Rd, Building 300
Suite 360
Rochester, NY 14623
Ph. 585-288-5380
Fax 585-288-8475

QC Certification

<u>Container IDs</u>	<u>Cleaned Date</u>	<u>Date Analyzed</u>	<u>QC Results</u>	<u>Comments</u>
FC00720	4/4/13	4/4/13		
FC00721	2/28/13	2/28/13		
FC00725	2/28/12	2/28/12		
FC00760	4/4/13	4/4/13		
FC00828	2/28/13	2/28/13		
FC00842	4/4/13	4/4/13		
SLC00055*	3/22/13	3/26/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00074*	3/22/13	3/26/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00113	3/22/13	3/26/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00165*	3/22/13	3/26/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00173	3/22/13	3/26/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00177	3/22/13	3/26/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)

000021

* QC Canister



ALS Environmental
1565 Jefferson Rd, Building 300
Suite 360
Rochester, NY 14623
Ph. 585-288-5380
Fax 585-288-8475

QC Certification

<u>Container IDs</u>	<u>Cleaned Date</u>	<u>Date Analyzed</u>	<u>QC Results</u>	<u>Comments</u>
FC00740	4/15/13	4/15/13		
FC00756	4/15/13	4/15/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00180	4/3/13	4/5/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00183	4/3/13	4/5/13		

000025

* QC Canister

Sample Collection Supplies



T019262

Client: CB&I
Project: Varian Beverly
SDG Name: Varian Beverly Air Samples

P.O. Number: 821947

Shipped To: Vallerie Sasso
150 Royall Street
Canton, MA 02021
E-mail: vallerie.sasso@cbi.com
Phone: 617-589-6163

Order #: 38658
Date Required: 4/12/13
Project Chemist: Michael Perry
Phone Number: 585-288-5380 x7469

Shipped Date: 04/09/2013
Shipping Cost: \$ 0.00

Comments: Bag containers by sample template.

Grouped by Container Type

ID	Container	Shipped Pressure
6	6.0L-Non-Specified	
FC00720	1 each-Flow Controller Stainless Steel	
FC00721	1 each-Flow Controller Stainless Steel	
FC00725	1 each-Flow Controller Stainless Steel	
FC00760	1 each-Flow Controller Stainless Steel	
FC00828	1 each-Flow Controller Stainless Steel	
FC00842	1 each-Flow Controller Stainless Steel	
SLC00055	6.0 L-Non-Specified SC	-29.40
SLC00074	6.0 L-Non-Specified SC	-29.40
SLC00113	6.0 L-Non-Specified SC	-29.40
SLC00165	6.0 L-Non-Specified SC	-29.40
SLC00173	6.0 L-Non-Specified SC	-29.40
SLC00177	6.0 L-Non-Specified SC	-29.40

Grouped by Sample Template

Sample Template Number / Name	Expected Number of Samples	Containers	Number of Containers per Sample	Comments
001 / TO-15	6			
		6.0L-Non-Specified SC - TO-15	1	

Quantity	Miscellaneous Supply
3	Flow Controller, 6L, 2hr
3	Flow Controller, 6L, 4hr

Precautions: Preserved sample containers should not be overflowed while filling. Under no circumstances should the inside of the containers or lids be handled.

Please return this form with your coolers when delivering your samples to Columbia Analytical Services.

Sample Collection Supplies



T019262

Client: CB&I
Project: Varian Beverly
SDG Name: Varian Beverly Air Samples

P.O. Number: 821947

Shipped To: Vallerie Sasso
150 Royall Street
Canton, MA 02021

E-mail: vallerie.sasso@cbi.com

Phone: 617-589-6163

Order #: 38849

Date Required: 4/16/13

Project Chemist: Michael Perry

Phone Number: 585-288-5380 x7469

Shipped Date: 04/15/2013

Shipping Cost: \$ 0.00

Comments: **Bag containers by sample template.**

Grouped by Container Type

ID	Container	Shipped Pressure
2	6.0L-Non-Specified	
FC00740	1 each-Flow Controller Stainless Steel	
FC00756	1 each-Flow Controller Stainless Steel	
SLC00180	6.0 L-Non-Specified SC	-29.30
SLC00183	6.0 L-Non-Specified SC	-29.30

Grouped by Sample Template

Sample Template Number / Name	Expected Number of Samples	Containers	Number of Containers per Sample	Comments
001 / TO-15	2			
		6.0L-Non-Specified SC - TO-15	1	

Quantity Miscellaneous Supply
2 Flow Controller, 6L, 2hr

Precautions: Preserved sample containers should not be overflowed while filling. Under no circumstances should the inside of the containers or lids be handled.

Please return this form with your coolers when delivering your samples to Columbia Analytical Services.

Folder # R1302701

00028

Client: CB&I

Folder: R1302701

Project: Varian Beverly Air Samples 146899

Detailed Sample Information

<u>CAS Sample ID</u>	<u>Client Sample ID</u>	<u>Container Type</u>	<u>Pi1</u> (Hg)	<u>Pi1</u> (psig)	<u>Pf1</u> (Hg)	<u>Pi2</u> (psig)	<u>Pf2</u> (psig)	<u>Cont ID</u>	<u>Order #</u>	<u>FC ID</u>
R1302701-001.01	BLDG5-SV1	6.0 L-Non-Specified SC	-6.5		3.56			SLC00180	38849	FC00842
R1302701-002.01	BLDG5-SV2	6.0 L-Non-Specified SC	-6.7		3.51			SLC00113	38658	FC00760
R1302701-003.01	BLDG5-SV3	6.0 L-Non-Specified SC	-5.5		3.52			SLC00055	38658	FC00740
R1302701-004.01	BLDG5-SV5	6.0 L-Non-Specified SC	-7.5		3.52			SLC00165	38658	FC00756
R1302701-005.01	BLDG-5-SV6	6.0 L-Non-Specified SC	-6.1		3.51			SLC00183	38849	FC00760
R1302701-006.01	BLDG5-1	6.0 L-Non-Specified SC	-7.5		3.59			SLC00074	38658	FC00828
R1302701-007.01	BLDG5-2	6.0 L-Non-Specified SC	-6.3		3.57			SLC00173	38658	FC00721
R1302701-008.01	BLDG5-3	6.0 L-Non-Specified SC	-5.9		4.03			SLC00177	38658	FC00725

Miscellaneous Items - received

2/22/14
#2

00020

0-682

-254

MS#13 (AIR2)

BOOK

PAGE

TD-15

4/24/13
4/22/13
PROJECT

R. Herring

TITLE

Continued from page

Leak Check: 0.8 psia \rightarrow 1.4 psia in 500 sec.

Pressures: He = 20.8 psia, IS = 19.5 psia, ATM = 14.4 psia

Volumes: IS = 250 ml #56923, Nominal Sample Vol. = 1000 ml

Methods: Tune = BFB, GC/MS = 120712.M, Entech = CAS.MPT

A.S. POS.	VOL (ML)	Sample	file#	OK?/Comments
14	500	Room Air	B4124	-
14	500	Room Air	B4125	-
10 14	500	Room Air	B4126	-
14	0	Tune Check	B4127	Y (06:41)
15	500	CCV #56882	B4128	Y
16	250	LCS #56501	B4129	Y
1	1000	MET BLK	B4130	Y
15 SYR	1.0	R1302797-001	[MATRIX 9531 T1]	B4131 N over diluted rpt @ 1.5 ml
SYR	1.5	-001	↓	B4132 Y NT @ ET1
SYR	15	R1302589-005	[CRA 3901 T2]	B4133 ① [DL]
SYR	9.2	R1302701-005	[CB&I 9560 T2]	B4134 Y
SYR	11	-006	↓	B4135 Y
20 SYR	21	-007	↓	B4136 Y
SYR	22	-001	↓	B4137 Y
SYR	33	-008	↓	B4138 Y
SYR	38	-003	↓	B4139 Y
2	800	-002	↓	B4140 ① Acetone ↑ rpt @ 400 ml
25 3	800	-004	↓	B4142 ① BFB ↑ due to matrix. & NT silica interference
6	350	R1302589-002	[CRA 3901 T2]	B4143 2 Y
6	350	-002 dup	↓	B4144 3 Y
8	1000	R1302808-001	[Energy Sol. 9517 T2]	B4148 4 Y (21:31) ✓

30

35

SIGNATURE

DATE

Continued to page

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DATE

PROPRIETARY INFORMATION

TITLE

TD-15

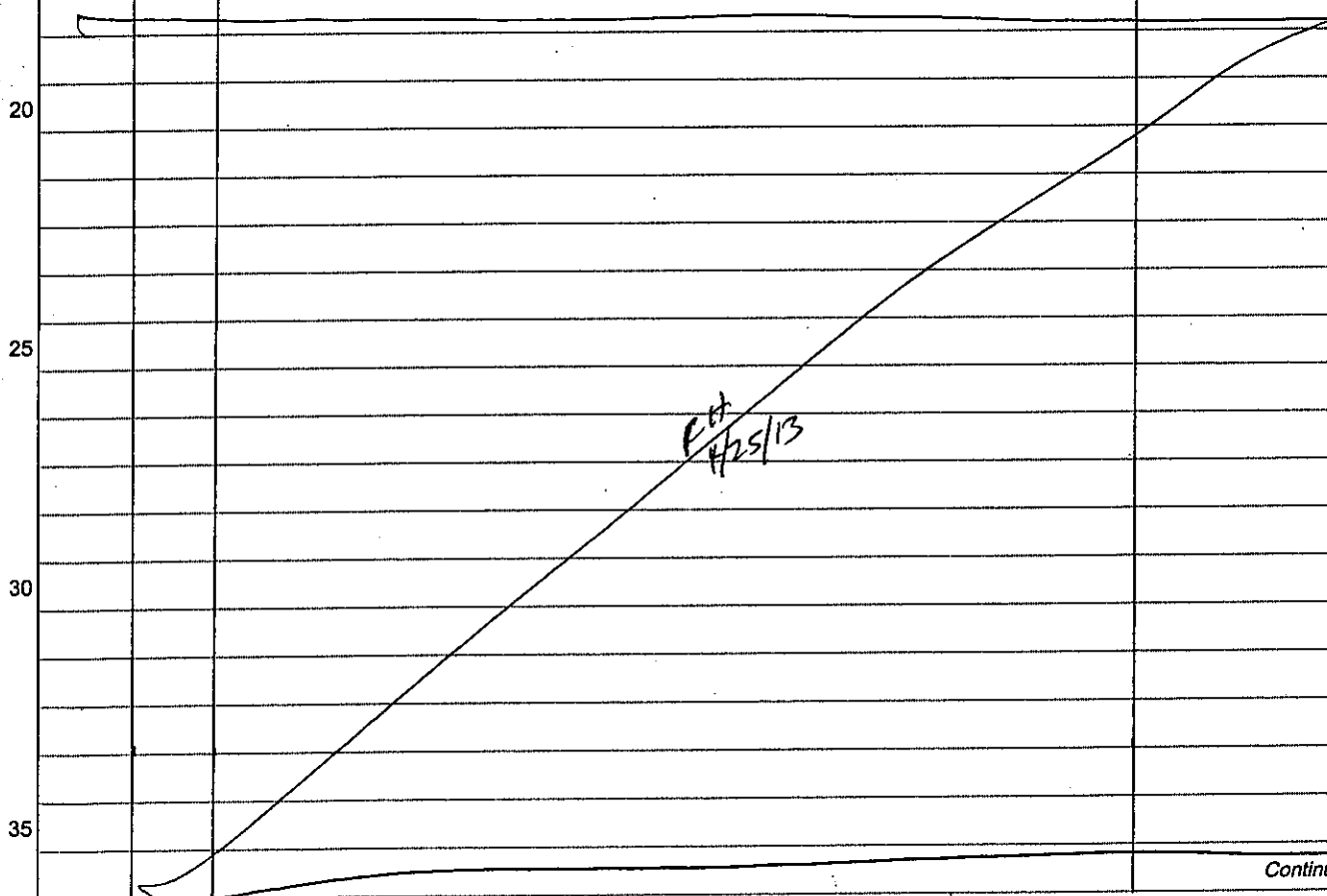
R. Herring

Continued from page

Leak Check: 0.8 psia \rightarrow 1.4 psia in 500 secPressures: H_c = 20.8 psia, I_S = 29.0 psia, ATM = 14.5 psiaVolume: I_S = 250 mL #57112, Nominal Sample Vol. = 1000 mL

5 Methods: Tune = BFB.U, GC/MS = 120712.M, Entech = CAS.MPT

AS. POS.	VOL (mL)	Sample	File #	OK?/Comments
14	500	Room Air	B4145	-
14	500	Room Air	B4146	-
10 14	0	Tune Check	B4147	Y (11:25)
15	500	CCV # 56882	B4148	Y
16	250	LCS # 56501	B4149	Y
1	1000	MET BLK	B4150	Y
2	400	R1302701-002	B4151	Y <input checked="" type="checkbox"/> DE
15 3	350	-004	B4152	Y <input checked="" type="checkbox"/> DE <input checked="" type="checkbox"/> RA ^{PH 4/24}
14	500	Room Air	B4153	-
16	250	LCS DUP	B4154	Y

[CB&I 9560]
T2

Continued to page

SIGNATURE

DATE

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DATE

PROPRIETARY INFORMATION



CHAIN OF CUSTODY - AIR

PAGE 1 OF 1

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 | 585.288.5380 | 585.288.8475 (fax) | www.caslab.com

Requested Turnaround Time in Business Days from Receipt, please circle: 1 Day 2 Day 3 Day 4 Day 5 Day 10 Day-Standard		CAS Project #:				
Company Name: CB&I		Project Name: Varian Beverly				
Address: 150 Royall Street Canton, MA 02021		Project Number: 146899				
Project Manager: Raymond Cadorette		P.O. #/Billing Information:				
Phone: 617-589-6102	Fax: 617-589-5495	Sampler (Print & Sign): <i>Paul Hedrick</i>				
Email (for result reporting): Raymond.Cadorette@Shawgrp.com		TO15 (Site List)				
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID	Start Time
B1d55-SV1		4/18/13	12:25	545 00180	55756	10:25
B1d55-SV2			12:18	545 00113	55760	10:18
B1d55-SV3			12:20	545 00055	55743	10:20
B1d55-SV5			12:28	545 00165	55780	10:28
B1d55-SV6			12:30	545 00183	55740	10:30
B1d55-1			14:24	545 00074	55788	10:24
B1d55-2			14:26	545 00173	55721	10:26
B1d55-3		✓	14:21	545 00177	55725	10:21
What State were samples collected in: <i>MA</i>						
Report Tier Levels - please select: Tier I (Results/Default, if not specified) _____ Tier II (Results + QC) _____ Tier III (CLP Forms Only) _____ Tier IV (Data Validation) _____						
EDD required: YES / NO Type: GISKey EDD Units: ug/m3 & ppmv						
Relinquished by: (Signature) <i>[Signature]</i>		Time 4/18/13 15:00		Received by: (Signature) <i>[Signature]</i>		Date: 4/14/13 Time: 08:45
Relinquished by: (Signature)		Time		Received by: (Signature)		Date: Time:
Relinquished by: (Signature)		Time		Received by: (Signature)		Date: Time:

Project Requirements (MRLs, QAPP, etc.)

QA/QC: MADEP CAM

R1302701 7 Y

CB&I Environmental & Infrastructure
Varian Beverly Air Samples



Cooler Receipt and Preservation Check Form

Project/Client CB+I Folder Number _____

Cooler received on 4/14/13 by: SPN COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: Air Samples _____

Is the temperature within 0° - 6° C?: Y N Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 4/14/13/ Air Samples

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location SAC by SPN on 4/14/13 at 0924
 5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review:

Cooler Breakdown: Date: 4/14/13 Time: 1420 by: SPN

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
≥12	NaOH									
≤2	HNO ₃									No = Samples were preserved at lab as listed
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						PM OK to Adjust:
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet				
	Zn Aceta	-	-							
	HCl	*	*							

Bottle lot numbers: _____

Other Comments: _____

PC Secondary Review: MP 4/19/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc
Job Number : 146899
Prepared By: Pernilla Haley
Date : 6/24/2013
Matrix: Groundwater
Analyte Group : Volatile Organics
 Chloride
 Metals (Fe & Mn)
Analytical Method : EPA Method 8260C
 EPA Method SM 4500-CL-E
 EPA Method 6010B
Completed MADEP CAM Certification Form included: Yes
Laboratory ID No. : R1302702
Chain of Custody included in Data Package ? Yes
Is it Complete ? Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
4/16, 4/17, and 4/18/13	8260C		14 Days	4/27, 4/29, 4/30, 5/1, and 5/2/13
4/17 and 4/18/13	Chloride EPA Method SM 4500-CL-E		28 days	4/23/13
4/17 and 4/18/13	Dissolved iron and manganese 6010B		6 months	4/25, 4/27, and 4/30/13

Sample temperature within QC limits: Yes

Surrogate Recovery

Are all % recoveries within the allowable range ? yes

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? No

If no, list sample ID where range was exceeded: see notes

Equipment Field Blank EB-4

Trip Blank ID : TB-3

Method Blank: EPA 8260C 4/27, 4/29, 4/30, and 5/1/13
 EPA SM 4500-CL-E 4/23/2013
 EPA Method 6010B 4/26/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

The data for AP14-S(29) was not consistent with past sampling events. After investigation it was determined that the sample AP14-S(29) was incorrectly labeled. This data was therefore not included in the database due to the uncertainty of the samples origin. AP14-S was resampled in May 2013.

VOC Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples AP14-S(29) AP31-DO(50), and AP32-DO(50) were re-analyzed at a larger dilution to bring target analytes within the calibration range of the method. The analytes over the calibration range are flagged with an "E" and the diluted analytes flagged with a "D".

The RPD was outside limits in the LCS or LCSD for 1,4-dioxane in batch 338225 (sample BR-3 zone 2, BR-3 zone 3, BR-1 zone 1, BR-1 zone 3, MW-13(41.8), MW-14A(58.8), RW-22(106), OB11-DO(6), OB11-BR(82), OB12-DO(56), AP14-S(29), and BR-5 zone 2). The data was not impacted since the analytical results were non-detect for this analyte in the associated batch.

The Continued Calibration Verification for 1,1-dichlorpropene %D was outside range for batch 338426. Results for this compound were non-detect in this batch but data were given an UJ qualifier (samples OB32-DO(60) and OB14-DO(56))

The Continued Calibration Verification for 1,1-dichlorpropene %D was outside range for batch 338225. Results for this compound were non-detect in this batch but data were given an UJ qualifier (sample BR-3 zone 2, BR-3 zone 3, BR-1 zone 1, BR-1 zone 3, MW-13(41.8), MW-14A(58.8), RW-22(106), OB11-DO(6), OB11-BR(82), OB12-DO(56), and AP14-S(29)).

Reviewed By: Raymond Cadorette 10/22/13



May 03, 2013

Service Request No: R1302702

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly/146899

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on April 19, 2013. For your reference, these analyses have been assigned our service request number **R1302702**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental



Michael Perry
Laboratory Manager

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ALS Environmental

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1302702
Project Number: 146899-06000000
Date Received: 4/19/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II, deliverables with Massachusetts CAM analyses reporting. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Water samples were collected on 4/16/13, 4/17/13, and 4/18/13 and received at ALS in good condition at a cooler temperature of 6.0 °C as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. See the second page of the Case Narrative for a cross-reference between Client ID and ALS Job #.

Volatile Organics

Thirty-eight water samples were analyzed for a site list of Volatile Organics by SW-846 Method 8260C.

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples AP14-S (29), AP31-DO (50), and AP32-DO (50) were re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes except 1,1-Dichloropropene as noted on the attached CCV summary forms and are flagged with an "**".

All Surrogate Standard recoveries were within QC limits.

All Bank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were within QC limits.

All samples were analyzed within the required holding time of 14 days.

No other analytical or QC problems were encountered with these analyses.

Inorganic Analyses

Nine water samples were analyzed for dissolved Iron and dissolved Manganese by SW-846 method 6010C and for Chloride by method SM 4500-CL-E.

The initial and continuing calibration criteria were met for all analytes.

All Blank Spike (LCS) recoveries were within QC limits.

No analytical or QC problems were encountered.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146899-06000000 non-bio

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):

R1302701 – 001 - 038

Matrices: ☒ Groundwater ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other: _____

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6850 Perchlorate CAM VIII B	Other: Chloride

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (site list)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Manager

Printed Name: Michael K. Perry

Date: 5/03/13 00002

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1302702

<u>Lab ID</u>	<u>Client ID</u>
R1302702-001	MW-34 (63)
R1302702-002	BR-7 ZONE 1
R1302702-003	BR-7 ZONE 2
R1302702-004	BR-7 ZONE 3
R1302702-005	CL8-BR ZONE 1
R1302702-006	CL8-BR ZONE 2
R1302702-007	CL8-BR ZONE 3
R1302702-008	BR-6 ZONE 1
R1302702-009	BR-6 ZONE 2
R1302702-010	BR-6 ZONE 3
R1302702-011	BR-5 ZONE 1
R1302702-012	BR-5 ZONE 2
R1302702-013	BR-5 ZONE 3
R1302702-014	BR-3 ZONE 1
R1302702-015	BR-3 ZONE 2
R1302702-016	BR-3 ZONE 3
R1302702-017	BR-1 ZONE 1
R1302702-018	BR-1 ZONE 2
R1302702-019	BR-1 ZONE 3
R1302702-020	AP-22 (20)
R1302702-021	MW-13 (41.8)
R1302702-022	MW-14A (58.8)
R1302702-023	RW-22 (106)
R1302702-024	OB11-DO (60)
R1302702-025	OB11-BR (82)
R1302702-026	OB12-DO (56)
R1302702-027	OD34-DO (58.2)
R1302702-028	TB-3
R1302702-029	EB-4
R1302702-030	OB32-DO (60)
R1302702-031	OB14-DO (56)
R1302702-032	AP14-S (29)
R1302702-033	AP12-DO (35)
R1302702-034	AP12-BR (81)
R1302702-035	AP30-DO (50)
R1302702-036	AP31-DO (50)
R1302702-037	AP32-DO (50)
R1302702-038	OB24-S

REPORT QUALIFIERS

- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
- J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).
- B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
- E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
- E Organics- Concentration has exceeded the calibration range for that specific analysis.
- D Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
- * Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
- H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
- # Spike was diluted out.
- + Correlation coefficient for MSA is <0.995.
- N Inorganics- Matrix spike recovery was outside laboratory limits.
- N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
- S Concentration has been determined using Method of Standard Additions (MSA).
- W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
- P Concentration >40% (25% for CLP) difference between the two GC columns.
- C Confirmed by GC/MS
- Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
- X See Case Narrative for discussion.



CAS/Rochester Lab ID # for Massachusetts Certification
M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

COLUMBIA ANALYTICAL SERVICES
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Oscar C. Pardo".

Director, Division of Environmental Analysis

Issued: 01 JUL 2012

Expires: 30 JUN 2013

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
ALUMINUM			EPA 200.7	
ANTIMONY			EPA 200.7	
ANTIMONY			EPA 200.8	
ARSENIC			EPA 200.7	
ARSENIC			EPA 200.8	
BERYLLIUM			EPA 200.7	
BERYLLIUM			EPA 200.8	
CADMIUM			EPA 200.7	
CADMIUM			EPA 200.8	
CHROMIUM			EPA 200.7	
CHROMIUM			EPA 200.8	
COBALT			EPA 200.7	
COBALT			EPA 200.8	
COPPER			EPA 200.7	
COPPER			EPA 200.8	
IRON			EPA 200.7	
LEAD			EPA 200.7	
LEAD			EPA 200.8	
MANGANESE			EPA 200.7	
MANGANESE			EPA 200.8	
MERCURY			EPA 245.1	
MOLYBDENUM			EPA 200.7	
MOLYBDENUM			EPA 200.8	
NICKEL			EPA 200.7	
NICKEL			EPA 200.8	
SELENIUM			EPA 200.7	
SELENIUM			EPA 200.8	
SILVER			EPA 200.7	
SILVER			EPA 200.8	
THALLIUM			EPA 200.7	
THALLIUM			EPA 200.8	
VANADIUM			EPA 200.7	
VANADIUM			EPA 200.8	
ZINC			EPA 200.7	
ZINC			EPA 200.8	
SPECIFIC CONDUCTIVITY			EPA 120.1	
TOTAL DISSOLVED SOLIDS			SM 2540C	
HARDNESS (CaCO3), TOTAL			SM 2340C	
CALCIUM			EPA 200.7	
MAGNESIUM			EPA 200.7	
SODIUM			EPA 200.7	
POTASSIUM			EPA 200.7	
ALKALINITY, TOTAL			SM 2320B	

June 29, 2012

*= Provisional Certification

Page 1 of 2

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
CHLORIDE			SM 4500-CL-E	
CHLORIDE			EPA 300.0	
FLUORIDE			EPA 300.0	
SULFATE			EPA 300.0	
AMMONIA-N			EPA 350.1	
NITRATE-N			EPA 300.0	
NITRATE-N			EPA 353.2	
KJELDAHL-N			EPA 351.2	
ORTHOPHOSPHATE			EPA 365.1	
PHOSPHORUS, TOTAL			EPA 365.1	
CHEMICAL OXYGEN DEMAND			EPA 410.4	
BIOCHEMICAL OXYGEN DEMAND			SM 5210B	
TOTAL ORGANIC CARBON			SM 5310C	
CYANIDE, TOTAL			EPA 335.4	
NON-FILTERABLE RESIDUE			SM 2540D	
OIL AND GREASE			EPA 1664	
PHENOLICS, TOTAL			EPA 420.4	
VOLATILE HALOCARBONS			EPA 601	
VOLATILE HALOCARBONS			EPA 624	
VOLATILE AROMATICS			EPA 602	
VOLATILE AROMATICS			EPA 624	
SVOC-ACID EXTRACTABLES			EPA 625	
SVOC-BASE/NEUTRAL EXTRACTABLES			EPA 625	
POLYCHLORINATED BIPHENYLS (WATER)			EPA 608	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 0830
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 14:24

Sample Name: MW-34 (63)
 Lab Code: R1302702-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5433.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	20 U	20	
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20	20	
563-58-6	1,1-Dichloropropene	20 U	20	
87-61-6	1,2,3-Trichlorobenzene	20 U	20	
96-18-4	1,2,3-Trichloropropane	20 U	20	
120-82-1	1,2,4-Trichlorobenzene	20 U	20	
95-63-6	1,2,4-Trimethylbenzene	20 U	20	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	20 U	20	
106-93-4	1,2-Dibromoethane	20 U	20	
95-50-1	1,2-Dichlorobenzene	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
108-67-8	1,3,5-Trimethylbenzene	20 U	20	
541-73-1	1,3-Dichlorobenzene	20 U	20	
142-28-9	1,3-Dichloropropane	20 U	20	
106-46-7	1,4-Dichlorobenzene	20 U	20	
123-91-1	1,4-Dioxane	400 U	400	
594-20-7	2,2-Dichloropropane	20 U	20	
78-93-3	2-Butanone (MEK)	100 U	100	
95-49-8	2-Chlorotoluene	20 U	20	
591-78-6	2-Hexanone	100 U	100	
106-43-4	4-Chlorotoluene	20 U	20	
99-87-6	p-Isopropyltoluene	20 U	20	
108-10-1	4-Methyl-2-pentanone	100 U	100	
67-64-1	Acetone	100 U	100	
71-43-2	Benzene	20 U	20	
108-86-1	Bromobenzene	20 U	20	
74-97-5	Bromochloromethane	20 U	20	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 0830
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 14:24

Sample Name: MW-34 (63)
 Lab Code: R1302702-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5433.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	20	U	20	
56-23-5	Carbon Tetrachloride	20	U	20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	20	U	20	
67-66-3	Chloroform	20	U	20	
74-87-3	Chloromethane	20	U	20	
124-48-1	Dibromochloromethane	20	U	20	
74-95-3	Dibromomethane	20	U	20	
75-71-8	Dichlorodifluoromethane (CFC 12)	20	U	20	
75-09-2	Dichloromethane	20	U	20	
60-29-7	Diethyl Ether	20	U	20	
108-20-3	Diisopropyl Ether	20	U	20	
637-92-3	Ethyl tert-Butyl Ether	20	U	20	
100-41-4	Ethylbenzene	20	U	20	
87-68-3	Hexachlorobutadiene	20	U	20	
98-82-8	Isopropylbenzene (Cumene)	20	U	20	
1634-04-4	Methyl tert-Butyl Ether	20	U	20	
91-20-3	Naphthalene	20	U	20	
100-42-5	Styrene	20	U	20	
127-18-4	Tetrachloroethene (PCE)	20	U	20	
109-99-9	Tetrahydrofuran (THF)	20	U	20	
108-88-3	Toluene	20	U	20	
79-01-6	Trichloroethene (TCE)	89		20	
75-69-4	Trichlorofluoromethane (CFC 11)	20	U	20	
75-01-4	Vinyl Chloride	26		20	
156-59-2	cis-1,2-Dichloroethene	1600		20	
10061-01-5	cis-1,3-Dichloropropene	20	U	20	
179601-23-1	m,p-Xylenes	20	U	20	
104-51-8	n-Butylbenzene	20	U	20	
103-65-1	n-Propylbenzene	20	U	20	
95-47-6	o-Xylene	20	U	20	
135-98-8	sec-Butylbenzene	20	U	20	
994-05-8	tert-Amyl Methyl Ether	20	U	20	
98-06-6	tert-Butylbenzene	20	U	20	
156-60-5	trans-1,2-Dichloroethene	20	U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 0830
Date Received: 4/19/13
Date Analyzed: 4/27/13 14:24

Sample Name: MW-34 (63)
Lab Code: R1302702-001

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5433.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/27/13 14:24	
Dibromofluoromethane	99	70-130	4/27/13 14:24	
Toluene-d8	98	70-130	4/27/13 14:24	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 0900
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 14:52

Sample Name: BR-7 ZONE 1
 Lab Code: R1302702-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5434.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.7		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 0900
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 14:52

Sample Name: BR-7 ZONE 1
 Lab Code: R1302702-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5434.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	7.0		2.0	
156-59-2	cis-1,2-Dichloroethene	3.7		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 0900
Date Received: 4/19/13
Date Analyzed: 4/27/13 14:52

Sample Name: BR-7 ZONE 1
Lab Code: R1302702-002

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5434.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/27/13 14:52	
Dibromofluoromethane	96	70-130	4/27/13 14:52	
Toluene-d8	96	70-130	4/27/13 14:52	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 0915
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 15:20

Sample Name: BR-7 ZONE 2
 Lab Code: R1302702-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5435.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	8.5		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 0915
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 15:20

Sample Name: BR-7 ZONE 2
 Lab Code: R1302702-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5435.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	160		2.0	
156-59-2	cis-1,2-Dichloroethene	6.8		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 0915
Date Received: 4/19/13
Date Analyzed: 4/27/13 15:20

Sample Name: BR-7 ZONE 2
Lab Code: R1302702-003

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5435.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	70-130	4/27/13 15:20	
Dibromofluoromethane	100	70-130	4/27/13 15:20	
Toluene-d8	101	70-130	4/27/13 15:20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 0930
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 15:47

Sample Name: BR-7 ZONE 3
 Lab Code: R1302702-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5436.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	20	U	20	
71-55-6	1,1,1-Trichloroethane (TCA)	20	U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20	U	20	
79-00-5	1,1,2-Trichloroethane	20	U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20	U	20	
563-58-6	1,1-Dichloropropene	20	U	20	
87-61-6	1,2,3-Trichlorobenzene	20	U	20	
96-18-4	1,2,3-Trichloropropane	20	U	20	
120-82-1	1,2,4-Trichlorobenzene	20	U	20	
95-63-6	1,2,4-Trimethylbenzene	20	U	20	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	20	U	20	
106-93-4	1,2-Dibromoethane	20	U	20	
95-50-1	1,2-Dichlorobenzene	20	U	20	
107-06-2	1,2-Dichloroethane	20	U	20	
78-87-5	1,2-Dichloropropane	20	U	20	
108-67-8	1,3,5-Trimethylbenzene	20	U	20	
541-73-1	1,3-Dichlorobenzene	20	U	20	
142-28-9	1,3-Dichloropropane	20	U	20	
106-46-7	1,4-Dichlorobenzene	20	U	20	
123-91-1	1,4-Dioxane	400	U	400	
594-20-7	2,2-Dichloropropane	20	U	20	
78-93-3	2-Butanone (MEK)	100	U	100	
95-49-8	2-Chlorotoluene	20	U	20	
591-78-6	2-Hexanone	100	U	100	
106-43-4	4-Chlorotoluene	20	U	20	
99-87-6	p-Isopropyltoluene	20	U	20	
108-10-1	4-Methyl-2-pentanone	100	U	100	
67-64-1	Acetone	100	U	100	
71-43-2	Benzene	20	U	20	
108-86-1	Bromobenzene	20	U	20	
74-97-5	Bromochloromethane	20	U	20	
75-27-4	Bromodichloromethane	20	U	20	
75-25-2	Bromoform	20	U	20	
74-83-9	Bromomethane	20	U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 0930
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 15:47

Sample Name: BR-7 ZONE 3
 Lab Code: R1302702-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5436.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	20 U	20	
56-23-5	Carbon Tetrachloride	20 U	20	
108-90-7	Chlorobenzene	20 U	20	
75-00-3	Chloroethane	20 U	20	
67-66-3	Chloroform	20 U	20	
74-87-3	Chloromethane	20 U	20	
124-48-1	Dibromochloromethane	20 U	20	
74-95-3	Dibromomethane	20 U	20	
75-71-8	Dichlorodifluoromethane (CFC 12)	20 U	20	
75-09-2	Dichloromethane	20 U	20	
60-29-7	Diethyl Ether	20 U	20	
108-20-3	Diisopropyl Ether	20 U	20	
637-92-3	Ethyl tert-Butyl Ether	20 U	20	
100-41-4	Ethylbenzene	20 U	20	
87-68-3	Hexachlorobutadiene	20 U	20	
98-82-8	Isopropylbenzene (Cumene)	20 U	20	
1634-04-4	Methyl tert-Butyl Ether	20 U	20	
91-20-3	Naphthalene	20 U	20	
100-42-5	Styrene	20 U	20	
127-18-4	Tetrachloroethene (PCE)	20 U	20	
109-99-9	Tetrahydrofuran (THF)	20 U	20	
108-88-3	Toluene	20 U	20	
79-01-6	Trichloroethene (TCE)	20 U	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20 U	20	
75-01-4	Vinyl Chloride	24	20	
156-59-2	cis-1,2-Dichloroethene	20 U	20	
10061-01-5	cis-1,3-Dichloropropene	20 U	20	
179601-23-1	m,p-Xylenes	20 U	20	
104-51-8	n-Butylbenzene	20 U	20	
103-65-1	n-Propylbenzene	20 U	20	
95-47-6	o-Xylene	20 U	20	
135-98-8	sec-Butylbenzene	20 U	20	
994-05-8	tert-Amyl Methyl Ether	20 U	20	
98-06-6	tert-Butylbenzene	20 U	20	
156-60-5	trans-1,2-Dichloroethene	20 U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 0930
Date Received: 4/19/13
Date Analyzed: 4/27/13 15:47

Sample Name: BR-7 ZONE 3
Lab Code: R1302702-004

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5436.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/27/13 15:47	
Dibromofluoromethane	96	70-130	4/27/13 15:47	
Toluene-d8	96	70-130	4/27/13 15:47	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1020
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 16:16

Sample Name: CL8-BR ZONE 1
 Lab Code: R1302702-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDDATA\MSVOA8\DATA\042713\A5437.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	10 U	10	
71-55-6	1,1,1-Trichloroethane (TCA)	10 U	10	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	
79-00-5	1,1,2-Trichloroethane	10 U	10	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10 U	10	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10 U	10	
563-58-6	1,1-Dichloropropene	10 U	10	
87-61-6	1,2,3-Trichlorobenzene	10 U	10	
96-18-4	1,2,3-Trichloropropane	10 U	10	
120-82-1	1,2,4-Trichlorobenzene	10 U	10	
95-63-6	1,2,4-Trimethylbenzene	10 U	10	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	10 U	10	
106-93-4	1,2-Dibromoethane	10 U	10	
95-50-1	1,2-Dichlorobenzene	10 U	10	
107-06-2	1,2-Dichloroethane	10 U	10	
78-87-5	1,2-Dichloropropane	10 U	10	
108-67-8	1,3,5-Trimethylbenzene	10 U	10	
541-73-1	1,3-Dichlorobenzene	10 U	10	
142-28-9	1,3-Dichloropropane	10 U	10	
106-46-7	1,4-Dichlorobenzene	10 U	10	
123-91-1	1,4-Dioxane	200 U	200	
594-20-7	2,2-Dichloropropane	10 U	10	
78-93-3	2-Butanone (MEK)	870	50	
95-49-8	2-Chlorotoluene	10 U	10	
591-78-6	2-Hexanone	50 U	50	
106-43-4	4-Chlorotoluene	10 U	10	
99-87-6	p-Isopropyltoluene	10 U	10	
108-10-1	4-Methyl-2-pentanone	50 U	50	
67-64-1	Acetone	80	50	
71-43-2	Benzene	10 U	10	
108-86-1	Bromobenzene	10 U	10	
74-97-5	Bromochloromethane	10 U	10	
75-27-4	Bromodichloromethane	10 U	10	
75-25-2	Bromoform	10 U	10	
74-83-9	Bromomethane	10 U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1020
Date Received: 4/19/13
Date Analyzed: 4/27/13 16:16

Sample Name: CL8-BR ZONE 1
Lab Code: R1302702-005

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5437.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	10	U	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	10	U	10	
74-87-3	Chloromethane	10	U	10	
124-48-1	Dibromochloromethane	10	U	10	
74-95-3	Dibromomethane	10	U	10	
75-71-8	Dichlorodifluoromethane (CFC 12)	10	U	10	
75-09-2	Dichloromethane	10	U	10	
60-29-7	Diethyl Ether	10	U	10	
108-20-3	Diisopropyl Ether	10	U	10	
637-92-3	Ethyl tert-Butyl Ether	10	U	10	
100-41-4	Ethylbenzene	10	U	10	
87-68-3	Hexachlorobutadiene	10	U	10	
98-82-8	Isopropylbenzene (Cumene)	10	U	10	
1634-04-4	Methyl tert-Butyl Ether	10	U	10	
91-20-3	Naphthalene	10	U	10	
100-42-5	Styrene	10	U	10	
127-18-4	Tetrachloroethene (PCE)	10	U	10	
109-99-9	Tetrahydrofuran (THF)	10	U	10	
108-88-3	Toluene	10	U	10	
79-01-6	Trichloroethene (TCE)	10	U	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10	U	10	
75-01-4	Vinyl Chloride	10	U	10	
156-59-2	cis-1,2-Dichloroethene	10	U	10	
10061-01-5	cis-1,3-Dichloropropene	10	U	10	
179601-23-1	m,p-Xylenes	10	U	10	
104-51-8	n-Butylbenzene	10	U	10	
103-65-1	n-Propylbenzene	10	U	10	
95-47-6	o-Xylene	10	U	10	
135-98-8	sec-Butylbenzene	10	U	10	
994-05-8	tert-Amyl Methyl Ether	10	U	10	
98-06-6	tert-Butylbenzene	10	U	10	
156-60-5	trans-1,2-Dichloroethene	10	U	10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1020
Date Received: 4/19/13
Date Analyzed: 4/27/13 16:16

Sample Name: CL8-BR ZONE 1
Lab Code: R1302702-005

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5437.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	10 U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/27/13 16:16	
Dibromofluoromethane	96	70-130	4/27/13 16:16	
Toluene-d8	96	70-130	4/27/13 16:16	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1030
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 16:43

Sample Name: CL8-BR ZONE 2
 Lab Code: R1302702-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5438.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1030
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 16:43

Sample Name: CL8-BR ZONE 2
 Lab Code: R1302702-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5438.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1030
Date Received: 4/19/13
Date Analyzed: 4/27/13 16:43

Sample Name: CL8-BR ZONE 2
Lab Code: R1302702-006

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5438.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	4/27/13 16:43	
Dibromofluoromethane	99	70-130	4/27/13 16:43	
Toluene-d8	98	70-130	4/27/13 16:43	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1040
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 17:11

Sample Name: CL8-BR ZONE 3
 Lab Code: R1302702-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5439.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1040
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 17:11

Sample Name: CL8-BR ZONE 3
 Lab Code: R1302702-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5439.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	3.0		2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1040
Date Received: 4/19/13
Date Analyzed: 4/27/13 17:11

Sample Name: CL8-BR ZONE 3
Lab Code: R1302702-007

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5439.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	70-130	4/27/13 17:11	
Dibromofluoromethane	100	70-130	4/27/13 17:11	
Toluene-d8	100	70-130	4/27/13 17:11	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1120
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 17:38

Sample Name: BR-6 ZONE 1
 Lab Code: R1302702-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5440.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1120
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 17:38

Sample Name: BR-6 ZONE 1
 Lab Code: R1302702-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5440.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	5.5	2.0	
156-59-2	cis-1,2-Dichloroethene	12	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1120
Date Received: 4/19/13
Date Analyzed: 4/27/13 17:38

Sample Name: BR-6 ZONE 1
Lab Code: R1302702-008

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5440.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/27/13 17:38	
Dibromofluoromethane	101	70-130	4/27/13 17:38	
Toluene-d8	98	70-130	4/27/13 17:38	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1130
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 18:06

Sample Name: BR-6 ZONE 2
 Lab Code: R1302702-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5441.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	4.0 U	4.0	
71-55-6	1,1,1-Trichloroethane (TCA)	4.0 U	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0 U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0 U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0 U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0 U	4.0	
563-58-6	1,1-Dichloropropene	4.0 U	4.0	
87-61-6	1,2,3-Trichlorobenzene	4.0 U	4.0	
96-18-4	1,2,3-Trichloropropane	4.0 U	4.0	
120-82-1	1,2,4-Trichlorobenzene	4.0 U	4.0	
95-63-6	1,2,4-Trimethylbenzene	4.0 U	4.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	4.0 U	4.0	
106-93-4	1,2-Dibromoethane	4.0 U	4.0	
95-50-1	1,2-Dichlorobenzene	4.0 U	4.0	
107-06-2	1,2-Dichloroethane	4.0 U	4.0	
78-87-5	1,2-Dichloropropane	4.0 U	4.0	
108-67-8	1,3,5-Trimethylbenzene	4.0 U	4.0	
541-73-1	1,3-Dichlorobenzene	4.0 U	4.0	
142-28-9	1,3-Dichloropropane	4.0 U	4.0	
106-46-7	1,4-Dichlorobenzene	4.0 U	4.0	
123-91-1	1,4-Dioxane	80 U	80	
594-20-7	2,2-Dichloropropane	4.0 U	4.0	
78-93-3	2-Butanone (MEK)	20 U	20	
95-49-8	2-Chlorotoluene	4.0 U	4.0	
591-78-6	2-Hexanone	20 U	20	
106-43-4	4-Chlorotoluene	4.0 U	4.0	
99-87-6	p-Isopropyltoluene	4.0 U	4.0	
108-10-1	4-Methyl-2-pentanone	20 U	20	
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	4.0 U	4.0	
108-86-1	Bromobenzene	4.0 U	4.0	
74-97-5	Bromochloromethane	4.0 U	4.0	
75-27-4	Bromodichloromethane	4.0 U	4.0	
75-25-2	Bromoform	4.0 U	4.0	
74-83-9	Bromomethane	4.0 U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1130
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 18:06

Sample Name: BR-6 ZONE 2
 Lab Code: R1302702-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5441.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	4.0 U	4.0	
56-23-5	Carbon Tetrachloride	4.0 U	4.0	
108-90-7	Chlorobenzene	4.0 U	4.0	
75-00-3	Chloroethane	4.0 U	4.0	
67-66-3	Chloroform	4.0 U	4.0	
74-87-3	Chloromethane	4.0 U	4.0	
124-48-1	Dibromochloromethane	4.0 U	4.0	
74-95-3	Dibromomethane	4.0 U	4.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.0 U	4.0	
75-09-2	Dichloromethane	4.0 U	4.0	
60-29-7	Diethyl Ether	4.0 U	4.0	
108-20-3	Diisopropyl Ether	4.0 U	4.0	
637-92-3	Ethyl tert-Butyl Ether	4.0 U	4.0	
100-41-4	Ethylbenzene	4.0 U	4.0	
87-68-3	Hexachlorobutadiene	4.0 U	4.0	
98-82-8	Isopropylbenzene (Cumene)	4.0 U	4.0	
1634-04-4	Methyl tert-Butyl Ether	4.0 U	4.0	
91-20-3	Naphthalene	4.0 U	4.0	
100-42-5	Styrene	4.0 U	4.0	
127-18-4	Tetrachloroethene (PCE)	4.0 U	4.0	
109-99-9	Tetrahydrofuran (THF)	4.0 U	4.0	
108-88-3	Toluene	4.0 U	4.0	
79-01-6	Trichloroethene (TCE)	4.0 U	4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0 U	4.0	
75-01-4	Vinyl Chloride	24	4.0	
156-59-2	cis-1,2-Dichloroethene	340	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0 U	4.0	
179601-23-1	m,p-Xylenes	4.0 U	4.0	
104-51-8	n-Butylbenzene	4.0 U	4.0	
103-65-1	n-Propylbenzene	4.0 U	4.0	
95-47-6	o-Xylene	4.0 U	4.0	
135-98-8	sec-Butylbenzene	4.0 U	4.0	
994-05-8	tert-Amyl Methyl Ether	4.0 U	4.0	
98-06-6	tert-Butylbenzene	4.0 U	4.0	
156-60-5	trans-1,2-Dichloroethene	4.0 U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1130
Date Received: 4/19/13
Date Analyzed: 4/27/13 18:06

Sample Name: BR-6 ZONE 2
Lab Code: R1302702-009

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5441.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	4.0 U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/27/13 18:06	
Dibromofluoromethane	102	70-130	4/27/13 18:06	
Toluene-d8	99	70-130	4/27/13 18:06	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1140
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 18:33

Sample Name: BR-6 ZONE 3
 Lab Code: R1302702-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5442.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	18		10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1140
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 18:33

Sample Name: BR-6 ZONE 3
 Lab Code: R1302702-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5442.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1140
Date Received: 4/19/13
Date Analyzed: 4/27/13 18:33

Sample Name: BR-6 ZONE 3
Lab Code: R1302702-010

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5442.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/27/13 18:33	
Dibromofluoromethane	100	70-130	4/27/13 18:33	
Toluene-d8	100	70-130	4/27/13 18:33	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1215
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 19:01

Sample Name: BR-5 ZONE 1
 Lab Code: R1302702-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5443.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1215
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 19:01

Sample Name: BR-5 ZONE 1
 Lab Code: R1302702-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5443.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	4.7		2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.9		2.0	
156-59-2	cis-1,2-Dichloroethene	6.0		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1215
Date Received: 4/19/13
Date Analyzed: 4/27/13 19:01

Sample Name: BR-5 ZONE 1
Lab Code: R1302702-011

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\042713\A5443.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/27/13 19:01	
Dibromofluoromethane	98	70-130	4/27/13 19:01	
Toluene-d8	98	70-130	4/27/13 19:01	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1230
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 13:09

Sample Name: BR-5 ZONE 2
 Lab Code: R1302702-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5505.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1230
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 13:09

Sample Name: BR-5 ZONE 2
 Lab Code: R1302702-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5505.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.8	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	4.2	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.8	2.0	
156-59-2	cis-1,2-Dichloroethene	5.2	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1230
Date Received: 4/19/13
Date Analyzed: 4/29/13 13:09

Sample Name: BR-5 ZONE 2
Lab Code: R1302702-012

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5505.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/29/13 13:09	
Dibromofluoromethane	101	70-130	4/29/13 13:09	
Toluene-d8	97	70-130	4/29/13 13:09	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1245
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 19:56

Sample Name: BR-5 ZONE 3
 Lab Code: R1302702-013

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5445.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	7.7		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1245
Date Received: 4/19/13
Date Analyzed: 4/27/13 19:56

Sample Name: BR-5 ZONE 3
Lab Code: R1302702-013

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5445.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	5.5		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	5.2		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	5.4		2.0	
156-59-2	cis-1,2-Dichloroethene	74		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1245
Date Received: 4/19/13
Date Analyzed: 4/27/13 19:56

Sample Name: BR-5 ZONE 3
Lab Code: R1302702-013

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5445.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	70-130	4/27/13 19:56	
Dibromofluoromethane	103	70-130	4/27/13 19:56	
Toluene-d8	100	70-130	4/27/13 19:56	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1315
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 20:23

Sample Name: BR-3 ZONE 1
 Lab Code: R1302702-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5446.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1315
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 20:23

Sample Name: BR-3 ZONE 1
 Lab Code: R1302702-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5446.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1315
Date Received: 4/19/13
Date Analyzed: 4/27/13 20:23

Sample Name: BR-3 ZONE 1
Lab Code: R1302702-014

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\042713\A5446.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	4/27/13 20:23	
Dibromofluoromethane	102	70-130	4/27/13 20:23	
Toluene-d8	99	70-130	4/27/13 20:23	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1330
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 14:04

Sample Name: BR-3 ZONE 2
 Lab Code: R1302702-015

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5507.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1330
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 14:04

Sample Name: BR-3 ZONE 2
 Lab Code: R1302702-015

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5507.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1330
Date Received: 4/19/13
Date Analyzed: 4/29/13 14:04

Sample Name: BR-3 ZONE 2
Lab Code: R1302702-015

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\MSVOA8\DATA\042913\A5507.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/29/13 14:04	
Dibromofluoromethane	99	70-130	4/29/13 14:04	
Toluene-d8	97	70-130	4/29/13 14:04	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1340
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 14:32

Sample Name: BR-3 ZONE 3
 Lab Code: R1302702-016

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5508.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1340
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 14:32

Sample Name: BR-3 ZONE 3
 Lab Code: R1302702-016

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5508.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1340
Date Received: 4/19/13
Date Analyzed: 4/29/13 14:32

Sample Name: BR-3 ZONE 3
Lab Code: R1302702-016

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\042913\A5508.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	70-130	4/29/13 14:32	
Dibromofluoromethane	99	70-130	4/29/13 14:32	
Toluene-d8	98	70-130	4/29/13 14:32	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1410
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 14:59

Sample Name: BR-1 ZONE 1
 Lab Code: R1302702-017

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5509.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1410
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 14:59

Sample Name: BR-1 ZONE 1
 Lab Code: R1302702-017

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5509.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1410
Date Received: 4/19/13
Date Analyzed: 4/29/13 14:59

Sample Name: BR-1 ZONE 1
Lab Code: R1302702-017

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5509.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/29/13 14:59	
Dibromofluoromethane	100	70-130	4/29/13 14:59	
Toluene-d8	97	70-130	4/29/13 14:59	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1420
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 15:27

Sample Name: BR-1 ZONE 2
 Lab Code: R1302702-018

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5510.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1420
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 15:27

Sample Name: BR-1 ZONE 2
 Lab Code: R1302702-018

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5510.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1420
Date Received: 4/19/13
Date Analyzed: 4/29/13 15:27

Sample Name: BR-1 ZONE 2
Lab Code: R1302702-018

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\042913\A5510.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/29/13 15:27	
Dibromofluoromethane	100	70-130	4/29/13 15:27	
Toluene-d8	97	70-130	4/29/13 15:27	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1430
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 16:01

Sample Name: BR-1 ZONE 3
 Lab Code: R1302702-019

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQDATA\MSVOA8\DATA\042913\A5511.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1430
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 16:01

Sample Name: BR-1 ZONE 3
 Lab Code: R1302702-019

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5511.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1430
Date Received: 4/19/13
Date Analyzed: 4/29/13 16:01

Sample Name: BR-1 ZONE 3
Lab Code: R1302702-019

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5511.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/29/13 16:01	
Dibromofluoromethane	100	70-130	4/29/13 16:01	
Toluene-d8	97	70-130	4/29/13 16:01	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP-22 (20)
Lab Code: R1302702-020

Service Request: R1302702
Date Collected: 4/17/13 0800
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	425		mg/L	10	10	NA	4/23/13 13:50	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP-22 (20)
Lab Code: R1302702-020

Service Request: R1302702
Date Collected: 4/17/13 0800
Date Received: 4/19/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/25/13	4/27/13 00:17	
Manganese, Dissolved	6010C	151000		µg/L	1000	100	4/25/13	4/30/13 15:36	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 0800
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 16:29

Sample Name: AP-22 (20)
 Lab Code: R1302702-020

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5512.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	12		2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	12		10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 0800
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 16:29

Sample Name: AP-22 (20)
 Lab Code: R1302702-020

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5512.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	4.7		2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 0800
Date Received: 4/19/13
Date Analyzed: 4/29/13 16:29

Sample Name: AP-22 (20)
Lab Code: R1302702-020

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\MSVOA8\DATA\042913\A5512.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/29/13 16:29	
Dibromofluoromethane	101	70-130	4/29/13 16:29	
Toluene-d8	98	70-130	4/29/13 16:29	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: MW-13 (41.8)
Lab Code: R1302702-021

Service Request: R1302702
Date Collected: 4/17/13 0900
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	635	mg/L	10	10	NA	4/23/13 13:38	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: MW-13 (41.8)
Lab Code: R1302702-021

Service Request: R1302702
Date Collected: 4/17/13 0900
Date Received: 4/19/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/25/13	4/27/13 00:24	
Manganese, Dissolved	6010C	214000		µg/L	1000	100	4/25/13	4/30/13 15:42	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 0900
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 16:57

Sample Name: MW-13 (41.8)
 Lab Code: R1302702-021

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5513.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	15		5.0	
71-55-6	1,1,1-Trichloroethane (TCA)	250		5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	6.5		5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
563-58-6	1,1-Dichloropropene	5.0	U	5.0	
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0	
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0	
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	
106-93-4	1,2-Dibromoethane	5.0	U	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
142-28-9	1,3-Dichloropropane	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
123-91-1	1,4-Dioxane	100	U	100	
594-20-7	2,2-Dichloropropane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	25	U	25	
95-49-8	2-Chlorotoluene	5.0	U	5.0	
591-78-6	2-Hexanone	25	U	25	
106-43-4	4-Chlorotoluene	5.0	U	5.0	
99-87-6	p-Isopropyltoluene	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone	25	U	25	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	5.0	U	5.0	
108-86-1	Bromobenzene	5.0	U	5.0	
74-97-5	Bromochloromethane	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 0900
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 16:57

Sample Name: MW-13 (41.8)
 Lab Code: R1302702-021

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQDATA\MSVOA8\DATA\042913\A5513.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	280		5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	410		5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
74-95-3	Dibromomethane	5.0	U	5.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.0	U	5.0	
75-09-2	Dichloromethane	5.0	U	5.0	
60-29-7	Diethyl Ether	5.0	U	5.0	
108-20-3	Diisopropyl Ether	5.0	U	5.0	
637-92-3	Ethyl tert-Butyl Ether	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
87-68-3	Hexachlorobutadiene	5.0	U	5.0	
98-82-8	Isopropylbenzene (Cumene)	5.0	U	5.0	
1634-04-4	Methyl tert-Butyl Ether	5.0	U	5.0	
91-20-3	Naphthalene	5.0	U	5.0	
100-42-5	Styrene	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	17		5.0	
109-99-9	Tetrahydrofuran (THF)	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	5.0	U	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	
104-51-8	n-Butylbenzene	5.0	U	5.0	
103-65-1	n-Propylbenzene	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
135-98-8	sec-Butylbenzene	5.0	U	5.0	
994-05-8	tert-Amyl Methyl Ether	5.0	U	5.0	
98-06-6	tert-Butylbenzene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 0900
Date Received: 4/19/13
Date Analyzed: 4/29/13 16:57

Sample Name: MW-13 (41.8)
Lab Code: R1302702-021

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5513.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5.0 U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/29/13 16:57	
Dibromofluoromethane	102	70-130	4/29/13 16:57	
Toluene-d8	98	70-130	4/29/13 16:57	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1000
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 17:25

Sample Name: MW-14A (58.8)
 Lab Code: R1302702-022

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5514.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
563-58-6	1,1-Dichloropropene	5.0	U	5.0	
87-61-6	1,2,3-Trichlorobenzene	5.0	U	5.0	
96-18-4	1,2,3-Trichloropropane	5.0	U	5.0	
120-82-1	1,2,4-Trichlorobenzene	5.0	U	5.0	
95-63-6	1,2,4-Trimethylbenzene	5.0	U	5.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5.0	U	5.0	
106-93-4	1,2-Dibromoethane	5.0	U	5.0	
95-50-1	1,2-Dichlorobenzene	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
108-67-8	1,3,5-Trimethylbenzene	5.0	U	5.0	
541-73-1	1,3-Dichlorobenzene	5.0	U	5.0	
142-28-9	1,3-Dichloropropane	5.0	U	5.0	
106-46-7	1,4-Dichlorobenzene	5.0	U	5.0	
123-91-1	1,4-Dioxane	100	U	100	
594-20-7	2,2-Dichloropropane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	25	U	25	
95-49-8	2-Chlorotoluene	5.0	U	5.0	
591-78-6	2-Hexanone	25	U	25	
106-43-4	4-Chlorotoluene	5.0	U	5.0	
99-87-6	p-Isopropyltoluene	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone	25	U	25	
67-64-1	Acetone	25	U	25	
71-43-2	Benzene	5.0	U	5.0	
108-86-1	Bromobenzene	5.0	U	5.0	
74-97-5	Bromochloromethane	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1000
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 17:25

Sample Name: MW-14A (58.8)
 Lab Code: R1302702-022

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5514.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
74-95-3	Dibromomethane	5.0	U	5.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	5.0	U	5.0	
75-09-2	Dichloromethane	5.0	U	5.0	
60-29-7	Diethyl Ether	5.0	U	5.0	
108-20-3	Diisopropyl Ether	5.0	U	5.0	
637-92-3	Ethyl tert-Butyl Ether	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
87-68-3	Hexachlorobutadiene	5.0	U	5.0	
98-82-8	Isopropylbenzene (Cumene)	5.0	U	5.0	
1634-04-4	Methyl tert-Butyl Ether	5.0	U	5.0	
91-20-3	Naphthalene	5.0	U	5.0	
100-42-5	Styrene	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0	U	5.0	
109-99-9	Tetrahydrofuran (THF)	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	410		5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	87		5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
179601-23-1	m,p-Xylenes	5.0	U	5.0	
104-51-8	n-Butylbenzene	5.0	U	5.0	
103-65-1	n-Propylbenzene	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	
135-98-8	sec-Butylbenzene	5.0	U	5.0	
994-05-8	tert-Amyl Methyl Ether	5.0	U	5.0	
98-06-6	tert-Butylbenzene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 1000
Date Received: 4/19/13
Date Analyzed: 4/29/13 17:25

Sample Name: MW-14A (58.8)
Lab Code: R1302702-022

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\042913\A5514.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/29/13 17:25	
Dibromofluoromethane	99	70-130	4/29/13 17:25	
Toluene-d8	98	70-130	4/29/13 17:25	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1100
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 17:53

Sample Name: RW-22 (106)
 Lab Code: R1302702-023

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5515.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	4.0 U	4.0	
71-55-6	1,1,1-Trichloroethane (TCA)	4.0 U	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0 U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0 U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0 U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0 U	4.0	
563-58-6	1,1-Dichloropropene	4.0 U	4.0	
87-61-6	1,2,3-Trichlorobenzene	4.0 U	4.0	
96-18-4	1,2,3-Trichloropropane	4.0 U	4.0	
120-82-1	1,2,4-Trichlorobenzene	4.0 U	4.0	
95-63-6	1,2,4-Trimethylbenzene	4.0 U	4.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	4.0 U	4.0	
106-93-4	1,2-Dibromoethane	4.0 U	4.0	
95-50-1	1,2-Dichlorobenzene	4.0 U	4.0	
107-06-2	1,2-Dichloroethane	4.0 U	4.0	
78-87-5	1,2-Dichloropropane	4.0 U	4.0	
108-67-8	1,3,5-Trimethylbenzene	4.0 U	4.0	
541-73-1	1,3-Dichlorobenzene	4.0 U	4.0	
142-28-9	1,3-Dichloropropane	4.0 U	4.0	
106-46-7	1,4-Dichlorobenzene	4.0 U	4.0	
123-91-1	1,4-Dioxane	80 U	80	
594-20-7	2,2-Dichloropropane	4.0 U	4.0	
78-93-3	2-Butanone (MEK)	20 U	20	
95-49-8	2-Chlorotoluene	4.0 U	4.0	
591-78-6	2-Hexanone	20 U	20	
106-43-4	4-Chlorotoluene	4.0 U	4.0	
99-87-6	p-Isopropyltoluene	4.0 U	4.0	
108-10-1	4-Methyl-2-pentanone	20 U	20	
67-64-1	Acetone	20 U	20	
71-43-2	Benzene	4.0 U	4.0	
108-86-1	Bromobenzene	4.0 U	4.0	
74-97-5	Bromochloromethane	4.0 U	4.0	
75-27-4	Bromodichloromethane	4.0 U	4.0	
75-25-2	Bromoform	4.0 U	4.0	
74-83-9	Bromomethane	4.0 U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1100
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 17:53

Sample Name: RW-22 (106)
 Lab Code: R1302702-023

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5515.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	4.0	U	4.0	
56-23-5	Carbon Tetrachloride	4.0	U	4.0	
108-90-7	Chlorobenzene	4.0	U	4.0	
75-00-3	Chloroethane	4.0	U	4.0	
67-66-3	Chloroform	4.0	U	4.0	
74-87-3	Chloromethane	4.0	U	4.0	
124-48-1	Dibromochloromethane	4.0	U	4.0	
74-95-3	Dibromomethane	4.0	U	4.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	4.0	U	4.0	
75-09-2	Dichloromethane	4.0	U	4.0	
60-29-7	Diethyl Ether	4.0	U	4.0	
108-20-3	Diisopropyl Ether	4.0	U	4.0	
637-92-3	Ethyl tert-Butyl Ether	4.0	U	4.0	
100-41-4	Ethylbenzene	4.0	U	4.0	
87-68-3	Hexachlorobutadiene	4.0	U	4.0	
98-82-8	Isopropylbenzene (Cumene)	4.0	U	4.0	
1634-04-4	Methyl tert-Butyl Ether	4.0	U	4.0	
91-20-3	Naphthalene	4.0	U	4.0	
100-42-5	Styrene	4.0	U	4.0	
127-18-4	Tetrachloroethene (PCE)	6.2		4.0	
109-99-9	Tetrahydrofuran (THF)	4.0	U	4.0	
108-88-3	Toluene	4.0	U	4.0	
79-01-6	Trichloroethene (TCE)	40		4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0	U	4.0	
75-01-4	Vinyl Chloride	4.0	U	4.0	
156-59-2	cis-1,2-Dichloroethene	260		4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0	U	4.0	
179601-23-1	m,p-Xylenes	4.0	U	4.0	
104-51-8	n-Butylbenzene	4.0	U	4.0	
103-65-1	n-Propylbenzene	4.0	U	4.0	
95-47-6	o-Xylene	4.0	U	4.0	
135-98-8	sec-Butylbenzene	4.0	U	4.0	
994-05-8	tert-Amyl Methyl Ether	4.0	U	4.0	
98-06-6	tert-Butylbenzene	4.0	U	4.0	
156-60-5	trans-1,2-Dichloroethene	4.0	U	4.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 1100
Date Received: 4/19/13
Date Analyzed: 4/29/13 17:53

Sample Name: RW-22 (106)
Lab Code: R1302702-023

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\MSVOA8\DATA\042913\A5515.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	4.0	U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/29/13 17:53	
Dibromofluoromethane	98	70-130	4/29/13 17:53	
Toluene-d8	97	70-130	4/29/13 17:53	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1140
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 18:20

Sample Name: OB11-DO (60)
 Lab Code: R1302702-024

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5516.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1140
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 18:20

Sample Name: OB11-DO (60)
 Lab Code: R1302702-024

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5516.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	84		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	27		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 1140
Date Received: 4/19/13
Date Analyzed: 4/29/13 18:20

Sample Name: OB11-DO (60)
Lab Code: R1302702-024

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\042913\A5516.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/29/13 18:20	
Dibromofluoromethane	98	70-130	4/29/13 18:20	
Toluene-d8	98	70-130	4/29/13 18:20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1220
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 18:47

Sample Name: OB11-BR (82)
 Lab Code: R1302702-025

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5517.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1220
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 18:47

Sample Name: OB11-BR (82)
 Lab Code: R1302702-025

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5517.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	3.7		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	47		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	5.8		2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 1220
Date Received: 4/19/13
Date Analyzed: 4/29/13 18:47

Sample Name: OB11-BR (82)
Lab Code: R1302702-025

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5517.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/29/13 18:47	
Dibromofluoromethane	97	70-130	4/29/13 18:47	
Toluene-d8	96	70-130	4/29/13 18:47	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB12-DO (56)
Lab Code: R1302702-026

Service Request: R1302702
Date Collected: 4/17/13 1300
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	62.8	mg/L	1.0	1	NA	4/23/13 13:52	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB12-DO (56)
Lab Code: R1302702-026

Service Request: R1302702
Date Collected: 4/17/13 1300
Date Received: 4/19/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/25/13	4/27/13 00:30	
Manganese, Dissolved	6010C	22400		µg/L	100	10	4/25/13	4/30/13 15:48	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1300
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 19:15

Sample Name: OB12-DO (56)
 Lab Code: R1302702-026

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5518.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.2	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	7.6	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	14	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1300
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 19:15

Sample Name: OB12-DO (56)
 Lab Code: R1302702-026

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5518.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.6	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	86	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 1300
Date Received: 4/19/13
Date Analyzed: 4/29/13 19:15

Sample Name: OB12-DO (56)
Lab Code: R1302702-026

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5518.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	4/29/13 19:15	
Dibromofluoromethane	102	70-130	4/29/13 19:15	
Toluene-d8	100	70-130	4/29/13 19:15	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1330
 Date Received: 4/19/13
 Date Analyzed: 5/1/13 02:45

Sample Name: OD34-DO (58.2)
 Lab Code: R1302702-027

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\043013\T6112.D\

Analysis Lot: 338618
 Instrument Name: R-MS-12
 Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	100	U	100	
71-55-6	1,1,1-Trichloroethane (TCA)	100	U	100	
79-34-5	1,1,2,2-Tetrachloroethane	100	U	100	
79-00-5	1,1,2-Trichloroethane	100	U	100	
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	U	100	
75-35-4	1,1-Dichloroethene (1,1-DCE)	100	U	100	
563-58-6	1,1-Dichloropropene	100	U	100	
87-61-6	1,2,3-Trichlorobenzene	100	U	100	
96-18-4	1,2,3-Trichloropropane	100	U	100	
120-82-1	1,2,4-Trichlorobenzene	100	U	100	
95-63-6	1,2,4-Trimethylbenzene	100	U	100	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	100	U	100	
106-93-4	1,2-Dibromoethane	100	U	100	
95-50-1	1,2-Dichlorobenzene	100	U	100	
107-06-2	1,2-Dichloroethane	100	U	100	
78-87-5	1,2-Dichloropropane	100	U	100	
108-67-8	1,3,5-Trimethylbenzene	100	U	100	
541-73-1	1,3-Dichlorobenzene	100	U	100	
142-28-9	1,3-Dichloropropane	100	U	100	
106-46-7	1,4-Dichlorobenzene	100	U	100	
123-91-1	1,4-Dioxane	2000	U	2000	
594-20-7	2,2-Dichloropropane	100	U	100	
78-93-3	2-Butanone (MEK)	500	U	500	
95-49-8	2-Chlorotoluene	100	U	100	
591-78-6	2-Hexanone	500	U	500	
106-43-4	4-Chlorotoluene	100	U	100	
99-87-6	p-Isopropyltoluene	100	U	100	
108-10-1	4-Methyl-2-pentanone	500	U	500	
67-64-1	Acetone	500	U	500	
71-43-2	Benzene	100	U	100	
108-86-1	Bromobenzene	100	U	100	
74-97-5	Bromochloromethane	100	U	100	
75-27-4	Bromodichloromethane	100	U	100	
75-25-2	Bromoform	100	U	100	
74-83-9	Bromomethane	100	U	100	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1330
 Date Received: 4/19/13
 Date Analyzed: 5/1/13 02:45

Sample Name: OD34-DO (58.2)
 Lab Code: R1302702-027

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\043013\T6112.D\

Analysis Lot: 338618
 Instrument Name: R-MS-12
 Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	100	U	100	
56-23-5	Carbon Tetrachloride	100	U	100	
108-90-7	Chlorobenzene	100	U	100	
75-00-3	Chloroethane	100	U	100	
67-66-3	Chloroform	100	U	100	
74-87-3	Chloromethane	100	U	100	
124-48-1	Dibromochloromethane	100	U	100	
74-95-3	Dibromomethane	100	U	100	
75-71-8	Dichlorodifluoromethane (CFC 12)	100	U	100	
75-09-2	Dichloromethane	100	U	100	
60-29-7	Diethyl Ether	100	U	100	
108-20-3	Diisopropyl Ether	100	U	100	
637-92-3	Ethyl tert-Butyl Ether	100	U	100	
100-41-4	Ethylbenzene	100	U	100	
87-68-3	Hexachlorobutadiene	100	U	100	
98-82-8	Isopropylbenzene (Cumene)	100	U	100	
1634-04-4	Methyl tert-Butyl Ether	100	U	100	
91-20-3	Naphthalene	100	U	100	
100-42-5	Styrene	100	U	100	
127-18-4	Tetrachloroethene (PCE)	1200		100	
109-99-9	Tetrahydrofuran (THF)	100	U	100	
108-88-3	Toluene	100	U	100	
79-01-6	Trichloroethene (TCE)	7600		100	
75-69-4	Trichlorofluoromethane (CFC 11)	100	U	100	
75-01-4	Vinyl Chloride	100	U	100	
156-59-2	cis-1,2-Dichloroethene	580		100	
10061-01-5	cis-1,3-Dichloropropene	100	U	100	
179601-23-1	m,p-Xylenes	100	U	100	
104-51-8	n-Butylbenzene	100	U	100	
103-65-1	n-Propylbenzene	100	U	100	
95-47-6	o-Xylene	100	U	100	
135-98-8	sec-Butylbenzene	100	U	100	
994-05-8	tert-Amyl Methyl Ether	100	U	100	
98-06-6	tert-Butylbenzene	100	U	100	
156-60-5	trans-1,2-Dichloroethene	100	U	100	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 1330
Date Received: 4/19/13
Date Analyzed: 5/1/13 02:45

Sample Name: OD34-DO (58.2)
Lab Code: R1302702-027

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\043013\T6112.D\

Analysis Lot: 338618
Instrument Name: R-MS-12
Dilution Factor: 50

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	100 U	100	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	70-130	5/1/13 02:45	
Dibromofluoromethane	101	70-130	5/1/13 02:45	
Toluene-d8	101	70-130	5/1/13 02:45	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1055
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 01:41

Sample Name: TB-3
 Lab Code: R1302702-028

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5532.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/16/13 1055
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 01:41

Sample Name: TB-3
 Lab Code: R1302702-028

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5532.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
74-95-3	Dibromomethane	2.0 U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0 U	2.0	
75-09-2	Dichloromethane	2.0 U	2.0	
60-29-7	Diethyl Ether	2.0 U	2.0	
108-20-3	Diisopropyl Ether	2.0 U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0 U	2.0	
100-41-4	Ethylbenzene	2.0 U	2.0	
87-68-3	Hexachlorobutadiene	2.0 U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0 U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0 U	2.0	
91-20-3	Naphthalene	2.0 U	2.0	
100-42-5	Styrene	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0 U	2.0	
108-88-3	Toluene	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
179601-23-1	m,p-Xylenes	2.0 U	2.0	
104-51-8	n-Butylbenzene	2.0 U	2.0	
103-65-1	n-Propylbenzene	2.0 U	2.0	
95-47-6	o-Xylene	2.0 U	2.0	
135-98-8	sec-Butylbenzene	2.0 U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0 U	2.0	
98-06-6	tert-Butylbenzene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/16/13 1055
Date Received: 4/19/13
Date Analyzed: 4/30/13 01:41

Sample Name: TB-3
Lab Code: R1302702-028

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5532.D\

Analysis Lot: 338426
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	4/30/13 01:41	
Dibromofluoromethane	103	70-130	4/30/13 01:41	
Toluene-d8	99	70-130	4/30/13 01:41	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1400
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 02:09

Sample Name: EB-4
 Lab Code: R1302702-029

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5533.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/17/13 1400
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 02:09

Sample Name: EB-4
 Lab Code: R1302702-029

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5533.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/17/13 1400
Date Received: 4/19/13
Date Analyzed: 4/30/13 02:09

Sample Name: EB-4
Lab Code: R1302702-029

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5533.D\

Analysis Lot: 338426
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	4/30/13 02:09	
Dibromofluoromethane	101	70-130	4/30/13 02:09	
Toluene-d8	98	70-130	4/30/13 02:09	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: OB32-DO (60)
Lab Code: R1302702-030

Service Request: R1302702
Date Collected: 4/18/13 0830
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	203		mg/L	5.0	5	NA	4/23/13 13:40	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/18/13 0830
Date Received: 4/19/13

Sample Name: OB32-DO (60)
Lab Code: R1302702-030

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/25/13	4/27/13 00:36	
Manganese, Dissolved	6010C	141000		µg/L	1000	100	4/25/13	4/30/13 16:06	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 0830
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 02:36

Sample Name: OB32-DO (60)
 Lab Code: R1302702-030

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5534.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	62	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 0830
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 02:36

Sample Name: OB32-DO (60)
 Lab Code: R1302702-030

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5534.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	67		2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	19		2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	14		2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/18/13 0830
Date Received: 4/19/13
Date Analyzed: 4/30/13 02:36

Sample Name: OB32-DO (60)
Lab Code: R1302702-030

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\042913\A5534.D\

Analysis Lot: 338426
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/30/13 02:36	
Dibromofluoromethane	102	70-130	4/30/13 02:36	
Toluene-d8	98	70-130	4/30/13 02:36	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 0900
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 03:04

Sample Name: OB14-DO (56)
 Lab Code: R1302702-031

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQDATA\MSVOA8\DATA\042913\A5535.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	20 U	20	
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20 U	20	
563-58-6	1,1-Dichloropropene	20 U	20	
87-61-6	1,2,3-Trichlorobenzene	20 U	20	
96-18-4	1,2,3-Trichloropropane	20 U	20	
120-82-1	1,2,4-Trichlorobenzene	20 U	20	
95-63-6	1,2,4-Trimethylbenzene	20 U	20	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	20 U	20	
106-93-4	1,2-Dibromoethane	20 U	20	
95-50-1	1,2-Dichlorobenzene	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
108-67-8	1,3,5-Trimethylbenzene	20 U	20	
541-73-1	1,3-Dichlorobenzene	20 U	20	
142-28-9	1,3-Dichloropropane	20 U	20	
106-46-7	1,4-Dichlorobenzene	20 U	20	
123-91-1	1,4-Dioxane	400 U	400	
594-20-7	2,2-Dichloropropane	20 U	20	
78-93-3	2-Butanone (MEK)	100 U	100	
95-49-8	2-Chlorotoluene	20 U	20	
591-78-6	2-Hexanone	100 U	100	
106-43-4	4-Chlorotoluene	20 U	20	
99-87-6	p-Isopropyltoluene	20 U	20	
108-10-1	4-Methyl-2-pentanone	100 U	100	
67-64-1	Acetone	100 U	100	
71-43-2	Benzene	20 U	20	
108-86-1	Bromobenzene	20 U	20	
74-97-5	Bromochloromethane	20 U	20	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 0900
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 03:04

Sample Name: OB14-DO (56)
 Lab Code: R1302702-031

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5535.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	20	U	20	
56-23-5	Carbon Tetrachloride	20	U	20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	20	U	20	
67-66-3	Chloroform	20	U	20	
74-87-3	Chloromethane	20	U	20	
124-48-1	Dibromochloromethane	20	U	20	
74-95-3	Dibromomethane	20	U	20	
75-71-8	Dichlorodifluoromethane (CFC 12)	20	U	20	
75-09-2	Dichloromethane	20	U	20	
60-29-7	Diethyl Ether	20	U	20	
108-20-3	Diisopropyl Ether	20	U	20	
637-92-3	Ethyl tert-Butyl Ether	20	U	20	
100-41-4	Ethylbenzene	20	U	20	
87-68-3	Hexachlorobutadiene	20	U	20	
98-82-8	Isopropylbenzene (Cumene)	20	U	20	
1634-04-4	Methyl tert-Butyl Ether	20	U	20	
91-20-3	Naphthalene	20	U	20	
100-42-5	Styrene	20	U	20	
127-18-4	Tetrachloroethene (PCE)	94		20	
109-99-9	Tetrahydrofuran (THF)	20	U	20	
108-88-3	Toluene	20	U	20	
79-01-6	Trichloroethene (TCE)	1100		20	
75-69-4	Trichlorofluoromethane (CFC 11)	20	U	20	
75-01-4	Vinyl Chloride	20	U	20	
156-59-2	cis-1,2-Dichloroethene	150		20	
10061-01-5	cis-1,3-Dichloropropene	20	U	20	
179601-23-1	m,p-Xylenes	20	U	20	
104-51-8	n-Butylbenzene	20	U	20	
103-65-1	n-Propylbenzene	20	U	20	
95-47-6	o-Xylene	20	U	20	
135-98-8	sec-Butylbenzene	20	U	20	
994-05-8	tert-Amyl Methyl Ether	20	U	20	
98-06-6	tert-Butylbenzene	20	U	20	
156-60-5	trans-1,2-Dichloroethene	20	U	20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/18/13 0900
Date Received: 4/19/13
Date Analyzed: 4/30/13 03:04

Sample Name: OB14-DO (56)
Lab Code: R1302702-031

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5535.D\

Analysis Lot: 338426
Instrument Name: R-MS-08
Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	70-130	4/30/13 03:04	
Dibromofluoromethane	100	70-130	4/30/13 03:04	
Toluene-d8	97	70-130	4/30/13 03:04	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 0930
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 21:46

Sample Name: AP14-S (29)
 Lab Code: R1302702-032

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5449.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 500

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	1000	U	1000	
71-55-6	1,1,1-Trichloroethane (TCA)	72000		1000	
79-34-5	1,1,2,2-Tetrachloroethane	1000	U	1000	
79-00-5	1,1,2-Trichloroethane	1000	U	1000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	U	1000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2200		1000	
563-58-6	1,1-Dichloropropene	1000	U	1000	
87-61-6	1,2,3-Trichlorobenzene	1000	U	1000	
96-18-4	1,2,3-Trichloropropane	1000	U	1000	
120-82-1	1,2,4-Trichlorobenzene	1000	U	1000	
95-63-6	1,2,4-Trimethylbenzene	1000	U	1000	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	1000	U	1000	
106-93-4	1,2-Dibromoethane	1000	U	1000	
95-50-1	1,2-Dichlorobenzene	1000	U	1000	
107-06-2	1,2-Dichloroethane	1000	U	1000	
78-87-5	1,2-Dichloropropane	1000	U	1000	
108-67-8	1,3,5-Trimethylbenzene	1000	U	1000	
541-73-1	1,3-Dichlorobenzene	1000	U	1000	
142-28-9	1,3-Dichloropropane	1000	U	1000	
106-46-7	1,4-Dichlorobenzene	1000	U	1000	
123-91-1	1,4-Dioxane	20000	U	20000	
594-20-7	2,2-Dichloropropane	1000	U	1000	
78-93-3	2-Butanone (MEK)	5000	U	5000	
95-49-8	2-Chlorotoluene	1000	U	1000	
591-78-6	2-Hexanone	5000	U	5000	
106-43-4	4-Chlorotoluene	1000	U	1000	
99-87-6	p-Isopropyltoluene	1000	U	1000	
108-10-1	4-Methyl-2-pentanone	5000	U	5000	
67-64-1	Acetone	5000	U	5000	
71-43-2	Benzene	1000	U	1000	
108-86-1	Bromobenzene	1000	U	1000	
74-97-5	Bromochloromethane	1000	U	1000	
75-27-4	Bromodichloromethane	1000	U	1000	
75-25-2	Bromoform	1000	U	1000	
74-83-9	Bromomethane	1000	U	1000	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 0930
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 21:46

Sample Name: AP14-S (29)
 Lab Code: R1302702-032

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5449.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 500

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	1000	U	1000	
56-23-5	Carbon Tetrachloride	1000	U	1000	
108-90-7	Chlorobenzene	1000	U	1000	
75-00-3	Chloroethane	1000	U	1000	
67-66-3	Chloroform	1200		1000	
74-87-3	Chloromethane	1000	U	1000	
124-48-1	Dibromochloromethane	1000	U	1000	
74-95-3	Dibromomethane	1000	U	1000	
75-71-8	Dichlorodifluoromethane (CFC 12)	1000	U	1000	
75-09-2	Dichloromethane	1000	U	1000	
60-29-7	Diethyl Ether	1000	U	1000	
108-20-3	Diisopropyl Ether	1000	U	1000	
637-92-3	Ethyl tert-Butyl Ether	1000	U	1000	
100-41-4	Ethylbenzene	1000	U	1000	
87-68-3	Hexachlorobutadiene	1000	U	1000	
98-82-8	Isopropylbenzene (Cumene)	1000	U	1000	
1634-04-4	Methyl tert-Butyl Ether	1000	U	1000	
91-20-3	Naphthalene	1000	U	1000	
100-42-5	Styrene	1000	U	1000	
127-18-4	Tetrachloroethene (PCE)	23000		1000	
109-99-9	Tetrahydrofuran (THF)	1000	U	1000	
108-88-3	Toluene	1000	U	1000	
79-01-6	Trichloroethene (TCE)	350000	E	1000	
75-69-4	Trichlorofluoromethane (CFC 11)	1000	U	1000	
75-01-4	Vinyl Chloride	2500		1000	
156-59-2	cis-1,2-Dichloroethene	38000		1000	
10061-01-5	cis-1,3-Dichloropropene	1000	U	1000	
179601-23-1	m,p-Xylenes	1000	U	1000	
104-51-8	n-Butylbenzene	1000	U	1000	
103-65-1	n-Propylbenzene	1000	U	1000	
95-47-6	o-Xylene	1000	U	1000	
135-98-8	sec-Butylbenzene	1000	U	1000	
994-05-8	tert-Amyl Methyl Ether	1000	U	1000	
98-06-6	tert-Butylbenzene	1000	U	1000	
156-60-5	trans-1,2-Dichloroethene	1000	U	1000	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/18/13 0930
Date Received: 4/19/13
Date Analyzed: 4/27/13 21:46

Sample Name: AP14-S (29)
Lab Code: R1302702-032

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\042713\A5449.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 500

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	1000 U	1000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/27/13 21:46	
Dibromofluoromethane	101	70-130	4/27/13 21:46	
Toluene-d8	97	70-130	4/27/13 21:46	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 0930
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 13:37

Sample Name: AP14-S (29)
 Lab Code: R1302702-032
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5506.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 2500

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	5000	U	5000	
71-55-6	1,1,1-Trichloroethane (TCA)	66000	D	5000	
79-34-5	1,1,2,2-Tetrachloroethane	5000	U	5000	
79-00-5	1,1,2-Trichloroethane	5000	U	5000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5000	U	5000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5000	U	5000	
563-58-6	1,1-Dichloropropene	5000	U	5000	
87-61-6	1,2,3-Trichlorobenzene	5000	U	5000	
96-18-4	1,2,3-Trichloropropane	5000	U	5000	
120-82-1	1,2,4-Trichlorobenzene	5000	U	5000	
95-63-6	1,2,4-Trimethylbenzene	5000	U	5000	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	5000	U	5000	
106-93-4	1,2-Dibromoethane	5000	U	5000	
95-50-1	1,2-Dichlorobenzene	5000	U	5000	
107-06-2	1,2-Dichloroethane	5000	U	5000	
78-87-5	1,2-Dichloropropane	5000	U	5000	
108-67-8	1,3,5-Trimethylbenzene	5000	U	5000	
541-73-1	1,3-Dichlorobenzene	5000	U	5000	
142-28-9	1,3-Dichloropropane	5000	U	5000	
106-46-7	1,4-Dichlorobenzene	5000	U	5000	
123-91-1	1,4-Dioxane	100000	U	100000	
594-20-7	2,2-Dichloropropane	5000	U	5000	
78-93-3	2-Butanone (MEK)	25000	U	25000	
95-49-8	2-Chlorotoluene	5000	U	5000	
591-78-6	2-Hexanone	25000	U	25000	
106-43-4	4-Chlorotoluene	5000	U	5000	
99-87-6	p-Isopropyltoluene	5000	U	5000	
108-10-1	4-Methyl-2-pentanone	25000	U	25000	
67-64-1	Acetone	25000	U	25000	
71-43-2	Benzene	5000	U	5000	
108-86-1	Bromobenzene	5000	U	5000	
74-97-5	Bromochloromethane	5000	U	5000	
75-27-4	Bromodichloromethane	5000	U	5000	
75-25-2	Bromoform	5000	U	5000	
74-83-9	Bromomethane	5000	U	5000	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 0930
 Date Received: 4/19/13
 Date Analyzed: 4/29/13 13:37

Sample Name: AP14-S (29)
 Lab Code: R1302702-032
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5506.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 2500

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	5000	U	5000	
56-23-5	Carbon Tetrachloride	5000	U	5000	
108-90-7	Chlorobenzene	5000	U	5000	
75-00-3	Chloroethane	5000	U	5000	
67-66-3	Chloroform	5000	U	5000	
74-87-3	Chloromethane	5000	U	5000	
124-48-1	Dibromochloromethane	5000	U	5000	
74-95-3	Dibromomethane	5000	U	5000	
75-71-8	Dichlorodifluoromethane (CFC 12)	5000	U	5000	
75-09-2	Dichloromethane	5000	U	5000	
60-29-7	Diethyl Ether	5000	U	5000	
108-20-3	Diisopropyl Ether	5000	U	5000	
637-92-3	Ethyl tert-Butyl Ether	5000	U	5000	
100-41-4	Ethylbenzene	5000	U	5000	
87-68-3	Hexachlorobutadiene	5000	U	5000	
98-82-8	Isopropylbenzene (Cumene)	5000	U	5000	
1634-04-4	Methyl tert-Butyl Ether	5000	U	5000	
91-20-3	Naphthalene	5000	U	5000	
100-42-5	Styrene	5000	U	5000	
127-18-4	Tetrachloroethene (PCE)	21000	D	5000	
109-99-9	Tetrahydrofuran (THF)	5000	U	5000	
108-88-3	Toluene	5000	U	5000	
79-01-6	Trichloroethene (TCE)	400000	D	5000	
75-69-4	Trichlorofluoromethane (CFC 11)	5000	U	5000	
75-01-4	Vinyl Chloride	5000	U	5000	
156-59-2	cis-1,2-Dichloroethene	36000	D	5000	
10061-01-5	cis-1,3-Dichloropropene	5000	U	5000	
179601-23-1	m,p-Xylenes	5000	U	5000	
104-51-8	n-Butylbenzene	5000	U	5000	
103-65-1	n-Propylbenzene	5000	U	5000	
95-47-6	o-Xylene	5000	U	5000	
135-98-8	sec-Butylbenzene	5000	U	5000	
994-05-8	tert-Amyl Methyl Ether	5000	U	5000	
98-06-6	tert-Butylbenzene	5000	U	5000	
156-60-5	trans-1,2-Dichloroethene	5000	U	5000	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: 4/18/13 0930
Date Received: 4/19/13
Date Analyzed: 4/29/13 13:37

Sample Name: AP14-S (29)
Lab Code: R1302702-032
Run Type: Dilution

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5506.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 2500

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	5000 U	5000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/29/13 13:37	
Dibromofluoromethane	100	70-130	4/29/13 13:37	
Toluene-d8	98	70-130	4/29/13 13:37	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP12-DO (35)
Lab Code: R1302702-033

Service Request: R1302702
Date Collected: 4/18/13 1000
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	156		mg/L	10	10	NA	4/23/13 13:53	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP12-DO (35)
Lab Code: R1302702-033

Service Request: R1302702
Date Collected: 4/18/13 1000
Date Received: 4/19/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	500	U	µg/L	500	1	4/25/13	4/27/13 00:42	
Manganese, Dissolved	6010C	716000		µg/L	5000	100	4/25/13	4/30/13 16:12	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 1000
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 20:51

Sample Name: AP12-DO (35)
 Lab Code: R1302702-033

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDDATA\MSVOA8\DATA\042713\A5447.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	4.6		2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	23		10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	42		2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	120		2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0		2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/27/13 20:51	
Dibromofluoromethane	99	70-130	4/27/13 20:51	
Toluene-d8	97	70-130	4/27/13 20:51	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP12-BR (81)
Lab Code: R1302702-034

Service Request: R1302702
Date Collected: 4/18/13 1030
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	192		mg/L	20	20	NA	4/23/13 13:41	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP12-BR (81)
Lab Code: R1302702-034

Service Request: R1302702
Date Collected: 4/18/13 1030
Date Received: 4/19/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	500	U	µg/L	500	1	4/25/13	4/27/13 00:49	
Manganese, Dissolved	6010C	1430000		µg/L	5000	100	4/25/13	4/30/13 16:18	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 1030
 Date Received: 4/19/13
 Date Analyzed: 4/27/13 21:18

Sample Name: AP12-BR (81)
 Lab Code: R1302702-034

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5448.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	18		10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/27/13 21:18	
Dibromofluoromethane	99	70-130	4/27/13 21:18	
Toluene-d8	99	70-130	4/27/13 21:18	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP30-DO (50)
Lab Code: R1302702-035

Service Request: R1302702
Date Collected: 4/18/13 1100
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	3860		mg/L	40	40	NA	4/23/13 13:41	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP30-DO (50)
Lab Code: R1302702-035

Service Request: R1302702
Date Collected: 4/18/13 1100
Date Received: 4/19/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	500	U	µg/L	500	1	4/25/13	4/27/13 00:55	
Manganese, Dissolved	6010C	3540000		µg/L	10000	200	4/25/13	4/30/13 16:24	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 1100
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 03:31

Sample Name: AP30-DO (50)
 Lab Code: R1302702-035

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5536.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 20

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	720	40	
79-34-5	1,1,2,2-Tetrachloroethane	40 U	40	
79-00-5	1,1,2-Trichloroethane	59	40	
75-34-3	1,1-Dichloroethane (1,1-DCA)	40 U	40	
75-35-4	1,1-Dichloroethene (1,1-DCE)	40 U	40	
107-06-2	1,2-Dichloroethane	40 U	40	
78-87-5	1,2-Dichloropropane	40 U	40	
67-64-1	Acetone	200 U	200	
75-27-4	Bromodichloromethane	40 U	40	
75-25-2	Bromoform	40 U	40	
74-83-9	Bromomethane	40 U	40	
56-23-5	Carbon Tetrachloride	1100	40	
108-90-7	Chlorobenzene	40 U	40	
75-00-3	Chloroethane	40 U	40	
67-66-3	Chloroform	2300	40	
74-87-3	Chloromethane	40 U	40	
124-48-1	Dibromochloromethane	40 U	40	
75-09-2	Methylene Chloride	40 U	40	
127-18-4	Tetrachloroethene (PCE)	40 U	40	
79-01-6	Trichloroethene (TCE)	40 U	40	
75-69-4	Trichlorofluoromethane (CFC 11)	40 U	40	
75-01-4	Vinyl Chloride	40 U	40	
156-59-2	cis-1,2-Dichloroethene	40 U	40	
10061-01-5	cis-1,3-Dichloropropene	40 U	40	
156-60-5	trans-1,2-Dichloroethene	40 U	40	
10061-02-6	trans-1,3-Dichloropropene	40 U	40	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/30/13 03:31	
Dibromofluoromethane	100	70-130	4/30/13 03:31	
Toluene-d8	97	70-130	4/30/13 03:31	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP31-DO (50)
Lab Code: R1302702-036

Service Request: R1302702
Date Collected: 4/18/13 1130
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	742		mg/L	10	10	NA	4/23/13 13:53	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP31-DO (50)
Lab Code: R1302702-036

Service Request: R1302702
Date Collected: 4/18/13 1130
Date Received: 4/19/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/25/13	4/27/13 01:01	
Manganese, Dissolved	6010C	66800		µg/L	500	50	4/25/13	4/30/13 16:30	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 1130
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 03:59

Sample Name: AP31-DO (50)
 Lab Code: R1302702-036

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5537.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1200		20	
79-34-5	1,1,2,2-Tetrachloroethane	20	U	20	
79-00-5	1,1,2-Trichloroethane	31		20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	22		20	
107-06-2	1,2-Dichloroethane	20	U	20	
78-87-5	1,2-Dichloropropane	20	U	20	
67-64-1	Acetone	100	U	100	
75-27-4	Bromodichloromethane	20	U	20	
75-25-2	Bromoform	20	U	20	
74-83-9	Bromomethane	20	U	20	
56-23-5	Carbon Tetrachloride	280		20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	20	U	20	
67-66-3	Chloroform	2000		20	
74-87-3	Chloromethane	20	U	20	
124-48-1	Dibromochloromethane	20	U	20	
75-09-2	Methylene Chloride	20	U	20	
127-18-4	Tetrachloroethene (PCE)	2300	E	20	
79-01-6	Trichloroethene (TCE)	12000	E	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20	U	20	
75-01-4	Vinyl Chloride	20	U	20	
156-59-2	cis-1,2-Dichloroethene	46		20	
10061-01-5	cis-1,3-Dichloropropene	20	U	20	
156-60-5	trans-1,2-Dichloroethene	20	U	20	
10061-02-6	trans-1,3-Dichloropropene	20	U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	70-130	4/30/13 03:59	
Dibromofluoromethane	99	70-130	4/30/13 03:59	
Toluene-d8	96	70-130	4/30/13 03:59	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 1130
 Date Received: 4/19/13
 Date Analyzed: 5/2/13 03:18

Sample Name: AP31-DO (50)
 Lab Code: R1302702-036
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\050113\T6142.D\

Analysis Lot: 338621
 Instrument Name: R-MS-12
 Dilution Factor: 100

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1200	D	200	
79-34-5	1,1,2,2-Tetrachloroethane	200	U	200	
79-00-5	1,1,2-Trichloroethane	200	U	200	
75-34-3	1,1-Dichloroethane (1,1-DCA)	200	U	200	
75-35-4	1,1-Dichloroethene (1,1-DCE)	200	U	200	
107-06-2	1,2-Dichloroethane	200	U	200	
78-87-5	1,2-Dichloropropane	200	U	200	
67-64-1	Acetone	1000	U	1000	
75-27-4	Bromodichloromethane	200	U	200	
75-25-2	Bromoform	200	U	200	
74-83-9	Bromomethane	200	U	200	
56-23-5	Carbon Tetrachloride	270	D	200	
108-90-7	Chlorobenzene	200	U	200	
75-00-3	Chloroethane	200	U	200	
67-66-3	Chloroform	1600	D	200	
74-87-3	Chloromethane	200	U	200	
124-48-1	Dibromochloromethane	200	U	200	
75-09-2	Methylene Chloride	200	U	200	
127-18-4	Tetrachloroethene (PCE)	2100	D	200	
79-01-6	Trichloroethene (TCE)	4400	D	200	
75-69-4	Trichlorofluoromethane (CFC 11)	200	U	200	
75-01-4	Vinyl Chloride	200	U	200	
156-59-2	cis-1,2-Dichloroethene	200	U	200	
10061-01-5	cis-1,3-Dichloropropene	200	U	200	
156-60-5	trans-1,2-Dichloroethene	200	U	200	
10061-02-6	trans-1,3-Dichloropropene	200	U	200	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/2/13 03:18	
Dibromofluoromethane	103	70-130	5/2/13 03:18	
Toluene-d8	103	70-130	5/2/13 03:18	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP32-DO (50)
Lab Code: R1302702-037

Service Request: R1302702
Date Collected: 4/18/13 1200
Date Received: 4/19/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	565	mg/L	20	20	NA	4/23/13 13:43	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP32-DO (50)
Lab Code: R1302702-037

Service Request: R1302702
Date Collected: 4/18/13 1200
Date Received: 4/19/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/25/13	4/27/13 01:08	
Manganese, Dissolved	6010C	12		µg/L	10	1	4/25/13	4/30/13 16:36	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 1200
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 04:26

Sample Name: AP32-DO (50)
 Lab Code: R1302702-037

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5538.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1000

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2000		2000	
79-34-5	1,1,2,2-Tetrachloroethane	2000	U	2000	
79-00-5	1,1,2-Trichloroethane	2000	U	2000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2000	U	2000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2000	U	2000	
107-06-2	1,2-Dichloroethane	2000	U	2000	
78-87-5	1,2-Dichloropropane	2000	U	2000	
67-64-1	Acetone	10000	U	10000	
75-27-4	Bromodichloromethane	2000	U	2000	
75-25-2	Bromoform	2000	U	2000	
74-83-9	Bromomethane	2000	U	2000	
56-23-5	Carbon Tetrachloride	2000	U	2000	
108-90-7	Chlorobenzene	2000	U	2000	
75-00-3	Chloroethane	2000	U	2000	
67-66-3	Chloroform	3500		2000	
74-87-3	Chloromethane	2000	U	2000	
124-48-1	Dibromochloromethane	2000	U	2000	
75-09-2	Methylene Chloride	2000	U	2000	
127-18-4	Tetrachloroethene (PCE)	56000		2000	
79-01-6	Trichloroethene (TCE)	230000	E	2000	
75-69-4	Trichlorofluoromethane (CFC 11)	2000	U	2000	
75-01-4	Vinyl Chloride	2000	U	2000	
156-59-2	cis-1,2-Dichloroethene	2000	U	2000	
10061-01-5	cis-1,3-Dichloropropene	2000	U	2000	
156-60-5	trans-1,2-Dichloroethene	2000	U	2000	
10061-02-6	trans-1,3-Dichloropropene	2000	U	2000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	4/30/13 04:26	
Dibromofluoromethane	101	70-130	4/30/13 04:26	
Toluene-d8	97	70-130	4/30/13 04:26	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 1200
 Date Received: 4/19/13
 Date Analyzed: 5/2/13 03:50

Sample Name: AP32-DO (50)
 Lab Code: R1302702-037
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\050113\T6143.D\

Analysis Lot: 338621
 Instrument Name: R-MS-12
 Dilution Factor: 2000

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	4000	U	4000	
79-34-5	1,1,2,2-Tetrachloroethane	4000	U	4000	
79-00-5	1,1,2-Trichloroethane	4000	U	4000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4000	U	4000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4000	U	4000	
107-06-2	1,2-Dichloroethane	4000	U	4000	
78-87-5	1,2-Dichloropropane	4000	U	4000	
67-64-1	Acetone	20000	U	20000	
75-27-4	Bromodichloromethane	4000	U	4000	
75-25-2	Bromoform	4000	U	4000	
74-83-9	Bromomethane	4000	U	4000	
56-23-5	Carbon Tetrachloride	4000	U	4000	
108-90-7	Chlorobenzene	4000	U	4000	
75-00-3	Chloroethane	4000	U	4000	
67-66-3	Chloroform	4100	D	4000	
74-87-3	Chloromethane	4000	U	4000	
124-48-1	Dibromochloromethane	4000	U	4000	
75-09-2	Methylene Chloride	4000	U	4000	
127-18-4	Tetrachloroethene (PCE)	94000	D	4000	
79-01-6	Trichloroethene (TCE)	370000	D	4000	
75-69-4	Trichlorofluoromethane (CFC 11)	4000	U	4000	
75-01-4	Vinyl Chloride	4000	U	4000	
156-59-2	cis-1,2-Dichloroethene	4000	U	4000	
10061-01-5	cis-1,3-Dichloropropene	4000	U	4000	
156-60-5	trans-1,2-Dichloroethene	4000	U	4000	
10061-02-6	trans-1,3-Dichloropropene	4000	U	4000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/2/13 03:50	
Dibromofluoromethane	101	70-130	5/2/13 03:50	
Toluene-d8	102	70-130	5/2/13 03:50	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: 4/18/13 1330
 Date Received: 4/19/13
 Date Analyzed: 4/30/13 04:54

Sample Name: OB24-S
 Lab Code: R1302702-038

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5539.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/30/13 04:54	
Dibromofluoromethane	104	70-130	4/30/13 04:54	
Toluene-d8	99	70-130	4/30/13 04:54	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302702-MB1

Service Request: R1302702
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	1.0 U	mg/L	1.0	1	NA	4/23/13 13:24	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302702-MB2

Service Request: R1302702
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	1.0	U	mg/L	1.0	1	NA	4/23/13 13:44	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1302702-MB

Service Request: R1302702
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	4/25/13	4/26/13 21:46	
Manganese, Dissolved	6010C	10	U	µg/L	10	1	4/25/13	4/26/13 21:46	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/27/13 13:57

Sample Name: Method Blank
 Lab Code: RQ1304321-03

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5432.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/27/13 13:57

Sample Name: Method Blank
 Lab Code: RQ1304321-03

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5432.D\

Analysis Lot: 338224
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: NA
Date Received: NA
Date Analyzed: 4/27/13 13:57

Sample Name: Method Blank
Lab Code: RQ1304321-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042713\A5432.D\

Analysis Lot: 338224
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	70-130	4/27/13 13:57	
Dibromofluoromethane	98	70-130	4/27/13 13:57	
Toluene-d8	97	70-130	4/27/13 13:57	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/29/13 11:18

Sample Name: Method Blank
 Lab Code: RQ1304322-03

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5501.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/29/13 11:18

Sample Name: Method Blank
 Lab Code: RQ1304322-03

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5501.D\

Analysis Lot: 338225
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: NA
Date Received: NA
Date Analyzed: 4/29/13 11:18

Sample Name: Method Blank
Lab Code: RQ1304322-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\MSVOA8\DATA\042913\A5501.D\

Analysis Lot: 338225
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/29/13 11:18	
Dibromofluoromethane	102	70-130	4/29/13 11:18	
Toluene-d8	99	70-130	4/29/13 11:18	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/30/13 01:13

Sample Name: Method Blank
 Lab Code: RQ1304408-03

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5531.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/30/13 01:13

Sample Name: Method Blank
 Lab Code: RQ1304408-03

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5531.D\

Analysis Lot: 338426
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: NA
Date Received: NA
Date Analyzed: 4/30/13 01:13

Sample Name: Method Blank
Lab Code: RQ1304408-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\042913\A5531.D\

Analysis Lot: 338426
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	4/30/13 01:13	
Dibromofluoromethane	98	70-130	4/30/13 01:13	
Toluene-d8	98	70-130	4/30/13 01:13	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/30/13 19:20

Sample Name: Method Blank
 Lab Code: RQ1304479-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\043013\T6098.D\

Analysis Lot: 338618
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0	U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
563-58-6	1,1-Dichloropropene	2.0	U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0	U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0	U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0	U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0	U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	
106-93-4	1,2-Dibromoethane	2.0	U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0	U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0	U	2.0	
142-28-9	1,3-Dichloropropane	2.0	U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0	U	2.0	
123-91-1	1,4-Dioxane	40	U	40	
594-20-7	2,2-Dichloropropane	2.0	U	2.0	
78-93-3	2-Butanone (MEK)	10	U	10	
95-49-8	2-Chlorotoluene	2.0	U	2.0	
591-78-6	2-Hexanone	10	U	10	
106-43-4	4-Chlorotoluene	2.0	U	2.0	
99-87-6	p-Isopropyltoluene	2.0	U	2.0	
108-10-1	4-Methyl-2-pentanone	10	U	10	
67-64-1	Acetone	10	U	10	
71-43-2	Benzene	2.0	U	2.0	
108-86-1	Bromobenzene	2.0	U	2.0	
74-97-5	Bromochloromethane	2.0	U	2.0	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 4/30/13 19:20

Sample Name: Method Blank
 Lab Code: RQ1304479-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\043013\T6098.D\

Analysis Lot: 338618
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Collected: NA
Date Received: NA
Date Analyzed: 4/30/13 19:20

Sample Name: Method Blank
Lab Code: RQ1304479-05

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa12\Data\043013\T6098.D\

Analysis Lot: 338618
Instrument Name: R-MS-12
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	4/30/13 19:20	
Dibromofluoromethane	102	70-130	4/30/13 19:20	
Toluene-d8	101	70-130	4/30/13 19:20	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/1/13 19:53

Sample Name: Method Blank
 Lab Code: RQ1304480-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\050113\T6128.D\

Analysis Lot: 338621
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
67-64-1	Acetone	10 U	10	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	
56-23-5	Carbon Tetrachloride	2.0 U	2.0	
108-90-7	Chlorobenzene	2.0 U	2.0	
75-00-3	Chloroethane	2.0 U	2.0	
67-66-3	Chloroform	2.0 U	2.0	
74-87-3	Chloromethane	2.0 U	2.0	
124-48-1	Dibromochloromethane	2.0 U	2.0	
75-09-2	Methylene Chloride	2.0 U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0 U	2.0	
79-01-6	Trichloroethene (TCE)	2.0 U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0 U	2.0	
75-01-4	Vinyl Chloride	2.0 U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0 U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0 U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0 U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	5/1/13 19:53	
Dibromofluoromethane	99	70-130	5/1/13 19:53	
Toluene-d8	101	70-130	5/1/13 19:53	

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Analyzed: 4/23/13

Lab Control Sample Summary General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
R1302702-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	SM 4500-Cl- E	24.1	25.0	96	86 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Analyzed: 4/23/13

Lab Control Sample Summary General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample R1302702-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	SM 4500-Cl- E	24.6	25.0	99	86 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Analyzed: 4/26/13

Lab Control Sample Summary Inorganic Parameters

Units: µg/L
Basis: NA

Lab Control Sample R1302702-LCS					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	6010C	1070	1000	107	80 - 120
Manganese, Dissolved	6010C	523	500	105	80 - 120

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/27/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338224

Analyte Name	Lab Control Sample RQ1304321-04			Duplicate Lab Control Sample RQ1304321-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	19.7	20.0	99	19.1	20.0	96	70 - 130	3	20
1,1,1-Trichloroethane (TCA)	20.8	20.0	104	19.8	20.0	99	70 - 130	5	20
1,1,2,2-Tetrachloroethane	20.5	20.0	103	21.4	20.0	107	70 - 130	4	20
1,1,2-Trichloroethane	18.4	20.0	92	18.4	20.0	92	70 - 130	<1	20
1,1-Dichloroethane (1,1-DCA)	23.6	20.0	118	22.6	20.0	113	70 - 130	4	20
1,1-Dichloroethene (1,1-DCE)	21.8	20.0	109	21.2	20.0	106	70 - 130	3	20
1,1-Dichloropropene	18.1	20.0	91	17.0	20.0	85	70 - 130	6	20
1,2,3-Trichlorobenzene	19.3	20.0	97	18.9	20.0	95	70 - 130	2	20
1,2,3-Trichloropropane	19.5	20.0	97	19.7	20.0	99	70 - 130	1	20
1,2,4-Trichlorobenzene	21.0	20.0	105	19.2	20.0	96	70 - 130	9	20
1,2,4-Trimethylbenzene	21.7	20.0	109	20.5	20.0	103	70 - 130	6	20
1,2-Dibromo-3-chloropropane (DBCP)	17.6	20.0	88	19.3	20.0	96	70 - 130	9	20
1,2-Dibromoethane	19.1	20.0	95	19.0	20.0	95	70 - 130	<1	20
1,2-Dichlorobenzene	21.3	20.0	106	20.5	20.0	102	70 - 130	4	20
1,2-Dichloroethane	17.9	20.0	90	17.8	20.0	89	70 - 130	<1	20
1,2-Dichloropropane	20.2	20.0	101	19.5	20.0	98	70 - 130	4	20
1,3,5-Trimethylbenzene	21.9	20.0	110	20.4	20.0	102	70 - 130	7	20
1,3-Dichlorobenzene	21.4	20.0	107	20.6	20.0	103	70 - 130	4	20
1,3-Dichloropropane	18.9	20.0	94	18.8	20.0	94	70 - 130	<1	20
1,4-Dichlorobenzene	21.2	20.0	106	20.3	20.0	101	70 - 130	5	20
1,4-Dioxane	445	400	111	414	400	104	40 - 160	7	20
2,2-Dichloropropane	20.6	20.0	103	19.3	20.0	97	70 - 130	6	20
2-Butanone (MEK)	20.4	20.0	102	20.5	20.0	102	40 - 160	<1	20
2-Chlorotoluene	21.2	20.0	106	20.0	20.0	100	70 - 130	6	20
2-Hexanone	15.1	20.0	76	16.0	20.0	80	40 - 160	5	20
4-Chlorotoluene	21.9	20.0	109	19.2	20.0	96	70 - 130	13	20
p-Isopropyltoluene	23.6	20.0	118	22.0	20.0	110	70 - 130	7	20
4-Methyl-2-pentanone	16.0	20.0	80	16.7	20.0	83	40 - 160	4	20
Acetone	22.4	20.0	112	21.6	20.0	108	40 - 160	4	20
Benzene	20.2	20.0	101	19.3	20.0	96	70 - 130	5	20
Bromobenzene	19.8	20.0	99	18.8	20.0	94	70 - 130	5	20
Bromochloromethane	22.3	20.0	112	22.1	20.0	111	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/27/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338224

Analyte Name	Lab Control Sample RQ1304321-04			Duplicate Lab Control Sample RQ1304321-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	18.7	20.0	93	17.8	20.0	89	70 - 130	5	20
Bromoform	17.3	20.0	86	17.1	20.0	85	70 - 130	1	20
Bromomethane	14.1	20.0	70	11.9	20.0	60	40 - 160	17	20
Carbon Disulfide	24.6	20.0	123	23.3	20.0	117	70 - 130	5	20
Carbon Tetrachloride	18.3	20.0	92	17.7	20.0	89	70 - 130	3	20
Chlorobenzene	19.9	20.0	100	19.1	20.0	96	70 - 130	4	20
Chloroethane	21.1	20.0	106	19.5	20.0	98	70 - 130	8	20
Chloroform	22.1	20.0	111	21.1	20.0	106	70 - 130	5	20
Chloromethane	17.8	20.0	89	16.0	20.0	80	40 - 160	11	20
Dibromochloromethane	19.5	20.0	97	19.6	20.0	98	70 - 130	<1	20
Dibromomethane	18.3	20.0	91	17.9	20.0	89	70 - 130	2	20
Dichlorodifluoromethane (CFC 12)	18.4	20.0	92	16.8	20.0	84	40 - 160	9	20
Methylene Chloride	22.4	20.0	112	21.7	20.0	108	70 - 130	3	20
Diethyl Ether	22.4	20.0	112	21.8	20.0	109	70 - 130	3	20
Diisopropyl Ether	22.7	20.0	113	21.9	20.0	109	70 - 130	4	20
Ethyl tert-Butyl Ether	23.4	20.0	117	23.6	20.0	118	70 - 130	1	20
Ethylbenzene	19.4	20.0	97	18.7	20.0	94	70 - 130	4	20
Hexachlorobutadiene	22.7	20.0	114	21.1	20.0	106	70 - 130	7	20
Isopropylbenzene (Cumene)	22.1	20.0	111	20.6	20.0	103	70 - 130	7	20
Methyl tert-Butyl Ether	22.3	20.0	111	22.5	20.0	112	70 - 130	<1	20
Naphthalene	22.8	20.0	114	22.6	20.0	113	70 - 130	<1	20
Styrene	19.8	20.0	99	19.3	20.0	96	70 - 130	3	20
Tetrachloroethene (PCE)	17.5	20.0	88	16.5	20.0	82	70 - 130	6	20
Tetrahydrofuran (THF)	17.7	20.0	89	18.5	20.0	93	70 - 130	4	20
Toluene	18.9	20.0	94	18.3	20.0	92	70 - 130	3	20
Trichloroethene (TCE)	19.6	20.0	98	18.4	20.0	92	70 - 130	6	20
Trichlorofluoromethane (CFC 11)	20.5	20.0	103	19.5	20.0	98	70 - 130	5	20
Vinyl Chloride	23.0	20.0	115	21.5	20.0	107	70 - 130	7	20
cis-1,2-Dichloroethene	22.1	20.0	110	21.3	20.0	107	70 - 130	3	20
cis-1,3-Dichloropropene	18.9	20.0	94	17.8	20.0	89	70 - 130	6	20
m,p-Xylenes	40.1	40.0	100	38.1	40.0	95	70 - 130	5	20
n-Butylbenzene	22.2	20.0	111	20.7	20.0	104	70 - 130	7	20

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ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Analyzed: 4/27/13

Lab Control Sample Summary Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 338224

Analyte Name	Lab Control Sample RQ1304321-04			Duplicate Lab Control Sample RQ1304321-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	21.7	20.0	108	20.2	20.0	101	70 - 130	7	20
o-Xylene	19.7	20.0	99	18.9	20.0	95	70 - 130	4	20
sec-Butylbenzene	22.4	20.0	112	21.0	20.0	105	70 - 130	6	20
tert-Amyl Methyl Ether	20.3	20.0	102	20.8	20.0	104	70 - 130	2	20
tert-Butylbenzene	22.9	20.0	115	21.5	20.0	107	70 - 130	6	20
trans-1,2-Dichloroethene	22.4	20.0	112	21.0	20.0	105	70 - 130	6	20
trans-1,3-Dichloropropene	17.5	20.0	87	17.0	20.0	85	70 - 130	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/29/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338225

Analyte Name	Lab Control Sample RQ1304322-04			Duplicate Lab Control Sample RQ1304322-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	20.0	20.0	100	20.0	20.0	100	70 - 130	<1	20
1,1,1-Trichloroethane (TCA)	20.5	20.0	103	20.9	20.0	105	70 - 130	2	20
1,1,2,2-Tetrachloroethane	20.8	20.0	104	20.1	20.0	101	70 - 130	3	20
1,1,2-Trichloroethane	18.4	20.0	92	18.4	20.0	92	70 - 130	<1	20
1,1-Dichloroethane (1,1-DCA)	22.9	20.0	114	22.5	20.0	113	70 - 130	1	20
1,1-Dichloroethene (1,1-DCE)	21.4	20.0	107	21.0	20.0	105	70 - 130	2	20
1,1-Dichloropropene	17.8	20.0	89	17.5	20.0	87	70 - 130	2	20
1,2,3-Trichlorobenzene	19.4	20.0	97	18.5	20.0	92	70 - 130	5	20
1,2,3-Trichloropropane	19.5	20.0	97	19.4	20.0	97	70 - 130	<1	20
1,2,4-Trichlorobenzene	19.3	20.0	96	19.1	20.0	96	70 - 130	<1	20
1,2,4-Trimethylbenzene	21.2	20.0	106	21.2	20.0	106	70 - 130	<1	20
1,2-Dibromo-3-chloropropane (DBCP)	18.3	20.0	92	18.2	20.0	91	70 - 130	<1	20
1,2-Dibromoethane	18.7	20.0	94	18.5	20.0	93	70 - 130	<1	20
1,2-Dichlorobenzene	20.7	20.0	104	20.9	20.0	105	70 - 130	1	20
1,2-Dichloroethane	18.1	20.0	90	17.6	20.0	88	70 - 130	3	20
1,2-Dichloropropane	19.7	20.0	99	19.7	20.0	98	70 - 130	<1	20
1,3,5-Trimethylbenzene	21.2	20.0	106	21.4	20.0	107	70 - 130	<1	20
1,3-Dichlorobenzene	21.3	20.0	107	20.8	20.0	104	70 - 130	3	20
1,3-Dichloropropane	18.6	20.0	93	18.9	20.0	94	70 - 130	2	20
1,4-Dichlorobenzene	20.3	20.0	101	20.8	20.0	104	70 - 130	3	20
1,4-Dioxane	467	400	117	380	400	95	40 - 160	21 *	20
2,2-Dichloropropane	21.3	20.0	106	20.7	20.0	104	70 - 130	3	20
2-Butanone (MEK)	19.8	20.0	99	19.4	20.0	97	40 - 160	2	20
2-Chlorotoluene	19.5	20.0	98	19.9	20.0	100	70 - 130	2	20
2-Hexanone	15.3	20.0	77	15.6	20.0	78	40 - 160	2	20
4-Chlorotoluene	20.6	20.0	103	21.6	20.0	108	70 - 130	5	20
p-Isopropyltoluene	22.9	20.0	114	22.9	20.0	115	70 - 130	<1	20
4-Methyl-2-pentanone	15.8	20.0	79	15.8	20.0	79	40 - 160	<1	20
Acetone	19.2	20.0	96	19.0	20.0	95	40 - 160	1	20
Benzene	19.8	20.0	99	19.7	20.0	99	70 - 130	<1	20
Bromobenzene	19.2	20.0	96	19.1	20.0	95	70 - 130	<1	20
Bromochloromethane	22.4	20.0	112	22.5	20.0	112	70 - 130	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/29/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 338225

Analyte Name	Lab Control Sample RQ1304322-04			Duplicate Lab Control Sample RQ1304322-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	18.3	20.0	91	18.2	20.0	91	70 - 130	<1	20
Bromoform	17.2	20.0	86	16.8	20.0	84	70 - 130	2	20
Bromomethane	10.9	20.0	54	9.91	20.0	50	40 - 160	9	20
Carbon Disulfide	23.9	20.0	120	23.2	20.0	116	70 - 130	3	20
Carbon Tetrachloride	18.0	20.0	90	17.6	20.0	88	70 - 130	2	20
Chlorobenzene	19.5	20.0	97	19.3	20.0	97	70 - 130	<1	20
Chloroethane	22.0	20.0	110	21.2	20.0	106	70 - 130	4	20
Chloroform	21.6	20.0	108	21.6	20.0	108	70 - 130	<1	20
Chloromethane	15.3	20.0	77	14.3	20.0	71	40 - 160	7	20
Dibromochloromethane	19.5	20.0	98	18.8	20.0	94	70 - 130	4	20
Dibromomethane	17.6	20.0	88	17.5	20.0	88	70 - 130	<1	20
Dichlorodifluoromethane (CFC 12)	18.4	20.0	92	17.1	20.0	86	40 - 160	7	20
Dichloromethane	22.3	20.0	112	21.7	20.0	108	70 - 130	3	20
Diethyl Ether	21.5	20.0	108	21.2	20.0	106	70 - 130	2	20
Diisopropyl Ether	21.6	20.0	108	21.2	20.0	106	70 - 130	2	20
Ethyl tert-Butyl Ether	22.8	20.0	114	22.3	20.0	112	70 - 130	2	20
Ethylbenzene	19.3	20.0	96	19.3	20.0	96	70 - 130	<1	20
Hexachlorobutadiene	21.6	20.0	108	21.6	20.0	108	70 - 130	<1	20
Isopropylbenzene (Cumene)	21.1	20.0	106	21.2	20.0	106	70 - 130	<1	20
Methyl tert-Butyl Ether	21.9	20.0	109	21.8	20.0	109	70 - 130	<1	20
Naphthalene	22.1	20.0	111	21.6	20.0	108	70 - 130	3	20
Styrene	19.4	20.0	97	19.6	20.0	98	70 - 130	1	20
Tetrachloroethene (PCE)	16.9	20.0	85	17.0	20.0	85	70 - 130	<1	20
Tetrahydrofuran (THF)	16.1	20.0	81	18.1	20.0	90	70 - 130	11	20
Toluene	18.6	20.0	93	18.5	20.0	93	70 - 130	<1	20
Trichloroethene (TCE)	19.0	20.0	95	18.2	20.0	91	70 - 130	4	20
Trichlorofluoromethane (CFC 11)	21.2	20.0	106	20.9	20.0	105	70 - 130	1	20
Vinyl Chloride	23.0	20.0	115	22.4	20.0	112	70 - 130	2	20
cis-1,2-Dichloroethene	21.8	20.0	109	21.3	20.0	107	70 - 130	2	20
cis-1,3-Dichloropropene	18.4	20.0	92	17.8	20.0	89	70 - 130	3	20
m,p-Xylenes	39.6	40.0	99	39.3	40.0	98	70 - 130	<1	20
n-Butylbenzene	21.9	20.0	109	21.6	20.0	108	70 - 130	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/29/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338225

Analyte Name	Lab Control Sample RQ1304322-04			Duplicate Lab Control Sample RQ1304322-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	20.7	20.0	103	21.1	20.0	105	70 - 130	2	20
o-Xylene	19.3	20.0	97	19.2	20.0	96	70 - 130	<1	20
sec-Butylbenzene	21.8	20.0	109	21.6	20.0	108	70 - 130	1	20
tert-Amyl Methyl Ether	20.3	20.0	101	19.7	20.0	99	70 - 130	3	20
tert-Butylbenzene	22.1	20.0	111	22.1	20.0	111	70 - 130	<1	20
trans-1,2-Dichloroethene	21.8	20.0	109	21.7	20.0	108	70 - 130	<1	20
trans-1,3-Dichloropropene	17.0	20.0	85	17.1	20.0	85	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/29/13 -
 4/30/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338426

Analyte Name	Lab Control Sample RQ1304408-04			Duplicate Lab Control Sample RQ1304408-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	20.1	20.0	100	20.1	20.0	101	70 - 130	<1	20
1,1,1-Trichloroethane (TCA)	20.9	20.0	105	20.6	20.0	103	70 - 130	2	20
1,1,2,2-Tetrachloroethane	19.0	20.0	95	20.3	20.0	102	70 - 130	7	20
1,1,2-Trichloroethane	19.0	20.0	95	19.7	20.0	99	70 - 130	4	20
1,1-Dichloroethane (1,1-DCA)	22.9	20.0	115	22.8	20.0	114	70 - 130	<1	20
1,1-Dichloroethene (1,1-DCE)	22.7	20.0	114	22.8	20.0	114	70 - 130	<1	20
1,1-Dichloropropene	18.4	20.0	92	18.0	20.0	90	70 - 130	2	20
1,2,3-Trichlorobenzene	20.3	20.0	102	19.9	20.0	99	70 - 130	2	20
1,2,3-Trichloropropane	20.5	20.0	102	21.4	20.0	107	70 - 130	4	20
1,2,4-Trichlorobenzene	21.1	20.0	105	20.4	20.0	102	70 - 130	3	20
1,2,4-Trimethylbenzene	21.7	20.0	108	21.3	20.0	107	70 - 130	2	20
1,2-Dibromo-3-chloropropane (DBCP)	18.9	20.0	95	20.2	20.0	101	70 - 130	7	20
1,2-Dibromoethane	19.9	20.0	100	19.8	20.0	99	70 - 130	<1	20
1,2-Dichlorobenzene	21.1	20.0	105	21.2	20.0	106	70 - 130	<1	20
1,2-Dichloroethane	18.8	20.0	94	18.1	20.0	91	70 - 130	4	20
1,2-Dichloropropane	20.4	20.0	102	20.1	20.0	100	70 - 130	2	20
1,3,5-Trimethylbenzene	21.4	20.0	107	21.3	20.0	106	70 - 130	<1	20
1,3-Dichlorobenzene	21.9	20.0	109	21.6	20.0	108	70 - 130	1	20
1,3-Dichloropropane	19.9	20.0	99	20.1	20.0	101	70 - 130	1	20
1,4-Dichlorobenzene	21.3	20.0	107	21.1	20.0	105	70 - 130	1	20
1,4-Dioxane	516	400	129	427	400	107	40 - 160	19	20
2,2-Dichloropropane	18.0	20.0	90	17.0	20.0	85	70 - 130	6	20
2-Butanone (MEK)	20.1	20.0	101	20.0	20.0	100	40 - 160	<1	20
2-Chlorotoluene	20.3	20.0	102	20.2	20.0	101	70 - 130	<1	20
2-Hexanone	16.1	20.0	81	16.1	20.0	81	40 - 160	<1	20
4-Chlorotoluene	21.5	20.0	108	21.2	20.0	106	70 - 130	1	20
p-Isopropyltoluene	22.9	20.0	115	22.8	20.0	114	70 - 130	<1	20
4-Methyl-2-pentanone	16.2	20.0	81	16.5	20.0	83	40 - 160	2	20
Acetone	20.7	20.0	104	21.3	20.0	107	40 - 160	3	20
Benzene	20.3	20.0	102	20.1	20.0	101	70 - 130	1	20
Bromobenzene	19.5	20.0	98	19.8	20.0	99	70 - 130	1	20
Bromochloromethane	23.1	20.0	116	23.4	20.0	117	70 - 130	1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/29/13 -
 4/30/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338426

Analyte Name	Lab Control Sample RQ1304408-04			Duplicate Lab Control Sample RQ1304408-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	18.9	20.0	94	18.8	20.0	94	70 - 130	<1	20
Bromoform	17.8	20.0	89	18.0	20.0	90	70 - 130	1	20
Bromomethane	12.4	20.0	62	11.2	20.0	56	40 - 160	10	20
Carbon Disulfide	23.7	20.0	119	23.7	20.0	118	70 - 130	<1	20
Carbon Tetrachloride	19.0	20.0	95	18.7	20.0	93	70 - 130	2	20
Chlorobenzene	20.3	20.0	101	19.9	20.0	100	70 - 130	2	20
Chloroethane	21.9	20.0	109	20.6	20.0	103	70 - 130	6	20
Chloroform	22.3	20.0	112	22.7	20.0	114	70 - 130	2	20
Chloromethane	17.9	20.0	90	17.6	20.0	88	40 - 160	2	20
Dibromochloromethane	19.8	20.0	99	20.4	20.0	102	70 - 130	3	20
Dibromomethane	19.1	20.0	95	19.3	20.0	96	70 - 130	<1	20
Dichlorodifluoromethane (CFC 12)	18.0	20.0	90	18.3	20.0	92	40 - 160	2	20
Methylene Chloride	22.5	20.0	112	21.6	20.0	108	70 - 130	4	20
Diethyl Ether	22.5	20.0	113	21.9	20.0	110	70 - 130	3	20
Diisopropyl Ether	21.3	20.0	107	21.3	20.0	106	70 - 130	<1	20
Ethyl tert-Butyl Ether	23.1	20.0	116	23.1	20.0	116	70 - 130	<1	20
Ethylbenzene	19.7	20.0	98	19.5	20.0	97	70 - 130	1	20
Hexachlorobutadiene	21.9	20.0	109	22.6	20.0	113	70 - 130	3	20
Isopropylbenzene (Cumene)	21.5	20.0	107	21.2	20.0	106	70 - 130	1	20
Methyl tert-Butyl Ether	22.9	20.0	114	23.2	20.0	116	70 - 130	1	20
Naphthalene	23.8	20.0	119	23.4	20.0	117	70 - 130	2	20
Styrene	20.6	20.0	103	20.1	20.0	100	70 - 130	2	20
Tetrachloroethene (PCE)	17.6	20.0	88	17.9	20.0	90	70 - 130	2	20
Tetrahydrofuran (THF)	19.4	20.0	97	19.1	20.0	95	70 - 130	2	20
Toluene	18.9	20.0	95	18.8	20.0	94	70 - 130	<1	20
Trichloroethene (TCE)	21.6	20.0	108	20.4	20.0	102	70 - 130	5	20
Trichlorofluoromethane (CFC 11)	22.0	20.0	110	21.3	20.0	106	70 - 130	3	20
Vinyl Chloride	23.3	20.0	116	22.8	20.0	114	70 - 130	2	20
cis-1,2-Dichloroethene	22.0	20.0	110	21.7	20.0	109	70 - 130	1	20
cis-1,3-Dichloropropene	17.8	20.0	89	18.0	20.0	90	70 - 130	1	20
m,p-Xylenes	40.1	40.0	100	39.9	40.0	100	70 - 130	<1	20
n-Butylbenzene	21.2	20.0	106	21.3	20.0	106	70 - 130	<1	20

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ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Analyzed: 4/29/13 -
4/30/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 338426

Analyte Name	Lab Control Sample RQ1304408-04			Duplicate Lab Control Sample RQ1304408-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	21.1	20.0	106	21.0	20.0	105	70 - 130	<1	20
o-Xylene	20.0	20.0	100	20.0	20.0	100	70 - 130	<1	20
sec-Butylbenzene	22.2	20.0	111	21.7	20.0	109	70 - 130	2	20
tert-Amyl Methyl Ether	20.7	20.0	103	20.4	20.0	102	70 - 130	1	20
tert-Butylbenzene	22.6	20.0	113	22.3	20.0	111	70 - 130	2	20
trans-1,2-Dichloroethene	22.0	20.0	110	21.7	20.0	108	70 - 130	1	20
trans-1,3-Dichloropropene	17.1	20.0	85	16.7	20.0	84	70 - 130	2	20

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ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/30/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 338618

Analyte Name	Lab Control Sample RQ1304479-03			Duplicate Lab Control Sample RQ1304479-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	19.8	20.0	99	20.3	20.0	102	70 - 130	3	20
1,1,1-Trichloroethane (TCA)	20.6	20.0	103	20.6	20.0	103	70 - 130	<1	20
1,1,2,2-Tetrachloroethane	20.4	20.0	102	21.0	20.0	105	70 - 130	3	20
1,1,2-Trichloroethane	18.6	20.0	93	19.2	20.0	96	70 - 130	3	20
1,1-Dichloroethane (1,1-DCA)	21.5	20.0	107	22.0	20.0	110	70 - 130	2	20
1,1-Dichloroethene (1,1-DCE)	24.3	20.0	121	23.9	20.0	119	70 - 130	2	20
1,1-Dichloropropene	24.8	20.0	124	24.0	20.0	120	70 - 130	3	20
1,2,3-Trichlorobenzene	21.6	20.0	108	21.1	20.0	106	70 - 130	2	20
1,2,3-Trichloropropane	19.8	20.0	99	19.5	20.0	97	70 - 130	2	20
1,2,4-Trichlorobenzene	21.3	20.0	106	21.0	20.0	105	70 - 130	1	20
1,2,4-Trimethylbenzene	21.5	20.0	108	21.1	20.0	105	70 - 130	2	20
1,2-Dibromo-3-chloropropane (DBCP)	18.2	20.0	91	18.7	20.0	93	70 - 130	3	20
1,2-Dibromoethane	20.1	20.0	101	20.4	20.0	102	70 - 130	1	20
1,2-Dichlorobenzene	20.3	20.0	102	20.2	20.0	101	70 - 130	<1	20
1,2-Dichloroethane	21.3	20.0	107	21.8	20.0	109	70 - 130	2	20
1,2-Dichloropropane	21.2	20.0	106	22.0	20.0	110	70 - 130	4	20
1,3,5-Trimethylbenzene	21.6	20.0	108	21.3	20.0	107	70 - 130	1	20
1,3-Dichlorobenzene	20.7	20.0	104	20.2	20.0	101	70 - 130	2	20
1,3-Dichloropropane	20.5	20.0	103	21.1	20.0	105	70 - 130	3	20
1,4-Dichlorobenzene	20.6	20.0	103	20.2	20.0	101	70 - 130	2	20
1,4-Dioxane	435	400	109	453	400	113	40 - 160	4	20
2,2-Dichloropropane	21.6	20.0	108	21.2	20.0	106	70 - 130	2	20
2-Butanone (MEK)	22.0	20.0	110	22.9	20.0	114	40 - 160	4	20
2-Chlorotoluene	22.9	20.0	115	22.4	20.0	112	70 - 130	3	20
2-Hexanone	22.1	20.0	111	24.0	20.0	120	40 - 160	8	20
4-Chlorotoluene	22.3	20.0	111	21.8	20.0	109	70 - 130	2	20
p-Isopropyltoluene	22.5	20.0	113	22.3	20.0	111	70 - 130	1	20
4-Methyl-2-pentanone	22.9	20.0	115	23.8	20.0	119	40 - 160	4	20
Acetone	21.7	20.0	109	22.0	20.0	110	40 - 160	1	20
Benzene	20.7	20.0	103	20.8	20.0	104	70 - 130	<1	20
Bromobenzene	20.4	20.0	102	20.3	20.0	101	70 - 130	<1	20
Bromochloromethane	17.9	20.0	90	18.5	20.0	93	70 - 130	3	20

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ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702

Date Analyzed: 4/30/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 338618

Analyte Name	Lab Control Sample RQ1304479-03			Duplicate Lab Control Sample RQ1304479-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromodichloromethane	20.4	20.0	102	21.1	20.0	105	70 - 130	3	20
Bromoform	18.8	20.0	94	19.2	20.0	96	70 - 130	2	20
Bromomethane	21.9	20.0	109	21.2	20.0	106	40 - 160	3	20
Carbon Disulfide	21.0	20.0	105	18.7	20.0	94	70 - 130	11	20
Carbon Tetrachloride	20.1	20.0	100	20.4	20.0	102	70 - 130	2	20
Chlorobenzene	20.4	20.0	102	20.8	20.0	104	70 - 130	2	20
Chloroethane	22.5	20.0	112	22.9	20.0	114	70 - 130	2	20
Chloroform	20.7	20.0	103	20.8	20.0	104	70 - 130	<1	20
Chloromethane	22.2	20.0	111	22.8	20.0	114	40 - 160	3	20
Dibromochloromethane	19.1	20.0	95	20.0	20.0	100	70 - 130	5	20
Dibromomethane	19.6	20.0	98	20.3	20.0	101	70 - 130	4	20
Dichlorodifluoromethane (CFC 12)	26.0	20.0	130	26.1	20.0	131	40 - 160	<1	20
Dichloromethane	19.5	20.0	97	20.3	20.0	102	70 - 130	4	20
Diethyl Ether	21.4	20.0	107	21.6	20.0	108	70 - 130	1	20
Diisopropyl Ether	22.2	20.0	111	22.4	20.0	112	70 - 130	<1	20
Ethyl tert-Butyl Ether	21.4	20.0	107	21.8	20.0	109	70 - 130	2	20
Ethylbenzene	20.7	20.0	103	21.2	20.0	106	70 - 130	2	20
Hexachlorobutadiene	25.3	20.0	127	24.0	20.0	120	70 - 130	5	20
Isopropylbenzene (Cumene)	22.6	20.0	113	21.8	20.0	109	70 - 130	3	20
Methyl tert-Butyl Ether	20.1	20.0	101	21.5	20.0	107	70 - 130	6	20
Naphthalene	20.7	20.0	103	20.6	20.0	103	70 - 130	<1	20
Styrene	20.4	20.0	102	20.7	20.0	103	70 - 130	1	20
Tetrachloroethene (PCE)	22.0	20.0	110	21.7	20.0	108	70 - 130	1	20
Tetrahydrofuran (THF)	19.6	20.0	98	20.9	20.0	105	70 - 130	6	20
Toluene	21.1	20.0	106	21.0	20.0	105	70 - 130	<1	20
Trichloroethene (TCE)	21.1	20.0	105	21.1	20.0	105	70 - 130	<1	20
Trichlorofluoromethane (CFC 11)	22.9	20.0	115	23.2	20.0	116	70 - 130	<1	20
Vinyl Chloride	24.6	20.0	123	25.1	20.0	126	70 - 130	2	20
cis-1,2-Dichloroethene	19.9	20.0	99	20.2	20.0	101	70 - 130	2	20
cis-1,3-Dichloropropene	19.3	20.0	97	19.9	20.0	99	70 - 130	3	20
m,p-Xylenes	42.7	40.0	107	42.3	40.0	106	70 - 130	<1	20
n-Butylbenzene	23.1	20.0	115	22.4	20.0	112	70 - 130	3	20

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ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1302702
 Date Analyzed: 4/30/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 338618

Analyte Name	Lab Control Sample RQ1304479-03			Duplicate Lab Control Sample RQ1304479-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
n-Propylbenzene	22.7	20.0	113	22.6	20.0	113	70 - 130	<1	20
o-Xylene	20.5	20.0	103	20.5	20.0	102	70 - 130	<1	20
sec-Butylbenzene	22.3	20.0	111	21.9	20.0	109	70 - 130	2	20
tert-Amyl Methyl Ether	20.4	20.0	102	21.2	20.0	106	70 - 130	4	20
tert-Butylbenzene	21.8	20.0	109	21.5	20.0	108	70 - 130	1	20
trans-1,2-Dichloroethene	20.7	20.0	104	20.8	20.0	104	70 - 130	<1	20
trans-1,3-Dichloropropene	19.4	20.0	97	19.6	20.0	98	70 - 130	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1302702
Date Analyzed: 5/ 1/13

Lab Control Sample Summary Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 338621

Analyte Name	Lab Control Sample RQ1304480-03			Duplicate Lab Control Sample RQ1304480-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	21.0	20.0	105	19.4	20.0	97	70 - 130	8	20
1,1,2,2-Tetrachloroethane	19.7	20.0	99	18.8	20.0	94	70 - 130	5	20
1,1,2-Trichloroethane	19.0	20.0	95	17.7	20.0	89	70 - 130	7	20
1,1-Dichloroethane (1,1-DCA)	22.6	20.0	113	21.4	20.0	107	70 - 130	6	20
1,1-Dichloroethene (1,1-DCE)	24.6	20.0	123	22.6	20.0	113	70 - 130	8	20
1,2-Dichloroethane	22.0	20.0	110	20.9	20.0	105	70 - 130	5	20
1,2-Dichloropropane	22.8	20.0	114	21.2	20.0	106	70 - 130	7	20
Acetone	18.5	20.0	92	18.7	20.0	94	40 - 160	1	20
Bromodichloromethane	21.5	20.0	108	20.1	20.0	101	70 - 130	7	20
Bromoform	19.3	20.0	96	18.4	20.0	92	70 - 130	5	20
Bromomethane	22.9	20.0	114	20.0	20.0	100	40 - 160	13	20
Carbon Tetrachloride	20.3	20.0	102	18.8	20.0	94	70 - 130	8	20
Chlorobenzene	20.8	20.0	104	19.5	20.0	97	70 - 130	7	20
Chloroethane	23.7	20.0	119	21.3	20.0	107	70 - 130	11	20
Chloroform	21.8	20.0	109	20.2	20.0	101	70 - 130	8	20
Chloromethane	23.0	20.0	115	21.1	20.0	105	40 - 160	9	20
Dibromochloromethane	20.0	20.0	100	19.0	20.0	95	70 - 130	5	20
Methylene Chloride	20.4	20.0	102	19.0	20.0	95	70 - 130	7	20
Tetrachloroethene (PCE)	21.4	20.0	107	20.4	20.0	102	70 - 130	5	20
Trichloroethene (TCE)	21.5	20.0	107	20.3	20.0	101	70 - 130	6	20
Trichlorofluoromethane (CFC 11)	23.1	20.0	115	21.7	20.0	108	70 - 130	6	20
Vinyl Chloride	25.8	20.0	129	23.8	20.0	119	70 - 130	8	20
cis-1,2-Dichloroethene	20.9	20.0	104	19.2	20.0	96	70 - 130	8	20
cis-1,3-Dichloropropene	20.1	20.0	100	18.7	20.0	93	70 - 130	7	20
trans-1,2-Dichloroethene	20.8	20.0	104	19.6	20.0	98	70 - 130	6	20
trans-1,3-Dichloropropene	19.9	20.0	99	19.0	20.0	95	70 - 130	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 4/27/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/25/13
Calibration ID: RC1300029
Analysis Lot: 338224
Units: ppb

File ID: I:\ACQUDATA\MSVOA8\DATA\042713\A5427.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	49.7	0.2200	0.2185	-0.7	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	52.7	0.4281	0.4513	5.4	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	51.9	0.4168	0.4323	3.7	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	48.5	0.1665	0.1615	-3.0	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	57.2	0.6115	0.6991	14.3	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	49.9	0.2876	0.2869	-0.3	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	40.5	0.3624	0.2933	-19.1	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	49.3	0.4243	0.4186	-1.3	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	48.1	0.1088	0.1048	-3.7	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	49.5	0.4852	0.4801	-1.1	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	53.2	1.644	1.747	6.3	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	48.0	0.06258	0.06006	-4.0	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	47.8	0.1752	0.1674	-4.4	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	52.0	0.8516	0.8862	4.1	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	43.7	0.2255	0.1969	-12.7	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	49.1	0.2444	0.2401	-1.8	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	52.3	1.670	1.748	4.6	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	53.6	0.9560	1.024	7.1	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	47.8	0.3740	0.3579	-4.3	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	52.5	0.9511	0.9976	4.9	NA	± 20 %	Average RF
1,4-Dioxane	1000	780	0.001448	0.001129	-22.0	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	52.0	0.4893	0.5086	4.0	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	47.8	0.1282	0.1225	-4.4	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	51.6	1.582	1.633	3.2	NA	± 20 %	Average RF
2-Hexanone	50.0	38.1	0.1593	0.1212	-23.9	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	49.9	1.599	1.597	-0.1	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	55.9	1.732	1.935	11.7	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	39.6	0.2338	0.1852	-20.8	NA	± 60 %	Average RF
Acetone	50.0	44.5	0.07237	0.06438	-11.0	NA	± 60 %	Average RF
Benzene	50.0	49.1	0.9694	0.9518	-1.8	NA	± 20 %	Average RF
Bromobenzene	50.0	48.8	0.5408	0.5279	-2.4	NA	± 20 %	Average RF
Bromochloromethane	50.0	56.1	0.1495	0.1678	12.2	NA	± 20 %	Average RF
Bromodichloromethane	50.0	46.1	0.2769	0.2554	-7.8	NA	± 20 %	Average RF
Bromoform	50.0	46.1	0.2147	0.1979	-7.9	NA	± 20 %	Average RF
Bromomethane	50.0	35.8	0.1827	0.1308	-28.4	NA	± 60 %	Average RF
Carbon Disulfide	50.0	55.2	1.021	1.126	10.3	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	45.9	0.2206	0.2023	-8.3	NA	± 20 %	Average RF
Chlorobenzene	50.0	48.7	0.6482	0.6316	-2.6	NA	± 20 %	Average RF
Chloroethane	50.0	50.7	0.2715	0.2752	1.4	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 4/27/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/25/13
Calibration ID: RC1300029
Analysis Lot: 338224
Units: ppb

File ID: I:\ACQUDATA\MSVOA8\DATA\042713\A5427.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	54.0	0.5889	0.6365	8.1	NA	± 20 %	Average RF
Chloromethane	50.0	41.8	0.4670	0.3903	-16.4	NA	± 60 %	Average RF
Dibromochloromethane	50.0	50.6	0.1931	0.1955	1.3	NA	± 20 %	Average RF
Dibromomethane	50.0	45.1	0.1150	0.1037	-9.8	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	49.7	0.3440	0.3416	-0.7	NA	± 60 %	Average RF
Methylene Chloride	50.0	53.8	0.3669	0.3948	7.6	NA	± 20 %	Average RF
Diethyl Ether	50.0	53.5	0.2399	0.2566	7.0	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	52.7	1.543	1.625	5.3	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	55.8	1.010	1.127	11.6	NA	± 20 %	Average RF
Ethylbenzene	50.0	47.2	1.237	1.168	-5.6	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	57.4	0.2024	0.2324	14.8	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	52.3	2.100	2.197	4.6	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	55.5	0.7224	0.8013	10.9	NA	± 20 %	Average RF
Naphthalene	50.0	54.6	0.9382	1.024	9.2	NA	± 20 %	Average RF
Styrene	50.0	50.5	0.7209	0.7278	1.0	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	42.1	0.2928	0.2464	-15.9	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	46.0	0.07874	0.07249	-7.9	NA	± 20 %	Average RF
Toluene	50.0	47.1	1.138	1.072	-5.8	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	47.2	0.2282	0.2154	-5.6	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	53.0	0.3749	0.3971	5.9	NA	± 20 %	Average RF
Vinyl Chloride	50.0	53.9	0.3959	0.4264	7.7	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	55.0	0.3763	0.4137	9.9	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	47.8	0.3791	0.3621	-4.5	NA	± 20 %	Average RF
m,p-Xylenes	100	97.2	0.4389	0.4267	-2.8	NA	± 20 %	Average RF
n-Butylbenzene	50.0	53.5	1.784	1.908	6.9	NA	± 20 %	Average RF
n-Propylbenzene	50.0	52.2	2.681	2.800	4.5	NA	± 20 %	Average RF
o-Xylene	50.0	49.2	0.4250	0.4180	-1.6	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	54.0	2.215	2.391	8.0	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	49.0	0.5622	0.5508	-2.0	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	55.2	1.432	1.582	10.5	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	55.1	0.3296	0.3634	10.3	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	45.5	0.3650	0.3324	-8.9	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	48.4	0.4661	0.4511	-3.2	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	49.1	0.2711	0.2662	-1.8	NA	± 20 %	Average RF
Toluene-d8	50.0	49.6	1.185	1.175	-0.8	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 4/29/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/25/13
Calibration ID: RC1300029
Analysis Lot: 338225
Units: ppb

File ID: I:\ACQUDATA\MSVOA8\DATA\042913\A5496.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	48.9	0.2200	0.2151	-2.3	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	49.5	0.4281	0.4239	-1.0	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	52.6	0.4168	0.4383	5.2	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	48.4	0.1665	0.1613	-3.1	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	53.9	0.6115	0.6586	7.7	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	46.3	0.2876	0.2663	-7.4	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	37.5	0.3624	0.2720	-24.9 *	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	49.0	0.4243	0.4160	-2.0	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	48.8	0.1088	0.1063	-2.3	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	49.8	0.4852	0.4829	-0.5	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	49.9	1.644	1.641	-0.2	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	47.7	0.06258	0.05971	-4.6	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	48.6	0.1752	0.1702	-2.8	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	51.3	0.8516	0.8731	2.5	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	43.9	0.2255	0.1980	-12.2	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	46.5	0.2444	0.2270	-7.1	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	48.7	1.670	1.625	-2.7	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	50.7	0.9560	0.9685	1.3	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	47.1	0.3740	0.3525	-5.7	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	50.2	0.9511	0.9548	0.4	NA	± 20 %	Average RF
1,4-Dioxane	1000	716	0.001448	0.001038	-28.4	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	50.4	0.4893	0.4934	0.8	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	45.3	0.1282	0.1160	-9.5	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	49.4	1.582	1.563	-1.2	NA	± 20 %	Average RF
2-Hexanone	50.0	37.3	0.1593	0.1187	-25.5	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	47.2	1.599	1.510	-5.6	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	51.2	1.732	1.772	2.3	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	38.0	0.2338	0.1778	-24.0	NA	± 60 %	Average RF
Acetone	50.0	44.0	0.07237	0.06363	-12.1	NA	± 60 %	Average RF
Benzene	50.0	46.4	0.9694	0.9004	-7.1	NA	± 20 %	Average RF
Bromobenzene	50.0	47.0	0.5408	0.5080	-6.1	NA	± 20 %	Average RF
Bromochloromethane	50.0	55.7	0.1495	0.1665	11.3	NA	± 20 %	Average RF
Bromodichloromethane	50.0	45.2	0.2769	0.2506	-9.5	NA	± 20 %	Average RF
Bromoform	50.0	46.8	0.2147	0.2009	-6.4	NA	± 20 %	Average RF
Bromomethane	50.0	32.1	0.1827	0.1172	-35.8	NA	± 60 %	Average RF
Carbon Disulfide	50.0	49.8	1.021	1.017	-0.4	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	43.8	0.2206	0.1930	-12.5	NA	± 20 %	Average RF
Chlorobenzene	50.0	47.1	0.6482	0.6101	-5.9	NA	± 20 %	Average RF
Chloroethane	50.0	48.7	0.2715	0.2643	-2.6	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 4/29/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/25/13
Calibration ID: RC1300029
Analysis Lot: 338225
Units: ppb

File ID: I:\ACQUDATA\MSVOA8\DATA\042913\A5496.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	51.1	0.5889	0.6015	2.1	NA	± 20 %	Average RF
Chloromethane	50.0	39.8	0.4670	0.3715	-20.4	NA	± 60 %	Average RF
Dibromochloromethane	50.0	49.2	0.1931	0.1901	-1.6	NA	± 20 %	Average RF
Dibromomethane	50.0	44.3	0.1150	0.1018	-11.5	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	44.4	0.3440	0.3051	-11.3	NA	± 60 %	Average RF
Dichloromethane	50.0	51.1	0.3669	0.3747	2.1	NA	± 20 %	Average RF
Diethyl Ether	50.0	50.5	0.2399	0.2422	1.0	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	47.7	1.543	1.471	-4.6	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	52.2	1.010	1.055	4.4	NA	± 20 %	Average RF
Ethylbenzene	50.0	44.8	1.237	1.109	-10.3	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	51.3	0.2024	0.2075	2.5	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	48.2	2.100	2.026	-3.5	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	53.9	0.7224	0.7785	7.8	NA	± 20 %	Average RF
Naphthalene	50.0	55.6	0.9382	1.043	11.2	NA	± 20 %	Average RF
Styrene	50.0	48.6	0.7209	0.7011	-2.8	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	40.6	0.2928	0.2375	-18.9	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	42.3	0.07874	0.06661	-15.4	NA	± 20 %	Average RF
Toluene	50.0	44.7	1.138	1.017	-10.7	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	43.8	0.2282	0.1998	-12.4	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	50.0	0.3749	0.3748	0.0	NA	± 20 %	Average RF
Vinyl Chloride	50.0	48.5	0.3959	0.3837	-3.1	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	51.6	0.3763	0.3882	3.1	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	47.0	0.3791	0.3559	-6.1	NA	± 20 %	Average RF
m,p-Xylenes	100	92.6	0.4389	0.4062	-7.4	NA	± 20 %	Average RF
n-Butylbenzene	50.0	49.8	1.784	1.775	-0.5	NA	± 20 %	Average RF
n-Propylbenzene	50.0	48.6	2.681	2.606	-2.8	NA	± 20 %	Average RF
o-Xylene	50.0	47.1	0.4250	0.4004	-5.8	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	49.8	2.215	2.205	-0.4	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	46.9	0.5622	0.5269	-6.3	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	50.7	1.432	1.453	1.5	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	50.8	0.3296	0.3347	1.5	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	45.0	0.3650	0.3285	-10.0	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	48.9	0.4661	0.4559	-2.2	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	49.9	0.2711	0.2703	-0.3	NA	± 20 %	Average RF
Toluene-d8	50.0	48.6	1.185	1.151	-2.8	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 4/29/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/25/13
Calibration ID: RC1300029
Analysis Lot: 338426
Units: ppb

File ID: I:\ACQUDATA\MSVOA8\DATA\042913\A5527.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	49.9	0.2200	0.2195	-0.2	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	51.2	0.4281	0.4381	2.3	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	48.5	0.4168	0.4043	-3.0	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	49.2	0.1665	0.1638	-1.6	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	55.6	0.6115	0.6800	11.2	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCE)	50.0	48.6	0.2876	0.2795	-2.8	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	39.1	0.3624	0.2837	-21.7 *	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	51.7	0.4243	0.4388	3.4	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	50.3	0.1088	0.1095	0.6	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	51.9	0.4852	0.5039	3.9	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	52.4	1.644	1.724	4.9	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	51.4	0.06258	0.06428	2.7	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	48.8	0.1752	0.1710	-2.4	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	53.1	0.8516	0.9049	6.3	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	45.6	0.2255	0.2058	-8.8	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	47.1	0.2444	0.2302	-5.8	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	51.2	1.670	1.712	2.5	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	53.3	0.9560	1.020	6.7	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	48.1	0.3740	0.3597	-3.8	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	51.8	0.9511	0.9853	3.6	NA	± 20 %	Average RF
1,4-Dioxane	1000	926	0.001448	0.001341	-7.4	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	44.2	0.4893	0.4321	-11.7	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	47.5	0.1282	0.1217	-5.0	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	49.9	1.582	1.579	-0.2	NA	± 20 %	Average RF
2-Hexanone	50.0	38.2	0.1593	0.1216	-23.6	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	52.1	1.599	1.667	4.2	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	55.1	1.732	1.908	10.1	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	38.0	0.2338	0.1776	-24.0	NA	± 60 %	Average RF
Acetone	50.0	52.9	0.07237	0.07656	5.8	NA	± 60 %	Average RF
Benzene	50.0	48.0	0.9694	0.9315	-3.9	NA	± 20 %	Average RF
Bromobenzene	50.0	48.4	0.5408	0.5235	-3.2	NA	± 20 %	Average RF
Bromochloromethane	50.0	57.7	0.1495	0.1724	15.3	NA	± 20 %	Average RF
Bromodichloromethane	50.0	45.7	0.2769	0.2528	-8.7	NA	± 20 %	Average RF
Bromoform	50.0	47.0	0.2147	0.2019	-6.0	NA	± 20 %	Average RF
Bromomethane	50.0	35.1	0.1827	0.1281	-29.9	NA	± 60 %	Average RF
Carbon Disulfide	50.0	51.1	1.021	1.044	2.3	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	45.8	0.2206	0.2019	-8.5	NA	± 20 %	Average RF
Chlorobenzene	50.0	48.4	0.6482	0.6276	-3.2	NA	± 20 %	Average RF
Chloroethane	50.0	49.6	0.2715	0.2695	-0.7	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 4/29/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/25/13

Calibration ID: RC1300029

File ID: I:\ACQUDATA\MSVOA8\DATA\042913\A5527.D\

Analysis Lot: 338426

Units: ppb

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	54.0	0.5889	0.6357	7.9	NA	± 20 %	Average RF
Chloromethane	50.0	41.1	0.4670	0.3841	-17.8	NA	± 60 %	Average RF
Dibromochloromethane	50.0	50.1	0.1931	0.1934	0.2	NA	± 20 %	Average RF
Dibromomethane	50.0	45.3	0.1150	0.1042	-9.3	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	46.4	0.3440	0.3191	-7.2	NA	± 60 %	Average RF
Methylene Chloride	50.0	54.0	0.3669	0.3965	8.1	NA	± 20 %	Average RF
Diethyl Ether	50.0	52.2	0.2399	0.2506	4.5	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	48.8	1.543	1.507	-2.3	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	53.2	1.010	1.075	6.4	NA	± 20 %	Average RF
Ethylbenzene	50.0	46.6	1.237	1.154	-6.7	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	58.7	0.2024	0.2375	17.3	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	51.5	2.100	2.161	2.9	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	55.7	0.7224	0.8043	11.3	NA	± 20 %	Average RF
Naphthalene	50.0	57.8	0.9382	1.085	15.6	NA	± 20 %	Average RF
Styrene	50.0	50.8	0.7209	0.7326	1.6	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	42.0	0.2928	0.2460	-16.0	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	45.8	0.07874	0.07204	-8.5	NA	± 20 %	Average RF
Toluene	50.0	45.9	1.138	1.046	-8.1	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	49.7	0.2282	0.2269	-0.5	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	52.8	0.3749	0.3958	5.6	NA	± 20 %	Average RF
Vinyl Chloride	50.0	51.6	0.3959	0.4082	3.1	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	54.4	0.3763	0.4092	8.7	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	46.7	0.3791	0.3537	-6.7	NA	± 20 %	Average RF
m,p-Xylenes	100	95.7	0.4389	0.4200	-4.3	NA	± 20 %	Average RF
n-Butylbenzene	50.0	52.7	1.784	1.879	5.3	NA	± 20 %	Average RF
n-Propylbenzene	50.0	50.5	2.681	2.706	1.0	NA	± 20 %	Average RF
o-Xylene	50.0	48.6	0.4250	0.4129	-2.8	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	53.2	2.215	2.355	6.3	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	47.1	0.5622	0.5290	-5.9	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	53.9	1.432	1.544	7.8	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	53.1	0.3296	0.3503	6.3	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	44.2	0.3650	0.3227	-11.6	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	49.7	0.4661	0.4636	-0.5	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	50.2	0.2711	0.2722	0.4	NA	± 20 %	Average RF
Toluene-d8	50.0	48.7	1.185	1.155	-2.5	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 4/30/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 338618
Units: ppb

File ID: I:\ACQUADATA\msvoa12\Data\043013\T6093.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	49.5	0.3060	0.3029	-1.0	NA	± 20 %	Average RF
1,1,1-Trichloroethane (TCA)	50.0	49.5	0.6568	0.6505	-1.0	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	48.9	0.5411	0.5290	-2.2	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	47.1	0.2203	0.2076	-5.8	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	52.2	0.7944	0.8299	4.5	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	50.9	0.3273	0.3329	1.7	NA	± 20 %	Average RF
1,1-Dichloropropene	50.0	52.4	0.3433	0.3595	4.7	NA	± 20 %	Average RF
1,2,3-Trichlorobenzene	50.0	46.3	0.6654	0.6155	-7.5	NA	± 20 %	Average RF
1,2,3-Trichloropropane	50.0	45.5	0.1621	0.1474	-9.1	NA	± 20 %	Average RF
1,2,4-Trichlorobenzene	50.0	46.1	0.7842	0.7230	-7.8	NA	± 20 %	Average RF
1,2,4-Trimethylbenzene	50.0	49.6	2.186	2.167	-0.9	NA	± 20 %	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	43.9	0.1017	0.08925	-12.3	NA	± 20 %	Average RF
1,2-Dibromoethane	50.0	48.5	0.2283	0.2216	-2.9	NA	± 20 %	Average RF
1,2-Dichlorobenzene	50.0	48.0	1.207	1.159	-4.0	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	51.3	0.3433	0.3521	2.5	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	51.5	0.3019	0.3111	3.1	NA	± 20 %	Average RF
1,3,5-Trimethylbenzene	50.0	49.9	2.137	2.132	-0.3	NA	± 20 %	Average RF
1,3-Dichlorobenzene	50.0	48.4	1.257	1.217	-3.2	NA	± 20 %	Average RF
1,3-Dichloropropane	50.0	49.7	0.4471	0.4448	-0.5	NA	± 20 %	Average RF
1,4-Dichlorobenzene	50.0	48.5	1.283	1.244	-3.1	NA	± 20 %	Average RF
1,4-Dioxane	1000	1010	0.002061	0.002084	1.1	NA	± 60 %	Average RF
2,2-Dichloropropane	50.0	52.5	0.6550	0.6875	5.0	NA	± 20 %	Average RF
2-Butanone (MEK)	50.0	52.8	0.1464	0.1545	5.6	NA	± 60 %	Average RF
2-Chlorotoluene	50.0	52.0	1.882	1.958	4.0	NA	± 20 %	Average RF
2-Hexanone	50.0	53.8	0.1545	0.1662	7.6	NA	± 60 %	Average RF
4-Chlorotoluene	50.0	50.7	2.190	2.219	1.3	NA	± 20 %	Average RF
p-Isopropyltoluene	50.0	50.4	2.096	2.113	0.8	NA	± 20 %	Average RF
4-Methyl-2-pentanone	50.0	53.7	0.2043	0.2192	7.3	NA	± 60 %	Average RF
Acetone	50.0	49.3	0.09742	0.09608	-1.4	NA	± 60 %	Average RF
Benzene	50.0	49.7	1.177	1.170	-0.6	NA	± 20 %	Average RF
Bromobenzene	50.0	48.0	0.6652	0.6386	-4.0	NA	± 20 %	Average RF
Bromochloromethane	50.0	45.3	0.2783	0.2520	-9.5	NA	± 20 %	Average RF
Bromodichloromethane	50.0	49.9	0.3583	0.3578	-0.2	NA	± 20 %	Average RF
Bromoform	50.0	48.4	0.2864	0.2771	-3.2	NA	± 20 %	Average RF
Bromomethane	50.0	51.9	0.2960	0.3072	3.8	NA	± 60 %	Average RF
Carbon Disulfide	50.0	45.7	1.415	1.294	-8.6	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	50.1	0.1079	0.1080	0.1	NA	± 20 %	Average RF
Chlorobenzene	50.0	49.4	0.8627	0.8529	-1.1	NA	± 20 %	Average RF
Chloroethane	50.0	51.8	0.3090	0.3202	3.6	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 4/30/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 338618
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\043013\T6093.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Chloroform	50.0	49.4	0.7630	0.7532	-1.3	NA	± 20 %	Average RF
Chloromethane	50.0	52.4	0.4524	0.4744	4.9	NA	± 60 %	Average RF
Dibromochloromethane	50.0	49.1	0.2632	0.2587	-1.7	NA	± 20 %	Average RF
Dibromomethane	50.0	47.9	0.1430	0.1371	-4.2	NA	± 20 %	Average RF
Dichlorodifluoromethane (CFC 12)	50.0	62.7	0.2988	0.3745	25.4	NA	± 60 %	Average RF
Dichloromethane	50.0	46.5	0.4566	0.4244	-7.0	NA	± 20 %	Average RF
Diethyl Ether	50.0	50.2	0.3490	0.3506	0.5	NA	± 20 %	Average RF
Diisopropyl Ether	50.0	52.2	1.655	1.727	4.3	NA	± 20 %	Average RF
Ethyl tert-Butyl Ether	50.0	50.1	1.441	1.445	0.2	NA	± 20 %	Average RF
Ethylbenzene	50.0	49.8	0.4584	0.4562	-0.5	NA	± 20 %	Average RF
Hexachlorobutadiene	50.0	47.2	0.3118	0.2944	-5.6	NA	± 20 %	Average RF
Isopropylbenzene (Cumene)	50.0	51.1	2.499	2.552	2.1	NA	± 20 %	Average RF
Methyl tert-Butyl Ether	50.0	49.8	1.146	1.141	-0.5	NA	± 20 %	Average RF
Naphthalene	50.0	46.2	1.517	1.402	-7.6	NA	± 20 %	Average RF
Styrene	50.0	51.2	0.9315	0.9543	2.4	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	51.2	0.2343	0.2400	2.5	NA	± 20 %	Average RF
Tetrahydrofuran (THF)	50.0	47.0	0.1046	0.09833	-6.0	NA	± 20 %	Average RF
Toluene	50.0	50.5	1.198	1.210	1.0	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	50.0	0.2750	0.2751	0.1	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	53.5	0.6137	0.6569	7.0	NA	± 20 %	Average RF
Vinyl Chloride	50.0	55.4	0.4537	0.5030	10.9	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	48.7	0.4867	0.4743	-2.5	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	49.8	0.4612	0.4596	-0.3	NA	± 20 %	Average RF
m,p-Xylenes	100	101	0.5569	0.5610	0.7	NA	± 20 %	Average RF
n-Butylbenzene	50.0	51.0	1.921	1.961	2.1	NA	± 20 %	Average RF
n-Propylbenzene	50.0	51.6	2.945	3.037	3.1	NA	± 20 %	Average RF
o-Xylene	50.0	48.9	0.5616	0.5493	-2.2	NA	± 20 %	Average RF
sec-Butylbenzene	50.0	49.6	2.471	2.451	-0.8	NA	± 20 %	Average RF
tert-Amyl Methyl Ether	50.0	48.3	1.233	1.191	-3.4	NA	± 20 %	Average RF
tert-Butylbenzene	50.0	49.2	1.756	1.728	-1.6	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	49.9	0.4239	0.4234	-0.1	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	49.6	0.3862	0.3829	-0.9	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	48.6	0.4844	0.4708	-2.8	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	50.8	0.2811	0.2858	1.7	NA	± 20 %	Average RF
Toluene-d8	50.0	50.6	1.215	1.230	1.3	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702
Date Analyzed: 5/ 1/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 3/11/13
Calibration ID: RC1300016
Analysis Lot: 338621
Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\050113\T6122.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	50.2	0.6568	0.6593	0.4	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	48.4	0.5411	0.5236	-3.2	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	48.2	0.2203	0.2125	-3.5	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	54.7	0.7944	0.8697	9.5	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	52.6	0.3273	0.3439	5.1	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	52.9	0.3433	0.3631	5.8	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	53.9	0.3019	0.3252	7.7	NA	± 20 %	Average RF
Acetone	50.0	47.5	0.09742	0.09253	-5.0	NA	± 60 %	Average RF
Bromodichloromethane	50.0	51.0	0.3583	0.3657	2.0	NA	± 20 %	Average RF
Bromoform	50.0	48.7	0.2864	0.2787	-2.7	NA	± 20 %	Average RF
Bromomethane	50.0	52.8	0.2960	0.3123	5.5	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	51.7	0.1079	0.1116	3.4	NA	± 20 %	Average RF
Chlorobenzene	50.0	50.0	0.8627	0.8619	-0.1	NA	± 20 %	Average RF
Chloroethane	50.0	55.1	0.3090	0.3402	10.1	NA	± 20 %	Average RF
Chloroform	50.0	51.3	0.7630	0.7821	2.5	NA	± 20 %	Average RF
Chloromethane	50.0	53.0	0.4524	0.4793	6.0	NA	± 60 %	Average RF
Dibromochloromethane	50.0	49.7	0.2632	0.2618	-0.6	NA	± 20 %	Average RF
Methylene Chloride	50.0	47.8	0.4566	0.4364	-4.4	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	51.9	0.2343	0.2430	3.7	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	51.3	0.2750	0.2818	2.5	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	55.6	0.6137	0.6825	11.2	NA	± 20 %	Average RF
Vinyl Chloride	50.0	57.0	0.4537	0.5167	13.9	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	50.0	0.4867	0.4869	0.1	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	51.7	0.4612	0.4767	3.4	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	51.2	0.4239	0.4343	2.4	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	51.8	0.3862	0.4003	3.6	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	49.3	0.4844	0.4777	-1.4	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	50.7	0.2811	0.2847	1.3	NA	± 20 %	Average RF
Toluene-d8	50.0	51.6	1.215	1.254	3.2	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702

Continuing Calibration Verification (CCV) Summary Chloride

Analytical Method: SM 4500-Cl- E

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	337578	RQ1304083-01	4/23/13 13:24	45.5	45.7	100	90 - 110
CCV2	337578	RQ1304083-08	4/23/13 13:31	45.5	45.7	100	90 - 110
CCV3	337578	RQ1304083-10	4/23/13 13:43	45.5	46.9	103	90 - 110
CCV4	337580	RQ1304084-01	4/23/13 13:43	45.5	46.9	103	90 - 110
CCV5	337578	RQ1304083-14	4/23/13 13:51	45.5	47.0	103	90 - 110
CCV6	337580	RQ1304084-06	4/23/13 13:51	45.5	47.0	103	90 - 110
CCV7	337580	RQ1304084-08	4/23/13 13:54	45.5	46.8	103	90 - 110

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1302702

Continuing Calibration Blank (CCB) Summary Chloride

Analytical Method: SM 4500-Cl- E

Units: mg/L

	Analysis Lot	Lab Code	Date Analyzed	MRL	Result Q
CCB1	337578	RQ1304083-02	4/23/13 13:24	1.0	1.0 U
CCB2	337578	RQ1304083-07	4/23/13 13:32	1.0	1.0 U
CCB3	337578	RQ1304083-09	4/23/13 13:44	1.0	1.0 U
CCB4	337580	RQ1304084-02	4/23/13 13:44	1.0	1.0 U
CCB5	337578	RQ1304083-13	4/23/13 13:52	1.0	1.0 U
CCB6	337580	RQ1304084-05	4/23/13 13:52	1.0	1.0 U
CCB7	337580	RQ1304084-07	4/23/13 13:55	1.0	1.0 U

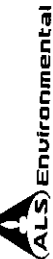


CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 7176

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 31 OF 4

Project Name Varian Beverly		Project Number 146899-060000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)									
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE		NUMBER OF CONTAINERS		GCM VOAS 8200, 824 • CLP 8270 • 825 GC VOAS 8021 • 801/802 PESTICIDES 8081 • 808 PCBS 8082 • 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) Chloride Fe + Mn		PRESERVATIVE KEY 0. NONE 1. HCL 2. HNO3 3. H2SO4 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO4 8. Other			
Canton, MA 02021		617-589-6102		Raymond.Cadorette@CBI.com		1		20		Previously Signed			
Client Sample ID		DATE		SAMPLING TIME		MATRIX							
0228-00(84)		4-16-13		1600		GW							
Mn-34 (63)		4-16-13		0830									
BR-7 zone 1		4-16-13		0900									
BR-7 zone 2		4-16-13		0915									
BR-7 zone 3		4-16-13		0930									
CL8-BR zone 1		4-16-13		1020									
CL8-BR zone 2		4-16-13		1030									
CL8-BR zone 3		4-16-13		1040									
BR-6 zone 1		4-16-13		1120									
BR-6 zone 2		4-16-13		1130									
BR-6 zone 3		4-16-13		1140									
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site specific VOC list FULL LIST Massachusetts CAM analyses reporting and QA/QC. Email GISKey formatted EDD and PDF of report to: Catherine.Mainville@CBI.com.													
TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 1 day 2 day 3 day 4 day 5 day Standard REQUESTED REPORT DATE													
REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MS/MSD as required) III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data													
INVOICE INFORMATION PO # 842815 BILL TO: Shaw/CB&I													
Edata <input checked="" type="checkbox"/> Yes RELINQUISHED E R1302702 7 Y CB&I Environmental & Infrastructure Varian Beverly													
STATE WHERE SAMPLES WERE COLLECTED				RECEIVED BY VPS				RELINQUISHED BY					
Signature Christy		Signature VPS		Signature VPS		Signature VPS		Signature VPS		Signature VPS			
Printed Name Christy		Printed Name VPS		Printed Name VPS		Printed Name VPS		Printed Name VPS		Printed Name VPS			
Firm CB&I		Firm VPS		Firm VPS		Firm VPS		Firm VPS		Firm VPS			
Date/Time 4-17-13 1440		Date/Time 4-17-13 1440		Date/Time 4-17-13 1440		Date/Time 4-17-13 1440		Date/Time 4-17-13 1440		Date/Time 4-17-13 1440			

Project Name Varian Beverly		Project Number 146899-06000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)													
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE													
Company/Address Shaw Environmental, A CB&I Company																	
150 Royall Street																	
Canton, MA 02021																	
Phone # 617-589-6102		Email Raymond.Cadorette@CBI.com															
Sample's Signature <i>Raymond Cadorette</i>		Sample's Printed Name Raymond Cadorette															
FOR OFFICE USE ONLY		LAB ID		SAMPLING DATE		SAMPLING TIME		MATRIX		NUMBER OF CONTAINERS		METALS, TOTAL (List in comments below)		METALS, DISCLOSED (List in comments below)		PRESERVATIVE KEY	
CLIENT SAMPLE ID				DATE		TIME		MATRIX									
BR-S zone 1				4-16-13		1215		GW		3							
BR-S zone 2				4-16-13		1236				3							
BR-S zone 3				4-16-13		1245				3							
BR-3 zone 1				4-16-13		1315				3							
BR-3 zone 2				4-16-13		1330				3							
BR-3 zone 3				4-16-13		1340				3							
BR-1 zone 1				4-16-13		1410				3							
BR-1 zone 2				4-16-13		1424				3							
BR-1 zone 3				4-16-13		1430				3							
AP-22 (20')				4/17/13		0800				5							
MW-13 (41.8')				4/17/13		0900				5							
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered																	
See QAPP <input type="checkbox"/> STATE WHERE SAMPLES WERE COLLECTED RECEIVED BY: VP RELINQUISHED BY: <i>[Signature]</i> Signature: <i>[Signature]</i> Signature: <i>[Signature]</i> Printed Name: VP Printed Name: <i>[Signature]</i> Firm: CB&I Firm: <i>[Signature]</i> Date/Time: 4-18-13 1440 Date/Time: <i>[Signature]</i>																	
Site specific VOC list <i>none</i> Massachusetts CAM analyses reporting and QA/QC. Email GISKey formatted EDD and PDF of report to: Catherine.Mainville@CBI.com.																	
TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 1 day 2 day 3 day 4 day 5 day Standard REQUESTED REPORT DATE																	
REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MS/MSD as required) III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data Edata Yes No																	
INVOICE INFORMATION PO # 842815 Bill TO: Shaw/CB&I																	



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 7183

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 3 OF 4

Project Name Varian Beverly		Project Number 146899-06000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																																							
Project Manager Raymond Cadorette		Report QC																																									
Company/Address Shaw Environmental, Inc., A CB&I Company 150 Royall Street Canton, MA 02021																																											
Phone # 617-589-6102		Email Raymond.Cadorette@CBI.com																																									
Sampler's Signature <i>David C. Leahy</i>		Sampler's Printed Name David C. Leahy																																									
FOR OFFICE USE ONLY LAB ID		DATE		SAMPLING TIME		MATRIX																																					
CLIENT SAMPLE ID		DATE		SAMPLING TIME		MATRIX		NUMBER OF CONTAINERS		PRESERVATIVE																																	
MW-14A (58.8')		4/17/13		1000		GW		3		1																																	
RW-22 (126')		4/17/13		1100				3																																			
OB11-DO (60')		4/17/13		1140				3																																			
OB11-BR (82')		4/17/13		1200				3																																			
OB12-DO (56')		4/17/13		1300				3																																			
OB34-DO (63')		4/17/13		1330				3																																			
TB-3		4/17/13		1053				3																																			
EB-4		4/17/13		1400				3																																			
OB32-DO (60')		4-18-13		0830				3																																			
OB14-DO (56')		4-18-13		0900				3																																			
AP14-5 (29')		4-18-13		0930				3																																			
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site specific VOC list <i>none cost</i> Massachusetts CAM analyses reporting and QA/QC. Email GISKey formatted EDD and PDF of report to: Catherine.Mainville@CBI.com.														TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 1 day 2 day 3 day 4 day 5 day Standard REQUESTED REPORT DATE										REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MS/MSD as required) III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										INVOICE INFORMATION PO # 842815 BILL TO: Shaw Environmental									
STATE WHERE SAMPLES WERE COLLECTED														RECEIVED BY										RELINQUISHED BY																			
Signature <i>David C. Leahy</i>														Signature <i>David C. Leahy</i>										Signature																			
Printed Name <i>David C. Leahy</i>														Printed Name <i>David C. Leahy</i>										Printed Name																			
Firm <i>CB & I</i>														Firm										Firm																			
Date/Time 4-17-13 1440														Date/Time										Date/Time																			

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

7182

PAGE 4 OF 4

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d, Building 300,

565 Jefferson Rd

Project Name Varian Beverly		Project Number 146899-06000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE 1	
Company/Address Shaw Environmental, Inc., A CB&I Company					
150 Royall Street					
Canton, MA 02021					
Phone # 617-589-6102					
Email Raymond.Cadorette@CBI.com					
Sampler's Signature <i>Raymond Cadorette</i>		Sampler's Printed Name Raymond Cadorette			
CLIENT SAMPLE ID		DATE		SAMPLING TIME	
MATRIX		DATE		SAMPLING TIME	
FOR OFFICE USE ONLY LAB ID		DATE		SAMPLING TIME	
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CLIENT SAMPLE ID		DATE		SAMPLING TIME	
MATRIX		DATE		SAMPLING TIME	



Cooler Receipt and Preservation Check Form

Project/Client CB+I Folder Number B13-2702

Cooler received on 4/19/13 by: RD COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: 6.0°

Is the temperature within 0° - 6° C?: Y N Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 4/19/13 0900

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location Room by RD on 4/19/13 at 0905
5035 samples placed in storage location by on on at

PC Secondary Review:

Cooler Breakdown: Date: 4/19/13 Time: 1410 by: RD

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: Rec'd CL + did not take bottles for AP-22 (20') and MW-13 (41.8')

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO ₃	✓		<u>BDB26126F</u>	<u>2/14</u>				
≤2	H ₂ SO ₄								
<4	NaHSO ₄								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet			
	Zn Aceta	-	-						
	HCl	*	*	<u>4/12/10</u>	<u>3/14</u>				

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust:

Bottle lot numbers: 3-043-003, 030413-2E

Other Comments:

Bubbles: AP32-DO (50') 1 vial
AP31-DO (50') 1 vial

PC Secondary Review: MP 4/19/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc
Job Number : 146899
Prepared By: Pernilla Haley
Date : 6/20/2013
Matrix: Groundwater
Analyte Group : Volatile Organics
 Chloride
 Metals (Fe & Mn)
Analytical Method : EPA Method 8260C
 EPA Method SM 4500-CL-E
 EPA Method 6010B
Completed MADEP CAM Certification Form included: Yes
Laboratory ID No. : R1303084
Chain of Custody included in Data Package ? Yes
Is it Complete ? Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
5/2/2013	8260C		14 Days	5/14 and 5/15/13
5/2/2013	Chloride EPA Method SM 4500-CL-E		28 days	5/7/13
5/2/2013	Dissolved iron and manganese 6010B		6 months	5/8, 5/10, and 5/14/13

Sample temperature within QC limits: Yes

Surrogate Recovery

Are all % recoveries within the allowable range ? Yes

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? No

If no, list sample ID where range was exceeded: see notes

Equipment Field Blank EP-5

Trip Blank ID : TB-5

Method Blank: EPA 8260C 5/14 and 5/15/13
 EPA SM 4500-CL-E 5/7/2013
 EPA Method 6010B 5/10/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

VOC Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples AP23-DP(47.4), W-1(10.8), and AP-19(19) were re-analyzed at a larger dilution to bring target analytes within the calibration range of the method. The analytes over the calibration range are flagged with an "E" and the diluted analytes flagged with a "D".

The % recovery was outside limits in the LCS or LCSD for 1,1,2,2-tetrachloroethane in batch 340270 (samples OB10-S(29), AP23-DO(47.4), CL9-BR zone 1, CL9-BR zone 2, CL9-BR zone 3, P-9R(3.8), P20R(10), AP13-DO(47.5), W-1(10.8), MW-2R(9.8), MW-4R(35.4), AP21(27)) and for 1,1-DCE, chloroethane, and vinyl chloride in batch 340743 (samples AP23-DO(47.4) diluted, W-1(10.8) diluted, and AP-19(27))
 The data was not impacted since the analytical results were non-detect associated with these batches.

The Continued Calibration Verification for chloroethane %D was outside range for batch 340743. Result for this compound were non-detect in this batch, but were given a UJ qualifier (samples AP-23DO(47.4), W-1(10.8), and AP-19(27)).

Reviewed By: Ray Cadorette 6/27/2013



May 17, 2013

Service Request No: R1303084

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly/146899

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on May 3, 2013. For your reference, these analyses have been assigned our service request number **R1303084**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Michael Perry
Laboratory Manager

Page 1 of 51

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1303084

<u>Lab ID</u>	<u>Client ID</u>
R1303084-001	OB 10S (29)
R1303084-002	AP 23DO (47.4)
R1303084-003	CL9BR Zone 1
R1303084-004	CL9BR Zone 2
R1303084-005	CL 9 Zone 3
R1303084-006	P-9R (3.8)
R1303084-007	P-20R (10)
R1303084-008	AP 14S (29)
R1303084-009	AP 13 DO (47.5)
R1303084-010	TB-5
R1303084-011	EB-5
R1303084-012	W-1 (10.8)
R1303084-013	MW-2R (9.8)
R1303084-014	MW-4R (35.4)
R1303084-015	CL2-BR (79.6)
R1303084-016	AP-19 (27)
R1303084-017	AP-20 (15)
R1303084-018	AP-21 (27)

ALS Environmental

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1303084
Project Number: 146899-06000000
Date Received: 5/03/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II, deliverables with Massachusetts CAM analyses reporting. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Water samples were collected on 5/02/13 and received at ALS in good condition at a cooler temperature of 2.3 °C as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. See the second page of the Case Narrative for a cross-reference between Client ID and ALS Job #.

Volatile Organics

Eighteen water samples were analyzed for a site list of Volatile Organics by SW-846 Method 8260C.

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples AP23-DO (47.4), W-1 (10.8), and AP-19 (19) were re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes except as noted on the attached CCV summary forms and are flagged with an "**".

All Surrogate Standard recoveries were within QC limits.

Several Bank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were outside QC limits and have been flagged with an "**".

All samples were analyzed within the required holding time of 14 days.

No other analytical or QC problems were encountered with these analyses.

Inorganic Analyses

Three water samples were analyzed for dissolved Iron and dissolved Manganese by SW-846 method 6010C and for Chloride by method SM 4500-CL-E.

The initial and continuing calibration criteria were met for all analytes.

All Blank Spike (LCS) recoveries were within QC limits.

No analytical or QC problems were encountered.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146899-06000000 non-bio

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1303084 – 001 - 018

Matrices: ☒ Groundwater ☐ Soil/Sediment ☐ Drinking Water ☐ Air Other: _____

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6850 Perchlorate CAM VIII B	Other: CL

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes No Yes No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
----------	-----------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (site list)	Yes <input checked="" type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Manager

Printed Name: Michael K. Perry

Date: 5/17/13 000011

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Lab ID # for Massachusetts Certification

M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

COLUMBIA ANALYTICAL SERVICES
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Oscar C. Sarcobello".

Director, Division of Environmental Analysis

Issued: 01 JUL 2012

Expires: 30 JUN 2013

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
ALUMINUM			EPA 200.7	
ANTIMONY			EPA 200.7	
ANTIMONY			EPA 200.8	
ARSENIC			EPA 200.7	
ARSENIC			EPA 200.8	
BERYLLIUM			EPA 200.7	
BERYLLIUM			EPA 200.8	
CADMIUM			EPA 200.7	
CADMIUM			EPA 200.8	
CHROMIUM			EPA 200.7	
CHROMIUM			EPA 200.8	
COBALT			EPA 200.7	
COBALT			EPA 200.8	
COPPER			EPA 200.7	
COPPER			EPA 200.8	
IRON			EPA 200.7	
LEAD			EPA 200.7	
LEAD			EPA 200.8	
MANGANESE			EPA 200.7	
MANGANESE			EPA 200.8	
MERCURY			EPA 245.1	
MOLYBDENUM			EPA 200.7	
MOLYBDENUM			EPA 200.8	
NICKEL			EPA 200.7	
NICKEL			EPA 200.8	
SELENIUM			EPA 200.7	
SELENIUM			EPA 200.8	
SILVER			EPA 200.7	
SILVER			EPA 200.8	
THALLIUM			EPA 200.7	
THALLIUM			EPA 200.8	
VANADIUM			EPA 200.7	
VANADIUM			EPA 200.8	
ZINC			EPA 200.7	
ZINC			EPA 200.8	
SPECIFIC CONDUCTIVITY			EPA 120.1	
TOTAL DISSOLVED SOLIDS			SM 2540C	
HARDNESS (CaCO3), TOTAL			SM 2340C	
CALCIUM			EPA 200.7	
MAGNESIUM			EPA 200.7	
SODIUM			EPA 200.7	
POTASSIUM			EPA 200.7	
ALKALINITY, TOTAL			SM 2320B	

June 29, 2012

*= Provisional Certification

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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY) Effective Date 01 JUL 2012 Expiration Date 30 JUN 2013

<u>Analytes</u>	<u>Methods</u>
CHLORIDE	SM 4500-CL-E
CHLORIDE	EPA 300.0
FLUORIDE	EPA 300.0
SULFATE	EPA 300.0
AMMONIA-N	EPA 350.1
NITRATE-N	EPA 300.0
NITRATE-N	EPA 353.2
KJELDAHL-N	EPA 351.2
ORTHOPHOSPHATE	EPA 365.1
PHOSPHORUS, TOTAL	EPA 365.1
CHEMICAL OXYGEN DEMAND	EPA 410.4
BIOCHEMICAL OXYGEN DEMAND	SM 5210B
TOTAL ORGANIC CARBON	SM 5310C
CYANIDE, TOTAL	EPA 335.4
NON-FILTERABLE RESIDUE	SM 2540D
OIL AND GREASE	EPA 1664
PHENOLICS, TOTAL	EPA 420.4
VOLATILE HALOCARBONS	EPA 601
VOLATILE HALOCARBONS	EPA 624
VOLATILE AROMATICS	EPA 602
VOLATILE AROMATICS	EPA 624
SVOC-ACID EXTRACTABLES	EPA 825
SVOC-BASE/NEUTRAL EXTRACTABLES	EPA 825
POLYCHLORINATED BIPHENYLS (WATER)	EPA 608

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 0730
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 06:03

Sample Name: OB 10S (29)
 Lab Code: R1303084-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvov10\data\051313\E9058.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	5.1		2.0	
79-01-6	Trichloroethene (TCE)	32		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	9.3		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 06:03	
Dibromofluoromethane	97	70-130	5/14/13 06:03	
Toluene-d8	103	70-130	5/14/13 06:03	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 0815
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 09:58

Sample Name: AP 23DO (47.4)
 Lab Code: R1303084-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9065.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 2000

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	4000	U	4000	
79-34-5	1,1,2,2-Tetrachloroethane	4000	U	4000	
79-00-5	1,1,2-Trichloroethane	4000	U	4000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4000	U	4000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4000	U	4000	
107-06-2	1,2-Dichloroethane	4000	U	4000	
78-87-5	1,2-Dichloropropane	4000	U	4000	
67-64-1	Acetone	79000		20000	
75-27-4	Bromodichloromethane	4000	U	4000	
75-25-2	Bromoform	4000	U	4000	
74-83-9	Bromomethane	4000	U	4000	
56-23-5	Carbon Tetrachloride	4000	U	4000	
108-90-7	Chlorobenzene	4000	U	4000	
75-00-3	Chloroethane	4000	U	4000	
67-66-3	Chloroform	4000	U	4000	
74-87-3	Chloromethane	4000	U	4000	
124-48-1	Dibromochloromethane	4000	U	4000	
75-09-2	Methylene Chloride	4000	U	4000	
127-18-4	Tetrachloroethene (PCE)	47000		4000	
79-01-6	Trichloroethene (TCE)	510000	E	4000	
75-69-4	Trichlorofluoromethane (CFC 11)	4000	U	4000	
75-01-4	Vinyl Chloride	4000	U	4000	
156-59-2	cis-1,2-Dichloroethene	4000	U	4000	
10061-01-5	cis-1,3-Dichloropropene	4000	U	4000	
156-60-5	trans-1,2-Dichloroethene	4000	U	4000	
10061-02-6	trans-1,3-Dichloropropene	4000	U	4000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	70-130	5/14/13 09:58	
Dibromofluoromethane	102	70-130	5/14/13 09:58	
Toluene-d8	105	70-130	5/14/13 09:58	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 0815
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 19:04

Sample Name: AP 23DO (47.4)
 Lab Code: R1303084-002
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051413\E9081.D\

Analysis Lot: 340743
 Instrument Name: R-MS-10
 Dilution Factor: 5000

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	10000	U	10000	
79-34-5	1,1,2,2-Tetrachloroethane	10000	U	10000	
79-00-5	1,1,2-Trichloroethane	10000	U	10000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	10000	U	10000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	10000	U	10000	
107-06-2	1,2-Dichloroethane	10000	U	10000	
78-87-5	1,2-Dichloropropane	10000	U	10000	
67-64-1	Acetone	71000	D	50000	
75-27-4	Bromodichloromethane	10000	U	10000	
75-25-2	Bromoform	10000	U	10000	
74-83-9	Bromomethane	10000	U	10000	
56-23-5	Carbon Tetrachloride	10000	U	10000	
108-90-7	Chlorobenzene	10000	U	10000	
75-00-3	Chloroethane	10000	U	10000	
67-66-3	Chloroform	10000	U	10000	
74-87-3	Chloromethane	10000	U	10000	
124-48-1	Dibromochloromethane	10000	U	10000	
75-09-2	Methylene Chloride	10000	U	10000	
127-18-4	Tetrachloroethene (PCE)	52000	D	10000	
79-01-6	Trichloroethene (TCE)	510000	D	10000	
75-69-4	Trichlorofluoromethane (CFC 11)	10000	U	10000	
75-01-4	Vinyl Chloride	10000	U	10000	
156-59-2	cis-1,2-Dichloroethene	10000	U	10000	
10061-01-5	cis-1,3-Dichloropropene	10000	U	10000	
156-60-5	trans-1,2-Dichloroethene	10000	U	10000	
10061-02-6	trans-1,3-Dichloropropene	10000	U	10000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	70-130	5/14/13 19:04	
Dibromofluoromethane	102	70-130	5/14/13 19:04	
Toluene-d8	104	70-130	5/14/13 19:04	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/ 2/13 0945
 Date Received: 5/ 3/13
 Date Analyzed: 5/14/13 10:31

Sample Name: CL9BR Zone 1
 Lab Code: R1303084-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9066.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	100	U	100	
79-34-5	1,1,2,2-Tetrachloroethane	100	U	100	
79-00-5	1,1,2-Trichloroethane	100	U	100	
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	U	100	
75-35-4	1,1-Dichloroethene (1,1-DCE)	100	U	100	
107-06-2	1,2-Dichloroethane	100	U	100	
78-87-5	1,2-Dichloropropane	100	U	100	
67-64-1	Acetone	500	U	500	
75-27-4	Bromodichloromethane	100	U	100	
75-25-2	Bromoform	100	U	100	
74-83-9	Bromomethane	100	U	100	
56-23-5	Carbon Tetrachloride	100	U	100	
108-90-7	Chlorobenzene	100	U	100	
75-00-3	Chloroethane	100	U	100	
67-66-3	Chloroform	100	U	100	
74-87-3	Chloromethane	100	U	100	
124-48-1	Dibromochloromethane	100	U	100	
75-09-2	Methylene Chloride	100	U	100	
127-18-4	Tetrachloroethene (PCE)	560		100	
79-01-6	Trichloroethene (TCE)	1800		100	
75-69-4	Trichlorofluoromethane (CFC 11)	100	U	100	
75-01-4	Vinyl Chloride	100	U	100	
156-59-2	cis-1,2-Dichloroethene	4800		100	
10061-01-5	cis-1,3-Dichloropropene	100	U	100	
156-60-5	trans-1,2-Dichloroethene	100	U	100	
10061-02-6	trans-1,3-Dichloropropene	100	U	100	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 10:31	
Dibromofluoromethane	103	70-130	5/14/13 10:31	
Toluene-d8	103	70-130	5/14/13 10:31	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1030
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 11:04

Sample Name: CL9BR Zone 2
 Lab Code: R1303084-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvov10\data\051313\E9067.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 25

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	50	U	50	
79-34-5	1,1,2,2-Tetrachloroethane	50	U	50	
79-00-5	1,1,2-Trichloroethane	50	U	50	
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	U	50	
75-35-4	1,1-Dichloroethene (1,1-DCE)	50	U	50	
107-06-2	1,2-Dichloroethane	50	U	50	
78-87-5	1,2-Dichloropropane	50	U	50	
67-64-1	Acetone	250	U	250	
75-27-4	Bromodichloromethane	50	U	50	
75-25-2	Bromoform	50	U	50	
74-83-9	Bromomethane	50	U	50	
56-23-5	Carbon Tetrachloride	50	U	50	
108-90-7	Chlorobenzene	50	U	50	
75-00-3	Chloroethane	50	U	50	
67-66-3	Chloroform	50	U	50	
74-87-3	Chloromethane	50	U	50	
124-48-1	Dibromochloromethane	50	U	50	
75-09-2	Methylene Chloride	50	U	50	
127-18-4	Tetrachloroethene (PCE)	540		50	
79-01-6	Trichloroethene (TCE)	1600		50	
75-69-4	Trichlorofluoromethane (CFC 11)	50	U	50	
75-01-4	Vinyl Chloride	75		50	
156-59-2	cis-1,2-Dichloroethene	2400		50	
10061-01-5	cis-1,3-Dichloropropene	50	U	50	
156-60-5	trans-1,2-Dichloroethene	50	U	50	
10061-02-6	trans-1,3-Dichloropropene	50	U	50	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 11:04	
Dibromofluoromethane	102	70-130	5/14/13 11:04	
Toluene-d8	104	70-130	5/14/13 11:04	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1115
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 11:38

Sample Name: CL 9 Zone 3
 Lab Code: R1303084-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9068.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 25

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	50	U	50	
79-34-5	1,1,2,2-Tetrachloroethane	50	U	50	
79-00-5	1,1,2-Trichloroethane	50	U	50	
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	U	50	
75-35-4	1,1-Dichloroethene (1,1-DCE)	50	U	50	
107-06-2	1,2-Dichloroethane	50	U	50	
78-87-5	1,2-Dichloropropane	50	U	50	
67-64-1	Acetone	250	U	250	
75-27-4	Bromodichloromethane	50	U	50	
75-25-2	Bromoform	50	U	50	
74-83-9	Bromomethane	50	U	50	
56-23-5	Carbon Tetrachloride	50	U	50	
108-90-7	Chlorobenzene	50	U	50	
75-00-3	Chloroethane	50	U	50	
67-66-3	Chloroform	50	U	50	
74-87-3	Chloromethane	50	U	50	
124-48-1	Dibromochloromethane	50	U	50	
75-09-2	Methylene Chloride	50	U	50	
127-18-4	Tetrachloroethene (PCE)	240		50	
79-01-6	Trichloroethene (TCE)	640		50	
75-69-4	Trichlorofluoromethane (CFC 11)	50	U	50	
75-01-4	Vinyl Chloride	320		50	
156-59-2	cis-1,2-Dichloroethene	2600		50	
10061-01-5	cis-1,3-Dichloropropene	50	U	50	
156-60-5	trans-1,2-Dichloroethene	50	U	50	
10061-02-6	trans-1,3-Dichloropropene	50	U	50	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 11:38	
Dibromofluoromethane	103	70-130	5/14/13 11:38	
Toluene-d8	104	70-130	5/14/13 11:38	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1200
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 06:36

Sample Name: P-9R (3.8)
 Lab Code: R1303084-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9059.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 06:36	
Dibromofluoromethane	99	70-130	5/14/13 06:36	
Toluene-d8	102	70-130	5/14/13 06:36	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1245
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 07:10

Sample Name: P-20R (10)
 Lab Code: R1303084-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9060.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	12		10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	70-130	5/14/13 07:10	
Dibromofluoromethane	100	70-130	5/14/13 07:10	
Toluene-d8	103	70-130	5/14/13 07:10	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1300
 Date Received: 5/3/13
 Date Analyzed: 5/15/13 14:34

Sample Name: AP 14S (29)
 Lab Code: R1303084-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051513\E9114.D\

Analysis Lot: 340621
 Instrument Name: R-MS-10
 Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	4.0 U	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0 U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0 U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0 U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0 U	4.0	
107-06-2	1,2-Dichloroethane	4.0 U	4.0	
78-87-5	1,2-Dichloropropane	4.0 U	4.0	
67-64-1	Acetone	20 U	20	
75-27-4	Bromodichloromethane	4.0 U	4.0	
75-25-2	Bromoform	4.0 U	4.0	
74-83-9	Bromomethane	4.0 U	4.0	
56-23-5	Carbon Tetrachloride	4.0 U	4.0	
108-90-7	Chlorobenzene	4.0 U	4.0	
75-00-3	Chloroethane	4.0 U	4.0	
67-66-3	Chloroform	4.0 U	4.0	
74-87-3	Chloromethane	4.0 U	4.0	
124-48-1	Dibromochloromethane	4.0 U	4.0	
75-09-2	Methylene Chloride	4.0 U	4.0	
127-18-4	Tetrachloroethene (PCE)	210	4.0	
79-01-6	Trichloroethene (TCE)	22	4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0 U	4.0	
75-01-4	Vinyl Chloride	4.0 U	4.0	
156-59-2	cis-1,2-Dichloroethene	4.0 U	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0 U	4.0	
156-60-5	trans-1,2-Dichloroethene	4.0 U	4.0	
10061-02-6	trans-1,3-Dichloropropene	4.0 U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	70-130	5/15/13 14:34	
Dibromofluoromethane	102	70-130	5/15/13 14:34	
Toluene-d8	104	70-130	5/15/13 14:34	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1330
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 12:44

Sample Name: AP 13 DO (47.5)
 Lab Code: R1303084-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9070.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 2000

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	26000	4000	
79-34-5	1,1,2,2-Tetrachloroethane	4000 U	4000	
79-00-5	1,1,2-Trichloroethane	4000 U	4000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4000 U	4000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4000 U	4000	
107-06-2	1,2-Dichloroethane	4000 U	4000	
78-87-5	1,2-Dichloropropane	4000 U	4000	
67-64-1	Acetone	62000	20000	
75-27-4	Bromodichloromethane	4000 U	4000	
75-25-2	Bromoform	4000 U	4000	
74-83-9	Bromomethane	4000 U	4000	
56-23-5	Carbon Tetrachloride	4000 U	4000	
108-90-7	Chlorobenzene	4000 U	4000	
75-00-3	Chloroethane	4000 U	4000	
67-66-3	Chloroform	4000 U	4000	
74-87-3	Chloromethane	4000 U	4000	
124-48-1	Dibromochloromethane	4000 U	4000	
75-09-2	Methylene Chloride	4000 U	4000	
127-18-4	Tetrachloroethene (PCE)	60000	4000	
79-01-6	Trichloroethene (TCE)	330000	4000	
75-69-4	Trichlorofluoromethane (CFC 11)	4000 U	4000	
75-01-4	Vinyl Chloride	4000 U	4000	
156-59-2	cis-1,2-Dichloroethene	4000 U	4000	
10061-01-5	cis-1,3-Dichloropropene	4000 U	4000	
156-60-5	trans-1,2-Dichloroethene	4000 U	4000	
10061-02-6	trans-1,3-Dichloropropene	4000 U	4000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	70-130	5/14/13 12:44	
Dibromofluoromethane	102	70-130	5/14/13 12:44	
Toluene-d8	104	70-130	5/14/13 12:44	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/ 2/13 1055
 Date Received: 5/ 3/13
 Date Analyzed: 5/14/13 04:56

Sample Name: TB-5
 Lab Code: R1303084-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9056.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	70-130	5/14/13 04:56	
Dibromofluoromethane	101	70-130	5/14/13 04:56	
Toluene-d8	103	70-130	5/14/13 04:56	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 0800
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 05:30

Sample Name: EB-5
 Lab Code: R1303084-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9057.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	70-130	5/14/13 05:30	
Dibromofluoromethane	97	70-130	5/14/13 05:30	
Toluene-d8	103	70-130	5/14/13 05:30	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/ 2/13 0845
 Date Received: 5/ 3/13
 Date Analyzed: 5/14/13 07:44

Sample Name: W-1 (10.8)
 Lab Code: R1303084-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9061.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.1		2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	55		2.0	
79-01-6	Trichloroethene (TCE)	1200	E	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	530	E	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	7.0		2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 07:44	
Dibromofluoromethane	102	70-130	5/14/13 07:44	
Toluene-d8	102	70-130	5/14/13 07:44	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/ 2/13 0845
 Date Received: 5/ 3/13
 Date Analyzed: 5/14/13 20:11

Sample Name: W-1 (10.8)
 Lab Code: R1303084-012
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvov10\data\051413\E9083.D\

Analysis Lot: 340743
 Instrument Name: R-MS-10
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20	U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20	U	20	
79-00-5	1,1,2-Trichloroethane	20	U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20	U	20	
107-06-2	1,2-Dichloroethane	20	U	20	
78-87-5	1,2-Dichloropropane	20	U	20	
67-64-1	Acetone	100	U	100	
75-27-4	Bromodichloromethane	20	U	20	
75-25-2	Bromoform	20	U	20	
74-83-9	Bromomethane	20	U	20	
56-23-5	Carbon Tetrachloride	20	U	20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	20	U	20	
67-66-3	Chloroform	20	U	20	
74-87-3	Chloromethane	20	U	20	
124-48-1	Dibromochloromethane	20	U	20	
75-09-2	Methylene Chloride	20	U	20	
127-18-4	Tetrachloroethene (PCE)	50	D	20	
79-01-6	Trichloroethene (TCE)	1300	D	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20	U	20	
75-01-4	Vinyl Chloride	20	U	20	
156-59-2	cis-1,2-Dichloroethene	480	D	20	
10061-01-5	cis-1,3-Dichloropropene	20	U	20	
156-60-5	trans-1,2-Dichloroethene	20	U	20	
10061-02-6	trans-1,3-Dichloropropene	20	U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	70-130	5/14/13 20:11	
Dibromofluoromethane	105	70-130	5/14/13 20:11	
Toluene-d8	105	70-130	5/14/13 20:11	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 0930
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 08:17

Sample Name: MW-2R (9.8)
 Lab Code: R1303084-013

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9062.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	70-130	5/14/13 08:17	
Dibromofluoromethane	99	70-130	5/14/13 08:17	
Toluene-d8	101	70-130	5/14/13 08:17	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1030
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 08:51

Sample Name: MW-4R (35.4)
 Lab Code: R1303084-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9063.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	6.1		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 08:51	
Dibromofluoromethane	99	70-130	5/14/13 08:51	
Toluene-d8	104	70-130	5/14/13 08:51	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1130
 Date Received: 5/3/13
 Date Analyzed: 5/15/13 15:07

Sample Name: CL2-BR (79.6)
 Lab Code: R1303084-015

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvov10\data\051513\E9115.D\

Analysis Lot: 340621
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	43		2.0	
156-59-2	cis-1,2-Dichloroethene	57		2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	70-130	5/15/13 15:07	
Dibromofluoromethane	95	70-130	5/15/13 15:07	
Toluene-d8	105	70-130	5/15/13 15:07	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP-19 (27)
Lab Code: R1303084-016

Service Request: R1303084
Date Collected: 5/2/13 1230
Date Received: 5/3/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	28.2		mg/L	1.0	1	NA	5/7/13 12:51	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1303084
Date Collected: 5/ 2/13 1230
Date Received: 5/ 3/13

Sample Name: AP-19 (27)
Lab Code: R1303084-016

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	5/ 8/13	5/10/13 12:22	
Manganese, Dissolved	6010C	21		µg/L	10	1	5/ 8/13	5/10/13 12:22	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1230
 Date Received: 5/3/13
 Date Analyzed: 5/14/13 17:57

Sample Name: AP-19 (27)
 Lab Code: R1303084-016

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051413\E9079.D\

Analysis Lot: 340743
 Instrument Name: R-MS-10
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	4.0	U	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U	4.0	
79-00-5	1,1,2-Trichloroethane	4.0	U	4.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	4.0	U	4.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.0	U	4.0	
107-06-2	1,2-Dichloroethane	4.0	U	4.0	
78-87-5	1,2-Dichloropropane	4.0	U	4.0	
67-64-1	Acetone	20	U	20	
75-27-4	Bromodichloromethane	4.0	U	4.0	
75-25-2	Bromoform	4.0	U	4.0	
74-83-9	Bromomethane	4.0	U	4.0	
56-23-5	Carbon Tetrachloride	4.0	U	4.0	
108-90-7	Chlorobenzene	4.0	U	4.0	
75-00-3	Chloroethane	4.0	U	4.0	
67-66-3	Chloroform	4.0	U	4.0	
74-87-3	Chloromethane	4.0	U	4.0	
124-48-1	Dibromochloromethane	4.0	U	4.0	
75-09-2	Methylene Chloride	4.0	U	4.0	
127-18-4	Tetrachloroethene (PCE)	1300	E	4.0	
79-01-6	Trichloroethene (TCE)	120		4.0	
75-69-4	Trichlorofluoromethane (CFC 11)	4.0	U	4.0	
75-01-4	Vinyl Chloride	4.0	U	4.0	
156-59-2	cis-1,2-Dichloroethene	4.0	U	4.0	
10061-01-5	cis-1,3-Dichloropropene	4.0	U	4.0	
156-60-5	trans-1,2-Dichloroethene	4.0	U	4.0	
10061-02-6	trans-1,3-Dichloropropene	4.0	U	4.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 17:57	
Dibromofluoromethane	103	70-130	5/14/13 17:57	
Toluene-d8	104	70-130	5/14/13 17:57	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1230
 Date Received: 5/3/13
 Date Analyzed: 5/15/13 15:41

Sample Name: AP-19 (27)
 Lab Code: R1303084-016
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051513\E9116.D\

Analysis Lot: 340621
 Instrument Name: R-MS-10
 Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20 U	20	
79-34-5	1,1,2,2-Tetrachloroethane	20 U	20	
79-00-5	1,1,2-Trichloroethane	20 U	20	
75-34-3	1,1-Dichloroethane (1,1-DCA)	20 U	20	
75-35-4	1,1-Dichloroethene (1,1-DCE)	20 U	20	
107-06-2	1,2-Dichloroethane	20 U	20	
78-87-5	1,2-Dichloropropane	20 U	20	
67-64-1	Acetone	100 U	100	
75-27-4	Bromodichloromethane	20 U	20	
75-25-2	Bromoform	20 U	20	
74-83-9	Bromomethane	20 U	20	
56-23-5	Carbon Tetrachloride	20 U	20	
108-90-7	Chlorobenzene	20 U	20	
75-00-3	Chloroethane	20 U	20	
67-66-3	Chloroform	20 U	20	
74-87-3	Chloromethane	20 U	20	
124-48-1	Dibromochloromethane	20 U	20	
75-09-2	Methylene Chloride	20 U	20	
127-18-4	Tetrachloroethene (PCE)	1300 D	20	
79-01-6	Trichloroethene (TCE)	120 D	20	
75-69-4	Trichlorofluoromethane (CFC 11)	20 U	20	
75-01-4	Vinyl Chloride	20 U	20	
156-59-2	cis-1,2-Dichloroethene	20 U	20	
10061-01-5	cis-1,3-Dichloropropene	20 U	20	
156-60-5	trans-1,2-Dichloroethene	20 U	20	
10061-02-6	trans-1,3-Dichloropropene	20 U	20	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	70-130	5/15/13 15:41	
Dibromofluoromethane	101	70-130	5/15/13 15:41	
Toluene-d8	105	70-130	5/15/13 15:41	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP-20 (15)
Lab Code: R1303084-017

Service Request: R1303084
Date Collected: 5/ 2/13 1330
Date Received: 5/ 3/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	45.0	mg/L	1.0	1	NA	5/7/13 12:51	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP-20 (15)
Lab Code: R1303084-017

Service Request: R1303084
Date Collected: 5/ 2/13 1330
Date Received: 5/ 3/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	5/ 8/13	5/10/13 12:28	
Manganese, Dissolved	6010C	2110		µg/L	10	1	5/ 8/13	5/10/13 12:28	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/2/13 1330
 Date Received: 5/3/13
 Date Analyzed: 5/15/13 16:12

Sample Name: AP-20 (15)
 Lab Code: R1303084-017

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051513\E9117.D\

Analysis Lot: 340621
 Instrument Name: R-MS-10
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
67-64-1	Acetone	25	U	25	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-09-2	Methylene Chloride	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	390		5.0	
79-01-6	Trichloroethene (TCE)	38		5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	30		5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	70-130	5/15/13 16:12	
Dibromofluoromethane	101	70-130	5/15/13 16:12	
Toluene-d8	104	70-130	5/15/13 16:12	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP-21 (27)
Lab Code: R1303084-018

Service Request: R1303084
Date Collected: 5/ 2/13 1415
Date Received: 5/ 3/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	275		mg/L	5.0	5	NA	5/7/13 12:53	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: AP-21 (27)
Lab Code: R1303084-018

Service Request: R1303084
Date Collected: 5/ 2/13 1415
Date Received: 5/ 3/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	5/ 8/13	5/14/13 11:10	
Manganese, Dissolved	6010C	188000		µg/L	1000	100	5/ 8/13	5/10/13 12:35	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: 5/ 2/13 1415
 Date Received: 5/ 3/13
 Date Analyzed: 5/14/13 09:24

Sample Name: AP-21 (27)
 Lab Code: R1303084-018

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9064.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	130		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10		10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 09:24	
Dibromofluoromethane	99	70-130	5/14/13 09:24	
Toluene-d8	103	70-130	5/14/13 09:24	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1303084-MB

Service Request: R1303084
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	1.0	U	mg/L	1.0	1	NA	5/7/13 12:45	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1303084
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: R1303084-MB

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	100	U	µg/L	100	1	5/ 8/13	5/10/13 10:21	
Manganese, Dissolved	6010C	10	U	µg/L	10	1	5/ 8/13	5/10/13 10:21	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/14/13 04:23

Sample Name: Method Blank
 Lab Code: RQ1305243-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051313\E9055.D\

Analysis Lot: 340270
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	5/14/13 04:23	
Dibromofluoromethane	101	70-130	5/14/13 04:23	
Toluene-d8	103	70-130	5/14/13 04:23	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/14/13 16:50

Sample Name: Method Blank
 Lab Code: RQ1305260-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051413\E9077.D\

Analysis Lot: 340743
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	70-130	5/14/13 16:50	
Dibromofluoromethane	102	70-130	5/14/13 16:50	
Toluene-d8	105	70-130	5/14/13 16:50	

ALS ENVIRONMENTAL

Analytical Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 5/15/13 14:00

Sample Name: Method Blank
 Lab Code: RQ1305283-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\051513\E9113.D\

Analysis Lot: 340621
 Instrument Name: R-MS-10
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0	U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0	U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0	U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0	U	2.0	
107-06-2	1,2-Dichloroethane	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	2.0	U	2.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	2.0	U	2.0	
75-25-2	Bromoform	2.0	U	2.0	
74-83-9	Bromomethane	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
75-09-2	Methylene Chloride	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	70-130	5/15/13 14:00	
Dibromofluoromethane	101	70-130	5/15/13 14:00	
Toluene-d8	104	70-130	5/15/13 14:00	

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1303084
Date Analyzed: 5/14/13

Lab Control Sample Summary Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 340270

Analyte Name	Lab Control Sample RQ1305243-02			Duplicate Lab Control Sample RQ1305243-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	16.5	20.0	83	18.6	20.0	93	70 - 130	12	20
1,1,2,2-Tetrachloroethane	12.6	20.0	63 *	14.6	20.0	73	70 - 130	15	20
1,1,2-Trichloroethane	17.8	20.0	89	19.2	20.0	96	70 - 130	8	20
1,1-Dichloroethane (1,1-DCA)	16.3	20.0	82	18.1	20.0	91	70 - 130	10	20
1,1-Dichloroethene (1,1-DCE)	20.5	20.0	103	22.8	20.0	114	70 - 130	11	20
1,2-Dichloroethane	18.4	20.0	92	20.2	20.0	101	70 - 130	9	20
1,2-Dichloropropane	17.7	20.0	88	19.5	20.0	98	70 - 130	10	20
Acetone	22.7	20.0	114	20.4	20.0	102	40 - 160	11	20
Bromodichloromethane	17.7	20.0	89	19.7	20.0	99	70 - 130	11	20
Bromoform	16.6	20.0	83	18.5	20.0	93	70 - 130	11	20
Bromomethane	18.5	20.0	93	20.7	20.0	103	40 - 160	11	20
Carbon Tetrachloride	17.6	20.0	88	20.1	20.0	100	70 - 130	13	20
Chlorobenzene	17.5	20.0	88	19.4	20.0	97	70 - 130	10	20
Chloroethane	18.8	20.0	94	21.2	20.0	106	70 - 130	12	20
Chloroform	16.9	20.0	85	19.0	20.0	95	70 - 130	11	20
Chloromethane	18.2	20.0	91	20.2	20.0	101	40 - 160	10	20
Dibromochloromethane	18.2	20.0	91	19.9	20.0	99	70 - 130	9	20
Methylene Chloride	17.3	20.0	86	19.3	20.0	97	70 - 130	11	20
Tetrachloroethene (PCE)	16.9	20.0	84	19.0	20.0	95	70 - 130	12	20
Trichloroethene (TCE)	21.7	20.0	108	22.8	20.0	114	70 - 130	5	20
Trichlorofluoromethane (CFC 11)	17.8	20.0	89	19.7	20.0	99	70 - 130	10	20
Vinyl Chloride	19.5	20.0	98	22.0	20.0	110	70 - 130	12	20
cis-1,2-Dichloroethene	16.3	20.0	81	18.4	20.0	92	70 - 130	12	20
cis-1,3-Dichloropropene	16.1	20.0	80	17.7	20.0	88	70 - 130	10	20
trans-1,2-Dichloroethene	16.7	20.0	83	18.8	20.0	94	70 - 130	12	20
trans-1,3-Dichloropropene	16.2	20.0	81	17.8	20.0	89	70 - 130	9	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1303084
Date Analyzed: 5/7/13

Lab Control Sample Summary General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
R1303084-LCS

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	SM 4500-Cl- E	24.6	25.0	98	86 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1303084
Date Analyzed: 5/10/13

Lab Control Sample Summary Inorganic Parameters

Units: µg/L
Basis: NA

Lab Control Sample R1303084-LCS					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Iron, Dissolved	6010C	1050	1000	105	80 - 120
Manganese, Dissolved	6010C	509	500	102	80 - 120

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899
Sample Matrix: Water

Service Request: R1303084
Date Analyzed: 5/14/13

Lab Control Sample Summary Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 340743

Analyte Name	Lab Control Sample RQ1305260-02			Duplicate Lab Control Sample RQ1305260-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	19.7	20.0	98	21.3	20.0	106	70 - 130	8	20
1,1,2,2-Tetrachloroethane	16.2	20.0	81	19.0	20.0	95	70 - 130	16	20
1,1,2-Trichloroethane	18.2	20.0	91	20.2	20.0	101	70 - 130	10	20
1,1-Dichloroethane (1,1-DCA)	19.3	20.0	96	20.7	20.0	104	70 - 130	7	20
1,1-Dichloroethene (1,1-DCE)	27.0	20.0	135 *	28.7	20.0	143 *	70 - 130	6	20
1,2-Dichloroethane	21.0	20.0	105	22.9	20.0	115	70 - 130	9	20
1,2-Dichloropropane	20.4	20.0	102	21.5	20.0	107	70 - 130	5	20
Acetone	21.0	20.0	105	23.0	20.0	115	40 - 160	9	20
Bromodichloromethane	20.3	20.0	101	21.6	20.0	108	70 - 130	7	20
Bromoform	16.3	20.0	81	18.8	20.0	94	70 - 130	15	20
Bromomethane	23.6	20.0	118	24.7	20.0	123	40 - 160	5	20
Carbon Tetrachloride	21.5	20.0	108	22.7	20.0	113	70 - 130	5	20
Chlorobenzene	19.9	20.0	99	21.3	20.0	106	70 - 130	7	20
Chloroethane	24.5	20.0	123	26.1	20.0	131 *	70 - 130	6	20
Chloroform	19.8	20.0	99	21.7	20.0	108	70 - 130	9	20
Chloromethane	23.8	20.0	119	25.4	20.0	127	40 - 160	6	20
Dibromochloromethane	19.1	20.0	95	21.0	20.0	105	70 - 130	10	20
Methylene Chloride	20.0	20.0	100	21.8	20.0	109	70 - 130	9	20
Tetrachloroethene (PCE)	20.2	20.0	101	21.7	20.0	109	70 - 130	7	20
Trichloroethene (TCE)	20.1	20.0	101	21.3	20.0	106	70 - 130	6	20
Trichlorofluoromethane (CFC 11)	23.3	20.0	116	25.3	20.0	126	70 - 130	8	20
Vinyl Chloride	25.7	20.0	128	27.5	20.0	137 *	70 - 130	7	20
cis-1,2-Dichloroethene	18.9	20.0	94	20.5	20.0	103	70 - 130	8	20
cis-1,3-Dichloropropene	18.6	20.0	93	20.2	20.0	101	70 - 130	8	20
trans-1,2-Dichloroethene	20.0	20.0	100	21.3	20.0	106	70 - 130	6	20
trans-1,3-Dichloropropene	17.8	20.0	89	19.8	20.0	99	70 - 130	11	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
 Project: Varian Beverly/146899
 Sample Matrix: Water

Service Request: R1303084
 Date Analyzed: 5/15/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 340621

Analyte Name	Lab Control Sample RQ1305283-02			Duplicate Lab Control Sample RQ1305283-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	19.2	20.0	96	20.7	20.0	103	70 - 130	7	20
1,1,2,2-Tetrachloroethane	18.3	20.0	91	18.7	20.0	93	70 - 130	2	20
1,1,2-Trichloroethane	19.7	20.0	99	20.1	20.0	100	70 - 130	2	20
1,1-Dichloroethane (1,1-DCA)	19.7	20.0	99	21.0	20.0	105	70 - 130	6	20
1,1-Dichloroethene (1,1-DCE)	24.3	20.0	122	25.6	20.0	128	70 - 130	5	20
1,2-Dichloroethane	22.3	20.0	112	23.0	20.0	115	70 - 130	3	20
1,2-Dichloropropane	21.3	20.0	106	22.5	20.0	112	70 - 130	5	20
Acetone	22.9	20.0	114	19.6	20.0	98	40 - 160	15	20
Bromodichloromethane	20.9	20.0	104	21.8	20.0	109	70 - 130	4	20
Bromoform	17.8	20.0	89	17.7	20.0	89	70 - 130	<1	20
Bromomethane	22.2	20.0	111	22.7	20.0	114	40 - 160	2	20
Carbon Tetrachloride	20.9	20.0	105	21.7	20.0	108	70 - 130	4	20
Chlorobenzene	19.9	20.0	99	20.9	20.0	105	70 - 130	5	20
Chloroethane	23.8	20.0	119	25.1	20.0	125	70 - 130	5	20
Chloroform	20.4	20.0	102	21.7	20.0	108	70 - 130	6	20
Chloromethane	23.3	20.0	116	23.8	20.0	119	40 - 160	3	20
Dibromochloromethane	19.9	20.0	99	20.5	20.0	102	70 - 130	3	20
Methylene Chloride	20.4	20.0	102	21.8	20.0	109	70 - 130	6	20
Tetrachloroethene (PCE)	19.0	20.0	95	20.5	20.0	102	70 - 130	8	20
Trichloroethene (TCE)	19.5	20.0	98	21.3	20.0	106	70 - 130	9	20
Trichlorofluoromethane (CFC 11)	21.7	20.0	109	23.2	20.0	116	70 - 130	6	20
Vinyl Chloride	24.7	20.0	124	25.5	20.0	127	70 - 130	3	20
cis-1,2-Dichloroethene	19.2	20.0	96	20.2	20.0	101	70 - 130	5	20
cis-1,3-Dichloropropene	19.2	20.0	96	20.1	20.0	100	70 - 130	4	20
trans-1,2-Dichloroethene	19.4	20.0	97	21.1	20.0	106	70 - 130	9	20
trans-1,3-Dichloropropene	19.5	20.0	97	19.9	20.0	100	70 - 130	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1303084
Date Analyzed: 5/14/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 5/11/13
Calibration ID: RC1300052
Analysis Lot: 340270
Units: µg/L

File ID: I:\ACQUDATA\msv0a10\data\051313\E9051.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	47.8	0.6878	0.6571	-4.5	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	37.3	0.5864	0.4370	-25.5 *	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	49.4	0.2417	0.2387	-1.2	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	45.7	0.8893	0.8120	-8.7	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	51.5	0.3118	0.3211	3.0	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	51.0	0.3609	0.3681	2.0	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	49.8	0.3390	0.3375	-0.5	NA	± 20 %	Average RF
Acetone	50.0	49.6	0.06885	0.06835	-0.7	NA	± 60 %	Average RF
Bromodichloromethane	50.0	50.6	0.3855	0.3902	1.2	NA	± 20 %	Average RF
Bromoform	50.0	53.0	0.1824	0.1935	6.1	NA	± 20 %	Average RF
Bromomethane	50.0	46.8	0.2772	0.2594	-6.4	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	53.8	0.1185	0.1274	7.5	NA	± 20 %	Average RF
Chlorobenzene	50.0	49.4	0.9856	0.9740	-1.2	NA	± 20 %	Average RF
Chloroethane	50.0	52.1	0.2583	0.2694	4.3	NA	± 20 %	Average RF
Chloroform	50.0	47.3	0.8185	0.7740	-5.4	NA	± 20 %	Average RF
Chloromethane	50.0	49.9	0.5341	0.5333	-0.2	NA	± 60 %	Average RF
Dibromochloromethane	50.0	53.6	0.2975	0.3187	7.1	NA	± 20 %	Average RF
Methylene Chloride	50.0	47.4	0.4738	0.4491	-5.2	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	49.8	0.2989	0.2976	-0.4	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	57.1	0.3333	0.3809	14.3	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	51.6	0.6192	0.6392	3.2	NA	± 20 %	Average RF
Vinyl Chloride	50.0	51.7	0.4528	0.4685	3.5	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	46.7	0.5323	0.4971	-6.6	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	48.4	0.4772	0.4617	-3.2	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	47.7	0.4645	0.4429	-4.7	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	49.1	0.3837	0.3765	-1.9	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	51.5	0.4699	0.4842	3.0	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	51.8	0.2966	0.3071	3.5	NA	± 20 %	Average RF
Toluene-d8	50.0	52.0	1.108	1.153	4.0	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1303084

Date Analyzed: 5/14/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 5/11/13

Calibration ID: RC1300052

Analysis Lot: 340743

Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\051413\E9073.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	50.0	0.6878	0.6881	0.0	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	43.7	0.5864	0.5123	-12.6	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	49.1	0.2417	0.2375	-1.7	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	49.0	0.8893	0.8717	-2.0	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	59.0	0.3118	0.3679	18.0	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	53.9	0.3609	0.3886	7.7	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	52.1	0.3390	0.3533	4.2	NA	± 20 %	Average RF
Acetone	50.0	53.1	0.06885	0.07315	6.2	NA	± 60 %	Average RF
Bromodichloromethane	50.0	52.7	0.3855	0.4067	5.5	NA	± 20 %	Average RF
Bromoform	50.0	48.8	0.1824	0.1779	-2.5	NA	± 20 %	Average RF
Bromomethane	50.0	53.2	0.2772	0.2949	6.4	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	55.7	0.1185	0.1319	11.3	NA	± 20 %	Average RF
Chlorobenzene	50.0	49.9	0.9856	0.9832	-0.2	NA	± 20 %	Average RF
Chloroethane	50.0	61.1	0.2583	0.3157	22.2 *	NA	± 20 %	Average RF
Chloroform	50.0	50.5	0.8185	0.8259	0.9	NA	± 20 %	Average RF
Chloromethane	50.0	58.9	0.5341	0.6293	17.8	NA	± 60 %	Average RF
Dibromochloromethane	50.0	52.4	0.2975	0.3120	4.9	NA	± 20 %	Average RF
Methylene Chloride	50.0	49.8	0.4738	0.4714	-0.5	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	49.7	0.2989	0.2972	-0.6	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	51.9	0.3333	0.3460	3.8	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	58.7	0.6192	0.7265	17.3	NA	± 20 %	Average RF
Vinyl Chloride	50.0	59.6	0.4528	0.5401	19.3	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	49.1	0.5323	0.5222	-1.9	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	52.0	0.4772	0.4966	4.1	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	51.2	0.4645	0.4752	2.3	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	51.6	0.3837	0.3963	3.3	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	52.0	0.4699	0.4883	3.9	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	52.4	0.2966	0.3108	4.8	NA	± 20 %	Average RF
Toluene-d8	50.0	53.2	1.108	1.178	6.3	NA	± 20 %	Average RF

ALS ENVIRONMENTAL

QA/QC Report

Client: CB&I
Project: Varian Beverly/146899

Service Request: R1303084
Date Analyzed: 5/15/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 5/11/13
Calibration ID: RC1300052
Analysis Lot: 340621
Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\051513\E9109.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	44.9	0.6878	0.6175	-10.2	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	44.2	0.5864	0.5180	-11.7	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	47.4	0.2417	0.2289	-5.3	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	45.5	0.8893	0.8097	-8.9	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	48.2	0.3118	0.3004	-3.7	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	52.4	0.3609	0.3781	4.8	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	49.0	0.3390	0.3320	-2.1	NA	± 20 %	Average RF
Acetone	50.0	50.5	0.06885	0.06952	1.0	NA	± 60 %	Average RF
Bromodichloromethane	50.0	49.1	0.3855	0.3787	-1.8	NA	± 20 %	Average RF
Bromoform	50.0	47.3	0.1824	0.1725	-5.4	NA	± 20 %	Average RF
Bromomethane	50.0	42.8	0.2772	0.2373	-14.4	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	49.2	0.1185	0.1165	-1.7	NA	± 20 %	Average RF
Chlorobenzene	50.0	45.2	0.9856	0.8911	-9.6	NA	± 20 %	Average RF
Chloroethane	50.0	50.5	0.2583	0.2608	1.0	NA	± 20 %	Average RF
Chloroform	50.0	46.7	0.8185	0.7640	-6.7	NA	± 20 %	Average RF
Chloromethane	50.0	50.8	0.5341	0.5429	1.7	NA	± 60 %	Average RF
Dibromochloromethane	50.0	48.7	0.2975	0.2899	-2.6	NA	± 20 %	Average RF
Methylene Chloride	50.0	46.3	0.4738	0.4385	-7.4	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	44.1	0.2989	0.2637	-11.8	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	45.5	0.3333	0.3036	-8.9	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	49.6	0.6192	0.6144	-0.8	NA	± 20 %	Average RF
Vinyl Chloride	50.0	50.5	0.4528	0.4568	0.9	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	44.7	0.5323	0.4762	-10.5	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	48.5	0.4772	0.4628	-3.0	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	45.3	0.4645	0.4208	-9.4	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	48.8	0.3837	0.3747	-2.3	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	53.0	0.4699	0.4981	6.0	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	51.7	0.2966	0.3068	3.4	NA	± 20 %	Average RF
Toluene-d8	50.0	52.8	1.108	1.171	5.6	NA	± 20 %	Average RF

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1 Mustard Street, Suite 250, Rochester, NY 14609 | 585.288.5380 | 800.695.7222 | 585.288.8475 (fax) PAGE 1 OF 2

Project Name Varian Beverly		Project Number 146899-06000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)	
Project Manager Raymond Cadorette		Report CC			
Company/Address Shaw Environmental, Inc., A CB&I Company					
150 Royall Street					
Canton, MA 02021					
Phone #	617-589-6102	E-mail	raymond.cadorette@cbi.com		
Sample's Signature	<i>Raymond Cadorette</i>	Sample's Printed Name	Raymond Cadorette		
FOR OFFICE USE ONLY	LAB ID	SAMPLING DATE	TIME	MATRIX	
CLIENT SAMPLE ID					
OB 10 S (29)		5/2/13	0730	GW	
AP 23 DO (47.4)			0815		
CL 9 BR Zone 1			0945		
CL 9 BR Zone 2			1030		
CL 9 BR Zone 3			1115		
P. 9 R (38)			1200		
P. 20 R (10)			1245		
AP 14 S (29)			1300		
AP 13 DO (47.5)			1330		
<p>SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site specific VOC list Massachusetts CAM analyses reporting and QA/QC. Catherine.Mainville@CBI.com. - Email GISKey formatted EDD & PDF of report.</p>					
TURNAROUND REQUIREMENTS		REPORT REQUIREMENTS		INVOICE INFORMATION	
<input type="checkbox"/> RUSH (SURCHARGES APPLY) <input type="checkbox"/> 1 day <input type="checkbox"/> 2 day <input type="checkbox"/> 3 day <input type="checkbox"/> 4 day <input type="checkbox"/> 5 day <input checked="" type="checkbox"/> Standard		<input type="checkbox"/> I. Results Only <input type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MSMSD as required) <input type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data		PO #: 842815 BILL TO: ap.invoices@cbi.com	
REQUESTED REPORT DATE		RELINQUISHED BY		Edata <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No R1303084 CB&I Environmental & Infrastructure Varian Beverly 7 Y	
RECEIVED BY		RECEIVED BY		RECEIVED BY Signature Printed Name Firm Date/Time	
RECEIVED BY Signature Printed Name Firm Date/Time		RECEIVED BY Signature Printed Name Firm Date/Time		RECEIVED BY Signature Printed Name Firm Date/Time	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1 Mustard Street, Suite 250, Rochester, NY 14609 | 585.288.5380 | 800.695.7222 | 585.288.8475 (fax) PAGE 2 OF 2

Project Name Varian Beverly		Project Number 146899-060000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)													
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE <u>1</u>													
Company/Address Shaw Environmental, Inc., A CB&I Company																	
150 Royall Street																	
Canton, MA 02021																	
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com															
Sampler's Signature <i>Raymond Cadorette</i>		Sampler's Printed Name Raymond Cadorette															
FOR OFFICE USE ONLY		SAMPLING DATE		TIME		MATRIX		NUMBER OF CONTAINERS				PRESERVATIVE		PRELIMINARY ANALYSIS RESULTS (List in comments below)		REMARKS/ALTERNATE DESCRIPTION	
CLIENT SAMPLE ID	LAB ID	DATE	TIME	MATRIX													
TR-5		5/2/13	1058	LN					3						Chloride		
EB-5		5/2/13	0800	LN					3								
W-1 (10.8')		5/2/13	0845	LN					3								
MW-2R (9.8')		5/2/13	0930						3								
MW-4R (35.4')		5/2/13	1030						3								
CL2-BR (79.6')		5/2/13	1130						3								
AP-19 (27')		5/2/13	1230						5								
AP-20 (15')		5/2/13	1330						5								
AP-21 (27')		5/2/13	1415						5								

SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site specific VOC list Massachusetts CAM analyses reporting and QA/QC. Email GISKey formatted EDD & PDF of report to: Gatherine.Mainville@CBI.com.		TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 1 day 2 day 3 day 4 day 5 day Standard		REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MSMSD as required) III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data		INVOICE INFORMATION PO #: 842815 BILL TO: ap.invoices@cbi.com	
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	---------------------------------------------------------------------	--

STATE WHERE SAMPLES WERE COLLECTED:		RECEIVED BY		RELINQUISHED BY		RECEIVED BY	
Signature <i>Raymond Cadorette</i>	Signature <i>Ky M</i>	Signature <i>Ky M</i>	Signature <i>Ky M</i>	Signature <i>Ky M</i>	Signature <i>Ky M</i>	Signature <i>Ky M</i>	Signature <i>Ky M</i>
Printed Name Raymond Cadorette	Printed Name Ky M	Printed Name Ky M	Printed Name Ky M	Printed Name Ky M	Printed Name Ky M	Printed Name Ky M	Printed Name Ky M
Firm CBI	Firm CBI	Firm CBI	Firm CBI	Firm CBI	Firm CBI	Firm CBI	Firm CBI
Date/Time 5/2/13 1430	Date/Time 5/3/13 855	Date/Time 5/3/13 855	Date/Time 5/3/13 855	Date/Time 5/3/13 855	Date/Time 5/3/13 855	Date/Time 5/3/13 855	Date/Time 5/3/13 855



Cooler Receipt and Preservation Check Form

Project/Client Shaw Folder Number R13-3084

Cooler received on 5/3/13 by (A) COURIER: ALS (UPS) FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? (YES) NO
2. Were custody papers properly filled out (ink, signed, etc.)? (YES) NO
3. Did all bottles arrive in good condition (unbroken)? (YES) NO (5/3/13)
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? (YES) (NO) (5/3/13)
5. Were Ice or Ice packs present? (YES) NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set (N/A)
8. Temperature of cooler(s) upon receipt: 2.6

Is the temperature within 0° - 6° C?: (Y) N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 5/3/13 920

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location Rw2 by (A) on 5/3/13 at 925
5035 samples placed in storage location by on at

PC Secondary Review:

Cooler Breakdown: Date: 5/3/13 Time: 1415 by: SR

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	
≥12	NaOH									Yes = All samples OK
≤2	HNO ₃	✓		30876, 1240	11/13					No = Samples were preserved at lab as listed
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						PM OK to Adjust:
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis -- pH tested and recorded by VOAs or GenChem on a separate worksheet				
	Zn Aceta	-	-							
	HCl	*	*	4111100						

Bottle lot numbers: 2-206-002, 3-043-002

Other Comments: * location P-20R was sampled in H₂SO₄ preserved vials

PC Secondary Review: MAP 5/3/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc **Job Number :** 1.46898E+13
Prepared By: Jennifer Gailey **Date :** 7/11/2013
Matrix: Air
Analyte Group : Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1303798
Chain of Custody included in Data Package ? Yes **Is it Complete ?** Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
5/28/13	VOC TO-15		30 Days	5/30, 5/31/2013

Sample temperature within QC limits: NA - Air

Surrogate Recovery

Are all % recoveries within the allowable range ? **Yes**

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? Yes

If no, list sample ID where range was exceeded: NA

Equipment Field Blank ID : NA

Trip Blank ID : NA

Method Blank: EPA TO-15 5/30, 5/31/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

Reviewed By: Pernilla Haley 7/15/13



June 06, 2013

Service Request No: R1303798

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly Air Samples/146898

Dear Mr. Cadorette:

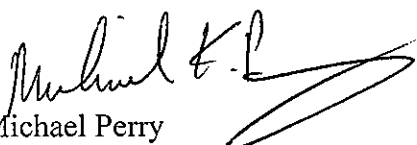
Enclosed are the results of the sample(s) submitted to our laboratory on May 29, 2013. For your reference, these analyses have been assigned our service request number **R1303798**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental


Michael Perry
Laboratory Manager

Page 1 of 20

ALS Environmental

Client: CB&I.
Project: Varian Beverly
Sample Matrix: Air

Service Request No.: R1303798
Project No.: 146898
Date Received: 5/29/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS environmental. This report contains analytical results for samples designated for Tier II, MASS. CAM deliverables. When appropriate to the method, blank and LCS results have been reported with each analytical test.

Sample Receipt

CB&I air samples were collected on 5/28/13 and received at ALS in good condition as noted on the receipt and preservation check form. The samples were stored in the laboratory at room temperature prior to analysis. See the ALS case narrative for a cross-reference between Client ID and ALS Job #.

TO - 15 Air Analysis

Six air samples were analyzed for a site list of Volatile Organics by EPA method TO-15.

All samples were initially analyzed at appropriate dilutions based on prescreening of the samples and/or historical data to bring the target analytes within the calibration range of the method.

All initial and continuing calibrations were compliant.

All surrogate standard recoveries were within QC limits.

The LCS recoveries were all within QC limits of 70 – 130 %. All RPD data were within QC limits.

No other analytical or QC problems were encountered with these analyses.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146898

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1303798-001 - 006

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water ☒ Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B <input checked="" type="checkbox"/>
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (Site list as requested)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Director

Printed Name: Michael K. Perry

Date: 6/06/13 00000

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1303798

<u>Lab ID</u>	<u>Client ID</u>
R1303798-001	32TOZER SV3
R1303798-002	32TOZER-1
R1303798-003	32TOZER SV4
R1303798-004	32TOZER-2
R1303798-005	32TOZER SV5
R1303798-006	32TOZER-3

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Lab ID # for Massachusetts Certification

M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

COLUMBIA ANALYTICAL SERVICES
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Oscar C. Parcaro".

Director, Division of Environmental Analysis

Issued: 01 JUL 2012

Expires: 30 JUN 2013

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2012	Expiration Date	30 JUN 2013
<u>Analytes</u>			<u>Methods</u>	
ALUMINUM			EPA 200.7	
ANTIMONY			EPA 200.7	
ANTIMONY			EPA 200.8	
ARSENIC			EPA 200.7	
ARSENIC			EPA 200.8	
BERYLLIUM			EPA 200.7	
BERYLLIUM			EPA 200.8	
CADMIUM			EPA 200.7	
CADMIUM			EPA 200.8	
CHROMIUM			EPA 200.7	
CHROMIUM			EPA 200.8	
COBALT			EPA 200.7	
COBALT			EPA 200.8	
COPPER			EPA 200.7	
COPPER			EPA 200.8	
IRON			EPA 200.7	
LEAD			EPA 200.7	
LEAD			EPA 200.8	
MANGANESE			EPA 200.7	
MANGANESE			EPA 200.8	
MERCURY			EPA 245.1	
MOLYBDENUM			EPA 200.7	
MOLYBDENUM			EPA 200.8	
NICKEL			EPA 200.7	
NICKEL			EPA 200.8	
SELENIUM			EPA 200.7	
SELENIUM			EPA 200.8	
SILVER			EPA 200.7	
SILVER			EPA 200.8	
THALLIUM			EPA 200.7	
THALLIUM			EPA 200.8	
VANADIUM			EPA 200.7	
VANADIUM			EPA 200.8	
ZINC			EPA 200.7	
ZINC			EPA 200.8	
SPECIFIC CONDUCTIVITY			EPA 120.1	
TOTAL DISSOLVED SOLIDS			SM 2540C	
HARDNESS (CaCO3), TOTAL			SM 2340C	
CALCIUM			EPA 200.7	
MAGNESIUM			EPA 200.7	
SODIUM			EPA 200.7	
POTASSIUM			EPA 200.7	
ALKALINITY, TOTAL			SM 2320B	

June 29, 2012

*= Provisional Certification

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00007

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2012

M-NY032 COLUMBIA ANALYTICAL SERVICES
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY) Effective Date 01 JUL 2012 Expiration Date 30 JUN 2013

<u>Analytes</u>	<u>Methods</u>
CHLORIDE	SM 4500-CL-E
CHLORIDE	EPA 300.0
FLUORIDE	EPA 300.0
SULFATE	EPA 300.0
AMMONIA-N	EPA 350.1
NITRATE-N	EPA 300.0
NITRATE-N	EPA 353.2
KJELDAHL-N	EPA 351.2
ORTHOPHOSPHATE	EPA 365.1
PHOSPHORUS, TOTAL	EPA 365.1
CHEMICAL OXYGEN DEMAND	EPA 410.4
BIOCHEMICAL OXYGEN DEMAND	SM 5210B
TOTAL ORGANIC CARBON	SM 5310C
CYANIDE, TOTAL	EPA 335.4
NON-FILTERABLE RESIDUE	SM 2540D
OIL AND GREASE	EPA 1664
PHENOLICS, TOTAL	EPA 420.4
VOLATILE HALOCARBONS	EPA 601
VOLATILE HALOCARBONS	EPA 624
VOLATILE AROMATICS	EPA 602
VOLATILE AROMATICS	EPA 624
SVOC-ACID EXTRACTABLES	EPA 625
SVOC-BASE/NEUTRAL EXTRACTABLES	EPA 625
POLYCHLORINATED BIPHENYLS (WATER)	EPA 608

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146898
Sample Matrix: Air
Sample Name: 32TOZER SV3
Lab Code: R1303798-001

Service Request: R1303798
Date Collected: 5/28/13 1247
Date Received: 5/29/13

Analytical Method: TO-15

Date Analyzed: 5/31/13 1146
Canister Dilution Factor: 1.51

Initial Pressure (psig): -2.60 Final Pressure (psig): 3.53

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	3.3	27	27	11	11	U
75-35-4	1,1-Dichloroethene	3.3	200	200	51	51	U
156-60-5	trans-1,2-Dichloroethene	3.3	200	200	51	51	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	3.3	210	210	51	51	U
156-59-2	cis-1,2-Dichloroethene	3.3	8900	200	2300	51	
71-55-6	1,1,1-Trichloroethane (TCA)	3.3	270	270	50	50	U
79-01-6	Trichloroethene (TCE)	3.3	6100	27	1100	5.1	
127-18-4	Tetrachloroethene (PCE)	3.3	8600	37	1300	5.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	112	70-130	5/31/13 1146	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32TOZER-1
 Lab Code: R1303798-002

Service Request: R1303798
 Date Collected: 5/28/13 1440
 Date Received: 5/29/13

Analytical Method: TO-15

Date Analyzed: 5/30/13 1520
 Canister Dilution Factor: 1.57

Initial Pressure (psig): -3.05 Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	1000	0.094	0.094	0.037	0.037	U
75-35-4	1,1-Dichloroethene	1000	0.69	0.69	0.17	0.17	U
156-60-5	trans-1,2-Dichloroethene	1000	0.69	0.69	0.17	0.17	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.71	0.71	0.17	0.17	U
156-59-2	cis-1,2-Dichloroethene	1000	1.5	0.69	0.37	0.17	
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.94	0.94	0.17	0.17	U
79-01-6	Trichloroethene (TCE)	1000	0.96	0.094	0.18	0.018	
127-18-4	Tetrachloroethene (PCE)	1000	6.5	0.13	0.96	0.019	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	115	70-130	5/30/13 1520	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32TOZER SV4
 Lab Code: R1303798-003

Service Request: R1303798
 Date Collected: 5/28/13 1250
 Date Received: 5/29/13

Analytical Method: TO-15

Date Analyzed: 5/30/13 1926
 Canister Dilution Factor: 1.65

Initial Pressure (psig): -3.59 Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	50	2.0	2.0	0.78	0.77	U
75-35-4	1,1-Dichloroethene	50	15	15	3.7	3.7	U
156-60-5	trans-1,2-Dichloroethene	50	15	15	3.7	3.7	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	15	15	3.7	3.7	U
156-59-2	cis-1,2-Dichloroethene	50	130	15	32	3.7	
71-55-6	1,1,1-Trichloroethane (TCA)	50	20	20	3.6	3.6	U
79-01-6	Trichloroethene (TCE)	50	150	2.0	29	0.37	
127-18-4	Tetrachloroethene (PCE)	50	300	2.6	45	0.39	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	115	70-130	5/30/13 1926	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32TOZER-2
 Lab Code: R1303798-004

Service Request: R1303798
 Date Collected: 5/28/13 1500
 Date Received: 5/29/13

Analytical Method: TO-15

Date Analyzed: 5/30/13 1752
 Canister Dilution Factor: 1.69

Initial Pressure (psig): -3.88 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	1000	0.10	0.10	0.040	0.040	U
75-35-4	1,1-Dichloroethene	1000	0.74	0.74	0.19	0.19	U
156-60-5	trans-1,2-Dichloroethene	1000	0.74	0.74	0.19	0.19	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.76	0.76	0.19	0.19	U
156-59-2	cis-1,2-Dichloroethene	1000	1.8	0.74	0.45	0.19	
71-55-6	1,1,1-Trichloroethane (TCA)	1000	1.0	1.0	0.19	0.19	U
79-01-6	Trichloroethene (TCE)	1000	1.3	0.10	0.24	0.019	
127-18-4	Tetrachloroethene (PCE)	1000	12	0.14	1.8	0.020	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	114	70-130	5/30/13 1752	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32TOZER SV5
 Lab Code: R1303798-005

Service Request: R1303798
 Date Collected: 5/28/13 1300
 Date Received: 5/29/13

Analytical Method: TO-15

Date Analyzed: 5/30/13 2009
 Canister Dilution Factor: 1.65

Initial Pressure (psig): -3.59

Final Pressure (psig): 3.59

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	50	2.0	2.0	0.77	0.77	U
75-35-4	1,1-Dichloroethene	50	15	15	3.7	3.7	U
156-60-5	trans-1,2-Dichloroethene	50	15	15	3.7	3.7	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	15	15	3.7	3.7	U
156-59-2	cis-1,2-Dichloroethene	50	38	15	9.6	3.7	
71-55-6	1,1,1-Trichloroethane (TCA)	50	20	20	3.6	3.6	U
79-01-6	Trichloroethene (TCE)	50	15	2.0	2.7	0.37	
127-18-4	Tetrachloroethene (PCE)	50	32	2.6	4.7	0.39	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	114	70-130	5/30/13 2009	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146898
Sample Matrix: Air
Sample Name: 32TOZER-3
Lab Code: R1303798-006

Service Request: R1303798
Date Collected: 5/28/13 1505
Date Received: 5/29/13

Analytical Method: TO-15

Date Analyzed: 5/30/13 1701
Canister Dilution Factor: 1.64

Initial Pressure (psig): -3.59 Final Pressure (psig): 3.56

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	1000	0.098	0.098	0.039	0.039	U
75-35-4	1,1-Dichloroethene	1000	0.72	0.72	0.18	0.18	U
156-60-5	trans-1,2-Dichloroethene	1000	0.72	0.72	0.18	0.18	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.74	0.74	0.18	0.18	U
156-59-2	cis-1,2-Dichloroethene	1000	0.72	0.72	0.18	0.18	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.98	0.98	0.18	0.18	U
79-01-6	Trichloroethene (TCE)	1000	0.098	0.098	0.018	0.018	U
127-18-4	Tetrachloroethene (PCE)	1000	0.13	0.13	0.019	0.019	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	116	70-130	5/30/13 1701	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146898
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1306041-01

Service Request: R1303798
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 5/30/13 1058

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	110	70-130	5/30/13 1058	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146898
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1306201-01

Service Request: R1303798
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 5/31/13 1008

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	113	70-130	5/31/13 1008	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly Air Samples/146898
Sample Matrix: Air

Service Request: R1303798
Date Analyzed: 5/30/13

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: $\mu\text{g}/\text{m}^3$
Basis: NA

Analysis Lot: 342951

Lab Control Sample
RQ1306041-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	6.13	6.58	93	70 - 130
1,1-Dichloroethene	9.93	10.4	95	70 - 130
trans-1,2-Dichloroethene	9.44	10.4	91	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.56	10.5	91	70 - 130
cis-1,2-Dichloroethene	9.35	10.5	89	70 - 130
1,1,1-Trichloroethane (TCA)	14.6	14.3	102	70 - 130
Trichloroethene (TCE)	13.3	14.0	95	70 - 130
Tetrachloroethene (PCE)	18.1	18.0	101	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly Air Samples/146898
Sample Matrix: Air

Service Request: R1303798

Date Analyzed: 5/31/13

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: $\mu\text{g}/\text{m}^3$

Basis: NA

Analysis Lot: 343343

Lab Control Sample
RQ1306201-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	6.24	6.58	95	70 - 130
1,1-Dichloroethene	10.2	10.4	98	70 - 130
trans-1,2-Dichloroethene	9.71	10.4	93	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.57	10.5	91	70 - 130
cis-1,2-Dichloroethene	9.34	10.5	89	70 - 130
1,1,1-Trichloroethane (TCA)	15.2	14.3	106	70 - 130
Trichloroethene (TCE)	13.6	14.0	97	70 - 130
Tetrachloroethene (PCE)	18.7	18.0	104	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



CHAIN OF CUSTODY - AIR

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 | 585.288.5380 | 585.288.8475 (fax) | www.caslab.com

PAGE 1 OF 1

FO

Requested Turnaround Time in Business Days from Receipt, please circle: 1 Day 2 Day 3 Day 4 Day <u>5 Day</u> 10 Day-Standard									
CAS Project #:									
Company Name: Shaw Environmental, Inc. A CB&I Company									
Project Name: Varian Beverly									
Address: 150 Royall Street Canton, MA 02021									
Project Manager: Raymond Cadorette									
Phone: 617-589-6102									
Fax: 617-589-5495									
Email (for result reporting): Raymond.Cadorette@CBI.com									
Sampler (Print & Sign):									
Client Sample ID									
Laboratory ID Number									
Date Collected									
Time Collected									
Canister ID									
Flow Controller ID									
TO15 (1,1,1-TCA/ 1,1,1-DCA/1,1-DCE/ PCE/TCE/VC/ cis-1,2-DCE/ trans-1,2-DCE only)									
Analysis Method and/or Analytes									
Comments Specific Instructions									
report specific test only for all samples									

What State were samples collected in:									
Report Tier Levels - please select: Tier I (Results/Default, if not specified) _____ Tier II (Results + QC) _____ Tier III (CLP Forms Only) _____ Tier IV (Data Validation) _____									
EDD required: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Type: GISKey									
EDD Units: ug/m3 & ppmv									
Received by (Signature): Date: 5/28/13 Time: 1:30									
Received by (Signature): Date: 5/29/13 Time: 10:05									
Received by (Signature): Date: _____ Time: _____									

QA/QC: MADEP CAM

Note for a 2nd Run

R1303798

CB&I Environmental & Infrastructure
Varian Beverly Air Samples

7 Y

REV 7-11



Cooler Receipt and Preservation Check Form

Project/Client CBT/shaw Folder Number R13-3748

Cooler received on 5-29-13 by: ME COURIER: ALS UPS FEDEX VELOCITY. CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: Air Canisters

Is the temperature within 0° - 6° C?: Y N N/A Y N Y N Y N Y N
If No, Explain Below Date/Time Temperatures Taken: Air Canisters

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location Air Canisters by _____ on _____ at _____
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review

Cooler Breakdown: Date: 5/29/13 Time: 1415 by: SM

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
≥12	NaOH									
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						No = Samples were preserved at lab as listed PM OK to Adjust:
	Na ₂ S ₂ O ₃	-	-							
	Zn Aceta	-	-							
	HCl	*	*							

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers:

Other Comments:

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc

Job Number : 146898

Prepared By: Jennifer Gailey

Date : 7/11/2013

Matrix: Air

Analyte Group : Volatile Organics

Analytical Method : EPA Method TO-15

Completed MADEP CAM Certification Form included: Yes

Laboratory ID No. : R1304560

Chain of Custody included in Data Package ? yes

Is it Complete ? Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
6/20/13	VOC TO-15		30 Days	6/27/13

Sample temperature within QC limits: NA - Air

Surrogate Recovery

Are all % recoveries within the allowable range ? **Yes**

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? Yes

If no, list sample ID where range was exceeded: NA

Equipment Field Blank ID : NA

Trip Blank ID : NA

Method Blank: EPA TO-15 6/27/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

Sample BLDG5-SVE-INF was re-analyzed at a lower dilution to bring target analytes within the calibration range of the method. Both dilutions were reported with target analytes over the calibration range flagged with a "E" and the diluted flagged with a "D"

Reviewed By: Pernilla Haley 7/16/13



July 08, 2013

Service Request No: R1304560

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly Air Samples/146899-13000000

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on June 21, 2013. For your reference, these analyses have been assigned our service request number **R1304560**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Michael Perry
Laboratory Manager

Page 1 of 16

ALS Environmental

Client: CB&I.
Project: Varian Beverly
Sample Matrix: Air

Service Request No.: R1304560
Project No.: 146899
Date Received: 6/21/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS environmental. This report contains analytical results for samples designated for Tier II, MASS. CAM deliverables. When appropriate to the method, blank and LCS results have been reported with each analytical test.

Sample Receipt

CB&I air samples were collected on 6/20/13 and received at ALS in good condition as noted on the receipt and preservation check form. The samples were stored in the laboratory at room temperature prior to analysis. See the ALS case narrative for a cross-reference between Client ID and ALS Job #.

TO - 15 Air Analysis

Four air sample was analyzed for a site list of Volatile Organics by EPA method TO-15.

All samples were initially analyzed at appropriate dilutions based on prescreening of the samples and/or historical data to bring the target analytes within the calibration range of the method. Sample BLDG5-SVE-INF was re-analyzed at a lower dilution to bring target analytes within the calibration range of the method. Both dilutions were reported with target analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All initial and continuing calibrations were compliant.

All surrogate standard recoveries were within QC limits.

The LCS recoveries were all within QC limits of 70 – 130 %.

No other analytical or QC problems were encountered with these analyses.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146899

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):

R1304560-001 - 004

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water ☒ Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B <input checked="" type="checkbox"/>
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (Site list as requested)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Manager

Printed Name: Michael K. Perry

Date: 7/08/13 00002

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1304560

<u>Lab ID</u>	<u>Client ID</u>
R1304560-001	BLDG5-SVE-INF
R1304560-002	BLDG5-SVE1
R1304560-003	BLDG5-SVE2
R1304560-004	BLDG5-SVE3

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Lab ID # for Massachusetts Certification M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

Division of Environmental Analysis

Senator William X. Wall Experiment Station

certifies

M-NY032

ALS ENVIRONMENTAL ROCHESTER
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.



Director, Division of Environmental Analysis

Issued: 01 JUL 2013

Expires: 30 JUN 2014

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2013

M-NY032 ALS ENVIRONMENTAL ROCHESTER
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2013	Expiration Date	30 JUN 2014
<u>Analytes</u>				<u>Methods</u>
ALUMINUM				EPA 200.7
ANTIMONY				EPA 200.7
ANTIMONY				EPA 200.8
ARSENIC				EPA 200.7
ARSENIC				EPA 200.8
BERYLLIUM				EPA 200.7
BERYLLIUM				EPA 200.8
CADMIUM				EPA 200.7
CADMIUM				EPA 200.8
CHROMIUM				EPA 200.7
CHROMIUM				EPA 200.8
COBALT				EPA 200.7
COBALT				EPA 200.8
COPPER				EPA 200.7
COPPER				EPA 200.8
IRON				EPA 200.7
LEAD				EPA 200.7
LEAD				EPA 200.8
MANGANESE				EPA 200.7
MANGANESE				EPA 200.8
MERCURY				EPA 245.1
MOLYBDENUM				EPA 200.7
MOLYBDENUM				EPA 200.8
NICKEL				EPA 200.7
NICKEL				EPA 200.8
SELENIUM				EPA 200.7
SELENIUM				EPA 200.8
SILVER				EPA 200.7
SILVER				EPA 200.8
THALLIUM				EPA 200.7
THALLIUM				EPA 200.8
VANADIUM				EPA 200.7
VANADIUM				EPA 200.8
ZINC				EPA 200.7
ZINC				EPA 200.8
SPECIFIC CONDUCTIVITY				EPA 120.1
TOTAL DISSOLVED SOLIDS				SM 2540C
HARDNESS (CaCO3), TOTAL				SM 2340C
CALCIUM				EPA 200.7
MAGNESIUM				EPA 200.7
SODIUM				EPA 200.7
POTASSIUM				EPA 200.7
ALKALINITY, TOTAL				SM 2320B

June 25, 2013

*= Provisional Certification

Page 1 of 2

00007

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2013

M-NY032 ALS ENVIRONMENTAL ROCHESTER
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2013	Expiration Date	30 JUN 2014
<u>Analytes</u>			<u>Methods</u>	
CHLORIDE			SM 4500-CL-E	
CHLORIDE			EPA 300.0	
FLUORIDE			EPA 300.0	
SULFATE			EPA 300.0	
AMMONIA-N			EPA 350.1	
NITRATE-N			EPA 300.0	
NITRATE-N			EPA 353.2	
KJELDAHL-N			EPA 351.2	
ORTHOPHOSPHATE			EPA 365.1	
PHOSPHORUS, TOTAL			EPA 365.1	
CHEMICAL OXYGEN DEMAND			EPA 410.4	
BIOCHEMICAL OXYGEN DEMAND			SM 5210B	
TOTAL ORGANIC CARBON			SM 5310C	
CYANIDE, TOTAL			EPA 335.4	
NON-FILTERABLE RESIDUE			SM 2540D	
OIL AND GREASE			EPA 1664	
PHENOLICS, TOTAL			EPA 420.4	
VOLATILE HALOCARBONS			EPA 601	
VOLATILE HALOCARBONS			EPA 624	
VOLATILE AROMATICS			EPA 602	
VOLATILE AROMATICS			EPA 624	
SVOC-ACID EXTRACTABLES			EPA 625	
SVOC-BASE/NEUTRAL EXTRACTABLES			EPA 625	
POLYCHLORINATED BIPHENYLS (WATEF			EPA 608	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899-13000000
Sample Matrix: Air
Sample Name: BLDG5-SVE-INF
Lab Code: R1304560-001

Service Request: R1304560
Date Collected: 6/20/13 1200
Date Received: 6/21/13

Analytical Method: TO-15

Date Analyzed: 6/27/13 1124
Canister Dilution Factor: 1.33

Initial Pressure (psig): -0.98 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	33	18	18	8.8	8.8	U
75-01-4	Vinyl Chloride	33	2.4	2.4	0.95	0.95	U
74-83-9	Bromomethane	33	17	17	4.5	4.5	U
75-00-3	Chloroethane	33	23	23	8.9	8.9	U
67-64-1	Acetone	33	440	200	190	85	
75-69-4	Trichlorofluoromethane (CFC 11)	33	25	25	4.4	4.4	U
75-35-4	1,1-Dichloroethene	33	18	18	4.5	4.5	U
75-09-2	Methylene Chloride	33	15	15	4.4	4.4	U
156-60-5	trans-1,2-Dichloroethene	33	18	18	4.5	4.5	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	33	18	18	4.5	4.5	U
156-59-2	cis-1,2-Dichloroethene	33	52	18	13	4.5	
67-66-3	Chloroform	33	22	22	4.5	4.5	U
107-06-2	1,2-Dichloroethane	33	18	18	4.5	4.5	U
71-55-6	1,1,1-Trichloroethane (TCA)	33	24	24	4.4	4.4	U
56-23-5	Carbon Tetrachloride	33	2.8	2.8	0.45	0.45	U
78-87-5	1,2-Dichloropropane	33	21	21	4.4	4.4	U
75-27-4	Bromodichloromethane	33	6.0	6.0	0.90	0.90	U
79-01-6	Trichloroethene (TCE)	33	2500	2.4	460	0.45	E
10061-01-5	cis-1,3-Dichloropropene	33	40	40	8.9	8.9	U
10061-02-6	trans-1,3-Dichloropropene	33	20	20	4.4	4.4	U
79-00-5	1,1,2-Trichloroethane	33	24	24	4.4	4.4	U
124-48-1	Dibromochloromethane	33	7.7	7.7	0.90	0.90	U
127-18-4	Tetrachloroethene (PCE)	33	300	3.2	44	0.48	
108-90-7	Chlorobenzene	33	21	21	4.5	4.5	U
100-41-4	Ethylbenzene	33	38	38	8.8	8.8	U
179601-23-1	m,p-Xylenes	33	77	77	18	18	U
75-25-2	Bromoform	33	46	46	4.4	4.4	U
95-47-6	o-Xylene	33	38	38	8.8	8.8	U
79-34-5	1,1,2,2-Tetrachloroethane	33	6.0	6.0	0.88	0.88	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	111	70-130	6/27/13 1124	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899-13000000
Sample Matrix: Air
Sample Name: BLDG5-SVE-INF
Lab Code: R1304560-001
Run Type: Dilution

Service Request: R1304560
Date Collected: 6/20/13 1200
Date Received: 6/21/13

Analytical Method: TO-15

Date Analyzed: 6/27/13 1344
Canister Dilution Factor: 1.33

Initial Pressure (psig): -0.98

Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	15	40	40	19	19	U
75-01-4	Vinyl Chloride	15	5.3	5.3	2.1	2.1	U
74-83-9	Bromomethane	15	38	38	9.8	9.8	U
75-00-3	Chloroethane	15	51	51	19	19	U
67-64-1	Acetone	15	560	440	240	190	D
75-69-4	Trichlorofluoromethane (CFC 11)	15	55	55	9.8	9.8	U
75-35-4	1,1-Dichloroethene	15	39	39	9.8	9.8	U
75-09-2	Methylene Chloride	15	34	34	9.7	9.7	U
156-60-5	trans-1,2-Dichloroethene	15	39	39	9.8	9.8	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	15	40	40	9.9	9.9	U
156-59-2	cis-1,2-Dichloroethene	15	53	39	13	9.8	D
67-66-3	Chloroform	15	48	48	9.8	9.8	U
107-06-2	1,2-Dichloroethane	15	40	40	9.9	9.9	U
71-55-6	1,1,1-Trichloroethane (TCA)	15	53	53	9.8	9.8	U
56-23-5	Carbon Tetrachloride	15	6.2	6.2	0.99	0.99	U
78-87-5	1,2-Dichloropropane	15	45	45	9.8	9.8	U
75-27-4	Bromodichloromethane	15	13	13	2.0	2.0	U
79-01-6	Trichloroethene (TCE)	15	2500	5.3	470	0.99	D
10061-01-5	cis-1,3-Dichloropropene	15	89	89	20	20	U
10061-02-6	trans-1,3-Dichloropropene	15	44	44	9.8	9.8	U
79-00-5	1,1,2-Trichloroethane	15	53	53	9.8	9.8	U
124-48-1	Dibromochloromethane	15	17	17	2.0	2.0	U
127-18-4	Tetrachloroethene (PCE)	15	310	7.1	45	1.0	D
108-90-7	Chlorobenzene	15	45	45	9.8	9.8	U
100-41-4	Ethylbenzene	15	84	84	19	19	U
179601-23-1	m,p-Xylenes	15	170	170	39	39	U
75-25-2	Bromoform	15	100	100	9.8	9.8	U
95-47-6	o-Xylene	15	84	84	19	19	U
79-34-5	1,1,2,2-Tetrachloroethane	15	13	13	1.9	1.9	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	110	70-130	6/27/13 1344	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899-13000000
Sample Matrix: Air
Sample Name: BLDG5-SVE1
Lab Code: R1304560-002

Service Request: R1304560
Date Collected: 6/20/13 1245
Date Received: 6/21/13

Analytical Method: TO-15

Date Analyzed: 6/27/13 1211
Canister Dilution Factor: 1.38

Initial Pressure (psig): -1.42 Final Pressure (psig): 3.57

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	0.9	690	690	330	330	U
75-01-4	Vinyl Chloride	0.9	92	92	36	36	U
74-83-9	Bromomethane	0.9	660	660	170	170	U
75-00-3	Chloroethane	0.9	890	890	340	340	U
67-64-1	Acetone	0.9	7700	7700	3200	3200	U
75-69-4	Trichlorofluoromethane (CFC 11)	0.9	950	950	170	170	U
75-35-4	1,1-Dichloroethene	0.9	670	670	170	170	U
75-09-2	Methylene Chloride	0.9	580	580	170	170	U
156-60-5	trans-1,2-Dichloroethene	0.9	670	670	170	170	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	0.9	690	690	170	170	U
156-59-2	cis-1,2-Dichloroethene	0.9	970	670	250	170	
67-66-3	Chloroform	0.9	830	830	170	170	U
107-06-2	1,2-Dichloroethane	0.9	690	690	170	170	U
71-55-6	1,1,1-Trichloroethane (TCA)	0.9	920	920	170	170	U
56-23-5	Carbon Tetrachloride	0.9	110	110	17	17	U
78-87-5	1,2-Dichloropropane	0.9	780	780	170	170	U
75-27-4	Bromodichloromethane	0.9	230	230	34	34	U
79-01-6	Trichloroethene (TCE)	0.9	70000	92	13000	17	
10061-01-5	cis-1,3-Dichloropropene	0.9	1500	1500	340	340	U
10061-02-6	trans-1,3-Dichloropropene	0.9	770	770	170	170	U
79-00-5	1,1,2-Trichloroethane	0.9	920	920	170	170	U
124-48-1	Dibromochloromethane	0.9	290	290	34	34	U
127-18-4	Tetrachloroethene (PCE)	0.9	5800	120	860	18	
108-90-7	Chlorobenzene	0.9	780	780	170	170	U
100-41-4	Ethylbenzene	0.9	1500	1500	340	340	U
179601-23-1	m,p-Xylenes	0.9	2900	2900	670	670	U
75-25-2	Bromoform	0.9	1700	1700	170	170	U
95-47-6	o-Xylene	0.9	1500	1500	340	340	U
79-34-5	1,1,2,2-Tetrachloroethane	0.9	230	230	34	34	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	110	70-130	6/27/13 1211	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899-13000000
Sample Matrix: Air
Sample Name: BLDG5-SVE2
Lab Code: R1304560-003

Service Request: R1304560
Date Collected: 6/20/13 1230
Date Received: 6/21/13

Analytical Method: TO-15

Date Analyzed: 6/27/13 1600
Canister Dilution Factor: 1.34

Initial Pressure (psig): -1.08 Final Pressure (psig): 3.53

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	79	7.6	7.6	3.7	3.7	U
75-01-4	Vinyl Chloride	79	1.0	1.0	0.40	0.40	U
74-83-9	Bromomethane	79	7.3	7.3	1.9	1.9	U
75-00-3	Chloroethane	79	9.8	9.8	3.7	3.7	U
67-64-1	Acetone	79	380	85	160	36	
75-69-4	Trichlorofluoromethane (CFC 11)	79	11	11	1.9	1.9	U
75-35-4	1,1-Dichloroethene	79	7.5	7.5	1.9	1.9	U
75-09-2	Methylene Chloride	79	6.4	6.4	1.9	1.9	U
156-60-5	trans-1,2-Dichloroethene	79	7.5	7.5	1.9	1.9	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	79	7.6	7.6	1.9	1.9	U
156-59-2	cis-1,2-Dichloroethene	79	47	7.5	12	1.9	
67-66-3	Chloroform	79	9.2	9.2	1.9	1.9	U
107-06-2	1,2-Dichloroethane	79	7.6	7.6	1.9	1.9	U
71-55-6	1,1,1-Trichloroethane (TCA)	79	10	10	1.9	1.9	U
56-23-5	Carbon Tetrachloride	79	1.2	1.2	0.19	0.19	U
78-87-5	1,2-Dichloropropane	79	8.7	8.7	1.9	1.9	U
75-27-4	Bromodichloromethane	79	2.5	2.5	0.38	0.38	U
79-01-6	Trichloroethene (TCE)	79	190	1.0	34	0.19	
10061-01-5	cis-1,3-Dichloropropene	79	17	17	3.7	3.7	U
10061-02-6	trans-1,3-Dichloropropene	79	8.5	8.5	1.9	1.9	U
79-00-5	1,1,2-Trichloroethane	79	10	10	1.9	1.9	U
124-48-1	Dibromochloromethane	79	3.2	3.2	0.38	0.38	U
127-18-4	Tetrachloroethene (PCE)	79	140	1.4	20	0.20	
108-90-7	Chlorobenzene	79	8.7	8.7	1.9	1.9	U
100-41-4	Ethylbenzene	79	16	16	3.7	3.7	U
179601-23-1	m,p-Xylenes	79	32	32	7.5	7.5	U
75-25-2	Bromoform	79	19	19	1.9	1.9	U
95-47-6	o-Xylene	79	16	16	3.7	3.7	U
79-34-5	1,1,2,2-Tetrachloroethane	79	2.5	2.5	0.37	0.37	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	106	70-130	6/27/13 1600	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899-13000000
Sample Matrix: Air
Sample Name: BLDG5-SVE3
Lab Code: R1304560-004

Service Request: R1304560
Date Collected: 6/20/13 1215
Date Received: 6/21/13

Analytical Method: TO-15

Date Analyzed: 6/27/13 1257
Canister Dilution Factor: 1.34

Initial Pressure (psig): -1.08 **Final Pressure (psig):** 3.51

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	27	22	22	11	11	U
75-01-4	Vinyl Chloride	27	3.0	3.0	1.2	1.2	U
74-83-9	Bromomethane	27	21	21	5.5	5.5	U
75-00-3	Chloroethane	27	29	29	11	11	U
67-64-1	Acetone	27	1000	250	440	100	
75-69-4	Trichlorofluoromethane (CFC 11)	27	31	31	5.5	5.5	U
75-35-4	1,1-Dichloroethene	27	22	22	5.5	5.5	U
75-09-2	Methylene Chloride	27	19	19	5.4	5.4	U
156-60-5	trans-1,2-Dichloroethene	27	22	22	5.5	5.5	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	27	22	22	5.5	5.5	U
156-59-2	cis-1,2-Dichloroethene	27	22	22	5.5	5.5	U
67-66-3	Chloroform	27	27	27	5.5	5.5	U
107-06-2	1,2-Dichloroethane	27	22	22	5.5	5.5	U
71-55-6	1,1,1-Trichloroethane (TCA)	27	30	30	5.5	5.5	U
56-23-5	Carbon Tetrachloride	27	3.5	3.5	0.55	0.55	U
78-87-5	1,2-Dichloropropane	27	25	25	5.5	5.5	U
75-27-4	Bromodichloromethane	27	7.4	7.4	1.1	1.1	U
79-01-6	Trichloroethene (TCE)	27	220	3.0	40	0.55	
10061-01-5	cis-1,3-Dichloropropene	27	50	50	11	11	U
10061-02-6	trans-1,3-Dichloropropene	27	25	25	5.5	5.5	U
79-00-5	1,1,2-Trichloroethane	27	30	30	5.5	5.5	U
124-48-1	Dibromochloromethane	27	9.4	9.4	1.1	1.1	U
127-18-4	Tetrachloroethene (PCE)	27	74	4.0	11	0.59	
108-90-7	Chlorobenzene	27	25	25	5.5	5.5	U
100-41-4	Ethylbenzene	27	47	47	11	11	U
179601-23-1	m,p-Xylenes	27	95	95	22	22	U
75-25-2	Bromoform	27	57	57	5.5	5.5	U
95-47-6	o-Xylene	27	47	47	11	11	U
79-34-5	1,1,2,2-Tetrachloroethane	27	7.4	7.4	1.1	1.1	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	111	70-130	6/27/13 1257	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899-13000000
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1307507-01

Service Request: R1304560
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 6/27/13 0951

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
100-41-4	Ethylbenzene	1000	0.95	0.95	0.22	0.22	U
179601-23-1	m,p-Xylenes	1000	1.9	1.9	0.44	0.44	U
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
95-47-6	o-Xylene	1000	0.95	0.95	0.22	0.22	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	112	70-130	6/27/13 0951	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly Air Samples/146899-13000000
Sample Matrix: Air

Service Request: R1304560

Date Analyzed: 6/27/13

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³

Basis: NA

Analysis Lot: 347131

Lab Control Sample
RQ1307507-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.66	5.26	89	70 - 130
Vinyl Chloride	6.34	6.58	96	70 - 130
Bromomethane	9.63	9.89	97	70 - 130
Chloroethane	6.39	6.66	96	70 - 130
Acetone	6.16	6.47	95	50 - 150
Trichlorofluoromethane (CFC 11)	15.8	14.3	111	70 - 130
1,1-Dichloroethene	10.3	10.4	99	70 - 130
Methylene Chloride	8.06	9.03	89	70 - 130
trans-1,2-Dichloroethene	9.74	10.4	94	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.72	10.5	92	70 - 130
cis-1,2-Dichloroethene	9.36	10.5	89	70 - 130
Chloroform	12.7	13.2	97	70 - 130
1,2-Dichloroethane	12.4	10.6	117	70 - 130
1,1,1-Trichloroethane (TCA)	15.4	14.3	107	70 - 130
Carbon Tetrachloride	17.3	15.9	109	70 - 130
1,2-Dichloropropane	10.3	12.1	85	70 - 130
Bromodichloromethane	17.8	17.4	102	70 - 130
Trichloroethene (TCE)	13.4	14.0	96	70 - 130
cis-1,3-Dichloropropene	12.2	12.3	99	70 - 130
trans-1,3-Dichloropropene	11.1	11.0	101	70 - 130
1,1,2-Trichloroethane	13.3	14.6	91	70 - 130
Dibromochloromethane	24.2	23.4	103	70 - 130
Tetrachloroethene (PCE)	18.6	18.0	104	70 - 130
Chlorobenzene	11.5	12.3	93	70 - 130
Ethylbenzene	10.5	11.5	92	70 - 130
m,p-Xylenes	20.8	22.4	93	70 - 130
Bromoform	28.6	26.6	107	70 - 130
o-Xylene	10.7	11.9	90	70 - 130
1,1,2,2-Tetrachloroethane	14.9	18.9	79	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



**Columbia
Analytical Services™**

PAGE 1 OF 1

CAS Project #:

REV 7-11



Cooler Receipt and Preservation Check Form

Project/Client Shaw Folder Number R1304560

Cooler received on 6/21/13 by: AD **COURIER:** ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were **Ice** or **Ice packs** present? YES NO
6. Where did the bottles originate? ALS/ROO, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: AIR

Is the temperature within 0° - 6° C?: Y N Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: AIR

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location SMD by AD on 6/21/13 at 0926
 5035 samples placed in storage location by on at

PC Secondary Review: AD 6/21/13

Cooler Breakdown: Date: 6/21/13 Time: 1405 by: dm

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK No = Samples were preserved at lab as listed PM OK to Adjust: _____
≥12	NaOH									
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						
	Na ₂ S ₂ O ₃	-	-			*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet				
	Zn Aceta	-	-							
	HCl	*	*							

Bottle lot numbers: _____

Other Comments: _____

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc

Job Number : 150151

Prepared By: Dale Dailey

Date : 9/4/2013

Matrix: Soil

Analyte Group : Volatile Organics
Total Solids

Analytical Method : SW-846 8260C
Modified EPA 160.3

Completed MADEP CAM Certification Form included: Yes

Laboratory ID No. : R1305507

Chain of Custody included in Data Package ? Yes

Is it Complete ? Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
7/24 - 7/29/2013	Modified EPA 160.3	14 days	14 Days	8/1, 8/5, 8/9/13
7/24 - 7/29/2013	VOC 8260C	14 days	30 Days	7/31/13

Sample temperature within QC limits: Yes, 4.1 C

Surrogate Recovery

Are all % recoveries within the allowable range ? Yes

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? Yes

If no, list sample ID where range was exceeded: NA

Equipment Field Blank ID : NA
Trip Blank ID : TRIP BLANK

Method Blank:	8260C	8/1/2013
	160.3 Modified	7/31/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

(1) Sample BLDG 3 SB105-02 was originally analyzed as a medium level dilution to bring target analytes within the calibration range of the method. Sample was re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

(2) Sample BLDG 3 SB105-02 D was analyzed outside the allowable hold time of 14 days.

Reviewed By: Pernilla Haley 9/9/13



August 14, 2013

Service Request No: R1305507

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly - Soil/150151

Dear Mr. Cadorette:


Enclosed are the results of the sample(s) submitted to our laboratory on July 30, 2013. For your reference, these analyses have been assigned our service request number **R1305507**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental


Michael Perry
Laboratory Manager

Page 1 of 42

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #:150151

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1305507 – 001 - 011

Matrices: Groundwater ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other: _____

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6850 Perchlorate CAM VIII B	Other: 624

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	X Yes	No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	X Yes	No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	X Yes	No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	X Yes	No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes	No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	X Yes	No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	X Yes	No ¹
----------	-----------------------------------------------------------------------------------------------------------	-------	-----------------

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	X Yes	No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (site list)	Yes	X No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Manager

Printed Name: Michael K. Perry

Date: 8/16/13

000002

ALS Environmental

Client: CB&I
Project: Varian Beverly
Sample Matrix: Soil

Service Request No.: R1305507
Project Number: 150151
Date Received: 7/30/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II, deliverables with Massachusetts CAM analyses reporting. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Samples were collected on 7/24/13 – 7/29/13 and received at ALS in good condition at a cooler temperature of 4.1 °C as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. See the second page of the Case Narrative for a cross-reference between Client ID and ALS Job #.

Volatile Organics

Ten soil samples and a Trip Blank were analyzed for a site list of Volatile Organics by SW-846 Method 8260C.

Sample BLDG 3 SB105-02 was originally analyzed as a medium level dilution to bring target analytes within the calibration range of the method. Sample BLDG 3 SB105-02 was re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D". Note: This sample was analyzed 1 day outside the 14 day holding time. The results have been flagged with an "x".

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes.

All Surrogate Standard recoveries were within QC limits.

All Bank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were within QC limits.

All samples were analyzed within the required holding time of 14 days.

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1305507

<u>Lab ID</u>	<u>Client ID</u>
R1305507-001	BLDG 3 SB104-01
R1305507-002	BLDG 3 SB104-02
R1305507-003	BLDG 3 SB105-01
R1305507-004	BLDG 3 SB105-02
R1305507-005	BLDG 3 SB106-01
R1305507-006	BLDG 3 SB106-02
R1305507-007	BLDG 3 SB107-01
R1305507-008	BLDG 3 SB107-02
R1305507-009	BLDG 3 SB108-01
R1305507-010	BLDG 3 SB108-02
R1305507-011	TRIP BLANK

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Lab ID # for Massachusetts Certification

M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

ALS ENVIRONMENTAL ROCHESTER
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.



Director, Division of Environmental Analysis

Issued: 01 JUL 2013

Expires: 30 JUN 2014

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2013

M-NY032 ALS ENVIRONMENTAL ROCHESTER
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2013	Expiration Date	30 JUN 2014
<u>Analytes</u>			<u>Methods</u>	
ALUMINUM			EPA 200.7	
ANTIMONY			EPA 200.7	
ANTIMONY			EPA 200.8	
ARSENIC			EPA 200.7	
ARSENIC			EPA 200.8	
BERYLLIUM			EPA 200.7	
BERYLLIUM			EPA 200.8	
CADMIUM			EPA 200.7	
CADMIUM			EPA 200.8	
CHROMIUM			EPA 200.7	
CHROMIUM			EPA 200.8	
COBALT			EPA 200.7	
COBALT			EPA 200.8	
COPPER			EPA 200.7	
COPPER			EPA 200.8	
IRON			EPA 200.7	
LEAD			EPA 200.7	
LEAD			EPA 200.8	
MANGANESE			EPA 200.7	
MANGANESE			EPA 200.8	
MERCURY			EPA 245.1	
MOLYBDENUM			EPA 200.7	
MOLYBDENUM			EPA 200.8	
NICKEL			EPA 200.7	
NICKEL			EPA 200.8	
SELENIUM			EPA 200.7	
SELENIUM			EPA 200.8	
SILVER			EPA 200.7	
SILVER			EPA 200.8	
THALLIUM			EPA 200.7	
THALLIUM			EPA 200.8	
VANADIUM			EPA 200.7	
VANADIUM			EPA 200.8	
ZINC			EPA 200.7	
ZINC			EPA 200.8	
SPECIFIC CONDUCTIVITY			EPA 120.1	
TOTAL DISSOLVED SOLIDS			SM 2540C	
HARDNESS (CaCO ₃), TOTAL			SM 2340C	
CALCIUM			EPA 200.7	
MAGNESIUM			EPA 200.7	
SODIUM			EPA 200.7	
POTASSIUM			EPA 200.7	
ALKALINITY, TOTAL			SM 2320B	

June 25, 2013

*= Provisional Certification

Page 1 of 2

00007

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2013

M-NY032 ALS ENVIRONMENTAL ROCHESTER
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY) Effective Date 01 JUL 2013 Expiration Date 30 JUN 2014

<u>Analytes</u>	<u>Methods</u>
CHLORIDE	SM 4500-CL-E
CHLORIDE	EPA 300.0
FLUORIDE	EPA 300.0
SULFATE	EPA 300.0
AMMONIA-N	EPA 350.1
NITRATE-N	EPA 300.0
NITRATE-N	EPA 353.2
KJELDAHL-N	EPA 351.2
ORTHOPHOSPHATE	EPA 365.1
PHOSPHORUS, TOTAL	EPA 365.1
CHEMICAL OXYGEN DEMAND	EPA 410.4
BIOCHEMICAL OXYGEN DEMAND	SM 5210B
TOTAL ORGANIC CARBON	SM 5310C
CYANIDE, TOTAL	EPA 335.4
NON-FILTERABLE RESIDUE	SM 2540D
OIL AND GREASE	EPA 1664
PHENOLICS, TOTAL	EPA 420.4
VOLATILE HALOCARBONS	EPA 601
VOLATILE HALOCARBONS	EPA 624
VOLATILE AROMATICS	EPA 602
VOLATILE AROMATICS	EPA 624
SVOC-ACID EXTRACTABLES	EPA 625
SVOC-BASE/NEUTRAL EXTRACTABLES	EPA 625
POLYCHLORINATED BIPHENYLS (WATER)	EPA 608

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150151
 Sample Matrix: Soil
 Sample Name: BLDG 3 SB104-01
 Lab Code: R1305507-001

Service Request: R1305507
 Date Collected: 7/24/13 1350
 Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	92.1	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/24/13 1350
Date Received: 7/30/13
Date Analyzed: 8/5/13 13:38

Sample Name: BLDG 3 SB104-01
Lab Code: R1305507-001

Units: µg/Kg
Basis: Dry
Percent Solids: 92.1

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4462.D\

Analysis Lot: 352271
Instrument Name: R-MS-07
Dilution Factor: 0.62

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	3.4	U	3.4	
79-34-5	1,1,2,2-Tetrachloroethane	3.4	U	3.4	
79-00-5	1,1,2-Trichloroethane	3.4	U	3.4	
75-34-3	1,1-Dichloroethane (1,1-DCA)	3.4	U	3.4	
75-35-4	1,1-Dichloroethene (1,1-DCE)	3.4	U	3.4	
107-06-2	1,2-Dichloroethane	3.4	U	3.4	
78-87-5	1,2-Dichloropropane	3.4	U	3.4	
67-64-1	Acetone	7.6		3.4	
75-27-4	Bromodichloromethane	3.4	U	3.4	
75-25-2	Bromoform	3.4	U	3.4	
74-83-9	Bromomethane	3.4	U	3.4	
56-23-5	Carbon Tetrachloride	3.4	U	3.4	
108-90-7	Chlorobenzene	3.4	U	3.4	
75-00-3	Chloroethane	3.4	U	3.4	
67-66-3	Chloroform	3.4	U	3.4	
74-87-3	Chloromethane	3.4	U	3.4	
124-48-1	Dibromochloromethane	3.4	U	3.4	
75-09-2	Methylene Chloride	3.4	U	3.4	
127-18-4	Tetrachloroethene (PCE)	3.4	U	3.4	
79-01-6	Trichloroethene (TCE)	3.4	U	3.4	
75-69-4	Trichlorofluoromethane (CFC 11)	3.4	U	3.4	
75-01-4	Vinyl Chloride	3.4	U	3.4	
156-59-2	cis-1,2-Dichloroethene	3.4	U	3.4	
10061-01-5	cis-1,3-Dichloropropene	3.4	U	3.4	
156-60-5	trans-1,2-Dichloroethene	3.4	U	3.4	
10061-02-6	trans-1,3-Dichloropropene	3.4	U	3.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	8/5/13 13:38	
Dibromofluoromethane	89	70-130	8/5/13 13:38	
Toluene-d8	94	70-130	8/5/13 13:38	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150151
 Sample Matrix: Soil
 Sample Name: BLDG 3 SB104-02
 Lab Code: R1305507-002

Service Request: R1305507
 Date Collected: 7/24/13 1400
 Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	93.9	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/24/13 1400
Date Received: 7/30/13
Date Analyzed: 8/5/13 14:15

Sample Name: BLDG 3 SB104-02
Lab Code: R1305507-002

Units: µg/Kg
Basis: Dry
Percent Solids: 93.9

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4463.D\

Analysis Lot: 352271
Instrument Name: R-MS-07
Dilution Factor: 0.48

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.6	U	2.6	
79-34-5	1,1,2,2-Tetrachloroethane	2.6	U	2.6	
79-00-5	1,1,2-Trichloroethane	2.6	U	2.6	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.6	U	2.6	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.6	U	2.6	
107-06-2	1,2-Dichloroethane	2.6	U	2.6	
78-87-5	1,2-Dichloropropane	2.6	U	2.6	
67-64-1	Acetone	3.7		2.6	
75-27-4	Bromodichloromethane	2.6	U	2.6	
75-25-2	Bromoform	2.6	U	2.6	
74-83-9	Bromomethane	2.6	U	2.6	
56-23-5	Carbon Tetrachloride	2.6	U	2.6	
108-90-7	Chlorobenzene	2.6	U	2.6	
75-00-3	Chloroethane	2.6	U	2.6	
67-66-3	Chloroform	2.6	U	2.6	
74-87-3	Chloromethane	2.6	U	2.6	
124-48-1	Dibromochloromethane	2.6	U	2.6	
75-09-2	Methylene Chloride	2.6	U	2.6	
127-18-4	Tetrachloroethene (PCE)	2.6	U	2.6	
79-01-6	Trichloroethene (TCE)	2.6	U	2.6	
75-69-4	Trichlorofluoromethane (CFC 11)	2.6	U	2.6	
75-01-4	Vinyl Chloride	2.6	U	2.6	
156-59-2	cis-1,2-Dichloroethene	2.6	U	2.6	
10061-01-5	cis-1,3-Dichloropropene	2.6	U	2.6	
156-60-5	trans-1,2-Dichloroethene	2.6	U	2.6	
10061-02-6	trans-1,3-Dichloropropene	2.6	U	2.6	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	8/5/13 14:15	
Dibromofluoromethane	91	70-130	8/5/13 14:15	
Toluene-d8	94	70-130	8/5/13 14:15	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil
Sample Name: BLDG 3 SB105-01
Lab Code: R1305507-003

Service Request: R1305507
Date Collected: 7/25/13 1000
Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	92.9	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/25/13 1000
Date Received: 7/30/13
Date Analyzed: 8/5/13 14:53

Sample Name: BLDG 3 SB105-01
Lab Code: R1305507-003

Units: µg/Kg
Basis: Dry
Percent Solids: 92.9

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4464.D\

Analysis Lot: 352271
Instrument Name: R-MS-07
Dilution Factor: 0.41

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.2	U	2.2	
79-34-5	1,1,2,2-Tetrachloroethane	2.2	U	2.2	
79-00-5	1,1,2-Trichloroethane	2.2	U	2.2	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.2	U	2.2	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.2	U	2.2	
107-06-2	1,2-Dichloroethane	2.2	U	2.2	
78-87-5	1,2-Dichloropropane	2.2	U	2.2	
67-64-1	Acetone	8.1		2.2	
75-27-4	Bromodichloromethane	2.2	U	2.2	
75-25-2	Bromoform	2.2	U	2.2	
74-83-9	Bromomethane	2.2	U	2.2	
56-23-5	Carbon Tetrachloride	2.2	U	2.2	
108-90-7	Chlorobenzene	2.2	U	2.2	
75-00-3	Chloroethane	2.2	U	2.2	
67-66-3	Chloroform	2.2	U	2.2	
74-87-3	Chloromethane	2.2	U	2.2	
124-48-1	Dibromochloromethane	2.2	U	2.2	
75-09-2	Methylene Chloride	2.2	U	2.2	
127-18-4	Tetrachloroethene (PCE)	18		2.2	
79-01-6	Trichloroethene (TCE)	2.2	U	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	2.2	U	2.2	
75-01-4	Vinyl Chloride	2.2	U	2.2	
156-59-2	cis-1,2-Dichloroethene	2.2	U	2.2	
10061-01-5	cis-1,3-Dichloropropene	2.2	U	2.2	
156-60-5	trans-1,2-Dichloroethene	2.2	U	2.2	
10061-02-6	trans-1,3-Dichloropropene	2.2	U	2.2	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	8/5/13 14:53	
Dibromofluoromethane	89	70-130	8/5/13 14:53	
Toluene-d8	94	70-130	8/5/13 14:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150151
 Sample Matrix: Soil
 Sample Name: BLDG 3 SB105-02
 Lab Code: R1305507-004

Service Request: R1305507
 Date Collected: 7/25/13 1015
 Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	92.2	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/25/13 1015
Date Received: 7/30/13
Date Analyzed: 8/9/13 11:28

Sample Name: BLDG 3 SB105-02
Lab Code: R1305507-004

Units: µg/Kg
Basis: Dry
Percent Solids: 92.2

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080913\K4523.D\

Analysis Lot: 353504
Instrument Name: R-MS-07
Dilution Factor: 57.5

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	310 U	310	*
79-34-5	1,1,2,2-Tetrachloroethane	310 U	310	*
79-00-5	1,1,2-Trichloroethane	310 U	310	*
75-34-3	1,1-Dichloroethane (1,1-DCA)	310 U	310	*
75-35-4	1,1-Dichloroethene (1,1-DCE)	310 U	310	*
107-06-2	1,2-Dichloroethane	310 U	310	*
78-87-5	1,2-Dichloropropane	310 U	310	*
67-64-1	Acetone	310 U	310	*
75-27-4	Bromodichloromethane	310 U	310	*
75-25-2	Bromoform	310 U	310	*
74-83-9	Bromomethane	310 U	310	*
56-23-5	Carbon Tetrachloride	310 U	310	*
108-90-7	Chlorobenzene	310 U	310	*
75-00-3	Chloroethane	310 U	310	*
67-66-3	Chloroform	310 U	310	*
74-87-3	Chloromethane	310 U	310	*
124-48-1	Dibromochloromethane	310 U	310	*
75-09-2	Methylene Chloride	310 U	310	*
127-18-4	Tetrachloroethene (PCE)	21000 E	310	*
79-01-6	Trichloroethene (TCE)	310 U	310	*
75-69-4	Trichlorofluoromethane (CFC 11)	310 U	310	*
75-01-4	Vinyl Chloride	310 U	310	*
156-59-2	cis-1,2-Dichloroethene	310 U	310	*
10061-01-5	cis-1,3-Dichloropropene	310 U	310	*
156-60-5	trans-1,2-Dichloroethene	310 U	310	*
10061-02-6	trans-1,3-Dichloropropene	310 U	310	*

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	8/9/13 11:28	
Dibromofluoromethane	96	70-130	8/9/13 11:28	
Toluene-d8	98	70-130	8/9/13 11:28	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/25/13 1015
Date Received: 7/30/13
Date Analyzed: 8/9/13 12:45

Sample Name: BLDG 3 SB105-02
Lab Code: R1305507-004
Run Type: Dilution

Units: µg/Kg
Basis: Dry
Percent Solids: 92.2

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080913\K4525.D\

Analysis Lot: 353504
Instrument Name: R-MS-07
Dilution Factor: 143.75

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	780	U	780	*
79-34-5	1,1,2,2-Tetrachloroethane	780	U	780	*
79-00-5	1,1,2-Trichloroethane	780	U	780	*
75-34-3	1,1-Dichloroethane (1,1-DCA)	780	U	780	*
75-35-4	1,1-Dichloroethene (1,1-DCE)	780	U	780	*
107-06-2	1,2-Dichloroethane	780	U	780	*
78-87-5	1,2-Dichloropropane	780	U	780	*
67-64-1	Acetone	780	U	780	*
75-27-4	Bromodichloromethane	780	U	780	*
75-25-2	Bromoform	780	U	780	*
74-83-9	Bromomethane	780	U	780	*
56-23-5	Carbon Tetrachloride	780	U	780	*
108-90-7	Chlorobenzene	780	U	780	*
75-00-3	Chloroethane	780	U	780	*
67-66-3	Chloroform	780	U	780	*
74-87-3	Chloromethane	780	U	780	*
124-48-1	Dibromochloromethane	780	U	780	*
75-09-2	Methylene Chloride	780	U	780	*
127-18-4	Tetrachloroethene (PCE)	22000	D	780	*
79-01-6	Trichloroethene (TCE)	780	U	780	*
75-69-4	Trichlorofluoromethane (CFC 11)	780	U	780	*
75-01-4	Vinyl Chloride	780	U	780	*
156-59-2	cis-1,2-Dichloroethene	780	U	780	*
10061-01-5	cis-1,3-Dichloropropene	780	U	780	*
156-60-5	trans-1,2-Dichloroethene	780	U	780	*
10061-02-6	trans-1,3-Dichloropropene	780	U	780	*

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	8/9/13 12:45	
Dibromofluoromethane	94	70-130	8/9/13 12:45	
Toluene-d8	98	70-130	8/9/13 12:45	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil
Sample Name: BLDG 3 SB106-01
Lab Code: R1305507-005

Service Request: R1305507
Date Collected: 7/26/13 1000
Date Received: 7/30/13
Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	91.9		Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/26/13 1000
Date Received: 7/30/13
Date Analyzed: 8/5/13 15:36

Sample Name: BLDG 3 SB106-01
Lab Code: R1305507-005

Units: µg/Kg
Basis: Dry
Percent Solids: 91.9

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4465.D\

Analysis Lot: 352271
Instrument Name: R-MS-07
Dilution Factor: 0.38

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.1	U	2.1	
79-34-5	1,1,2,2-Tetrachloroethane	2.1	U	2.1	
79-00-5	1,1,2-Trichloroethane	2.1	U	2.1	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.1	U	2.1	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.1	U	2.1	
107-06-2	1,2-Dichloroethane	2.1	U	2.1	
78-87-5	1,2-Dichloropropane	2.1	U	2.1	
67-64-1	Acetone	5.5		2.1	
75-27-4	Bromodichloromethane	2.1	U	2.1	
75-25-2	Bromoform	2.1	U	2.1	
74-83-9	Bromomethane	2.1	U	2.1	
56-23-5	Carbon Tetrachloride	2.1	U	2.1	
108-90-7	Chlorobenzene	2.1	U	2.1	
75-00-3	Chloroethane	2.1	U	2.1	
67-66-3	Chloroform	2.1	U	2.1	
74-87-3	Chloromethane	2.1	U	2.1	
124-48-1	Dibromochloromethane	2.1	U	2.1	
75-09-2	Methylene Chloride	2.1	U	2.1	
127-18-4	Tetrachloroethene (PCE)	2.1	U	2.1	
79-01-6	Trichloroethene (TCE)	2.1	U	2.1	
75-69-4	Trichlorofluoromethane (CFC 11)	2.1	U	2.1	
75-01-4	Vinyl Chloride	2.1	U	2.1	
156-59-2	cis-1,2-Dichloroethene	2.1	U	2.1	
10061-01-5	cis-1,3-Dichloropropene	2.1	U	2.1	
156-60-5	trans-1,2-Dichloroethene	2.1	U	2.1	
10061-02-6	trans-1,3-Dichloropropene	2.1	U	2.1	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	8/5/13 15:36	
Dibromofluoromethane	92	70-130	8/5/13 15:36	
Toluene-d8	94	70-130	8/5/13 15:36	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil
Sample Name: BLDG 3 SB106-02
Lab Code: R1305507-006

Service Request: R1305507
Date Collected: 7/26/13 1015
Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	94.4	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150151
 Sample Matrix: Soil

Service Request: R1305507
 Date Collected: 7/26/13 1015
 Date Received: 7/30/13
 Date Analyzed: 8/5/13 16:13

Sample Name: BLDG 3 SB106-02
 Lab Code: R1305507-006

Units: µg/Kg
 Basis: Dry
 Percent Solids: 94.4

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4466.D\

Analysis Lot: 352271
 Instrument Name: R-MS-07
 Dilution Factor: 0.47

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.5	U	2.5	
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U	2.5	
79-00-5	1,1,2-Trichloroethane	2.5	U	2.5	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.5	U	2.5	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.5	U	2.5	
107-06-2	1,2-Dichloroethane	2.5	U	2.5	
78-87-5	1,2-Dichloropropane	2.5	U	2.5	
67-64-1	Acetone	4.5		2.5	
75-27-4	Bromodichloromethane	2.5	U	2.5	
75-25-2	Bromoform	2.5	U	2.5	
74-83-9	Bromomethane	2.5	U	2.5	
56-23-5	Carbon Tetrachloride	2.5	U	2.5	
108-90-7	Chlorobenzene	2.5	U	2.5	
75-00-3	Chloroethane	2.5	U	2.5	
67-66-3	Chloroform	2.5	U	2.5	
74-87-3	Chloromethane	2.5	U	2.5	
124-48-1	Dibromochloromethane	2.5	U	2.5	
75-09-2	Methylene Chloride	2.5	U	2.5	
127-18-4	Tetrachloroethene (PCE)	10		2.5	
79-01-6	Trichloroethene (TCE)	2.5	U	2.5	
75-69-4	Trichlorofluoromethane (CFC 11)	2.5	U	2.5	
75-01-4	Vinyl Chloride	2.5	U	2.5	
156-59-2	cis-1,2-Dichloroethene	2.5	U	2.5	
10061-01-5	cis-1,3-Dichloropropene	2.5	U	2.5	
156-60-5	trans-1,2-Dichloroethene	2.5	U	2.5	
10061-02-6	trans-1,3-Dichloropropene	2.5	U	2.5	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	8/5/13 16:13	
Dibromofluoromethane	92	70-130	8/5/13 16:13	
Toluene-d8	95	70-130	8/5/13 16:13	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil
Sample Name: BLDG 3 SB107-01
Lab Code: R1305507-007

Service Request: R1305507
Date Collected: 7/26/13 1130
Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	95.3		Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150151
 Sample Matrix: Soil

Service Request: R1305507
 Date Collected: 7/26/13 1130
 Date Received: 7/30/13
 Date Analyzed: 8/5/13 16:51

Sample Name: BLDG 3 SB107-01
 Lab Code: R1305507-007

Units: µg/Kg
 Basis: Dry
 Percent Solids: 95.3

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4467.D\

Analysis Lot: 352271
 Instrument Name: R-MS-07
 Dilution Factor: 0.35

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1.8	U	1.8	
79-34-5	1,1,2,2-Tetrachloroethane	1.8	U	1.8	
79-00-5	1,1,2-Trichloroethane	1.8	U	1.8	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1.8	U	1.8	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1.8	U	1.8	
107-06-2	1,2-Dichloroethane	1.8	U	1.8	
78-87-5	1,2-Dichloropropane	1.8	U	1.8	
67-64-1	Acetone	4.2		1.8	
75-27-4	Bromodichloromethane	1.8	U	1.8	
75-25-2	Bromoform	1.8	U	1.8	
74-83-9	Bromomethane	1.8	U	1.8	
56-23-5	Carbon Tetrachloride	1.8	U	1.8	
108-90-7	Chlorobenzene	1.8	U	1.8	
75-00-3	Chloroethane	1.8	U	1.8	
67-66-3	Chloroform	1.8	U	1.8	
74-87-3	Chloromethane	1.8	U	1.8	
124-48-1	Dibromochloromethane	1.8	U	1.8	
75-09-2	Methylene Chloride	1.8	U	1.8	
127-18-4	Tetrachloroethene (PCE)	45		1.8	
79-01-6	Trichloroethene (TCE)	2.7		1.8	
75-69-4	Trichlorofluoromethane (CFC 11)	1.8	U	1.8	
75-01-4	Vinyl Chloride	1.8	U	1.8	
156-59-2	cis-1,2-Dichloroethene	1.8	U	1.8	
10061-01-5	cis-1,3-Dichloropropene	1.8	U	1.8	
156-60-5	trans-1,2-Dichloroethene	1.8	U	1.8	
10061-02-6	trans-1,3-Dichloropropene	1.8	U	1.8	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	8/5/13 16:51	
Dibromofluoromethane	90	70-130	8/5/13 16:51	
Toluene-d8	94	70-130	8/5/13 16:51	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil
Sample Name: BLDG 3 SB107-02
Lab Code: R1305507-008

Service Request: R1305507
Date Collected: 7/26/13 1145
Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	97.5	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/26/13 1145
Date Received: 7/30/13
Date Analyzed: 8/5/13 17:28

Sample Name: BLDG 3 SB107-02
Lab Code: R1305507-008

Units: µg/Kg
Basis: Dry
Percent Solids: 97.5

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4468.D\

Analysis Lot: 352271
Instrument Name: R-MS-07
Dilution Factor: 0.47

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.4	U	2.4	
79-34-5	1,1,2,2-Tetrachloroethane	2.4	U	2.4	
79-00-5	1,1,2-Trichloroethane	2.4	U	2.4	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.4	U	2.4	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.4	U	2.4	
107-06-2	1,2-Dichloroethane	2.4	U	2.4	
78-87-5	1,2-Dichloropropane	2.4	U	2.4	
67-64-1	Acetone	9.3		2.4	
75-27-4	Bromodichloromethane	2.4	U	2.4	
75-25-2	Bromoform	2.4	U	2.4	
74-83-9	Bromomethane	2.4	U	2.4	
56-23-5	Carbon Tetrachloride	2.4	U	2.4	
108-90-7	Chlorobenzene	2.4	U	2.4	
75-00-3	Chloroethane	2.4	U	2.4	
67-66-3	Chloroform	2.4	U	2.4	
74-87-3	Chloromethane	2.4	U	2.4	
124-48-1	Dibromochloromethane	2.4	U	2.4	
75-09-2	Methylene Chloride	2.4	U	2.4	
127-18-4	Tetrachloroethene (PCE)	8.5		2.4	
79-01-6	Trichloroethene (TCE)	2.4	U	2.4	
75-69-4	Trichlorofluoromethane (CFC 11)	2.4	U	2.4	
75-01-4	Vinyl Chloride	2.4	U	2.4	
156-59-2	cis-1,2-Dichloroethene	2.4	U	2.4	
10061-01-5	cis-1,3-Dichloropropene	2.4	U	2.4	
156-60-5	trans-1,2-Dichloroethene	2.4	U	2.4	
10061-02-6	trans-1,3-Dichloropropene	2.4	U	2.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	8/5/13 17:28	
Dibromofluoromethane	88	70-130	8/5/13 17:28	
Toluene-d8	93	70-130	8/5/13 17:28	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil
Sample Name: BLDG 3 SB108-01
Lab Code: R1305507-009

Service Request: R1305507
Date Collected: 7/29/13 1020
Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	92.4	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/29/13 1020
Date Received: 7/30/13
Date Analyzed: 8/5/13 18:05

Sample Name: BLDG 3 SB108-01
Lab Code: R1305507-009

Units: µg/Kg
Basis: Dry
Percent Solids: 92.4

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4469.D\

Analysis Lot: 352271
Instrument Name: R-MS-07
Dilution Factor: 0.41

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.2	U	2.2	
79-34-5	1,1,2,2-Tetrachloroethane	2.2	U	2.2	
79-00-5	1,1,2-Trichloroethane	2.2	U	2.2	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.2	U	2.2	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.2	U	2.2	
107-06-2	1,2-Dichloroethane	2.2	U	2.2	
78-87-5	1,2-Dichloropropane	2.2	U	2.2	
67-64-1	Acetone	2.2	U	2.2	
75-27-4	Bromodichloromethane	2.2	U	2.2	
75-25-2	Bromoform	2.2	U	2.2	
74-83-9	Bromomethane	2.2	U	2.2	
56-23-5	Carbon Tetrachloride	2.2	U	2.2	
108-90-7	Chlorobenzene	2.2	U	2.2	
75-00-3	Chloroethane	2.2	U	2.2	
67-66-3	Chloroform	2.2	U	2.2	
74-87-3	Chloromethane	2.2	U	2.2	
124-48-1	Dibromochloromethane	2.2	U	2.2	
75-09-2	Methylene Chloride	2.2	U	2.2	
127-18-4	Tetrachloroethene (PCE)	2.2	U	2.2	
79-01-6	Trichloroethene (TCE)	2.2	U	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	2.2	U	2.2	
75-01-4	Vinyl Chloride	2.2	U	2.2	
156-59-2	cis-1,2-Dichloroethene	2.2	U	2.2	
10061-01-5	cis-1,3-Dichloropropene	2.2	U	2.2	
156-60-5	trans-1,2-Dichloroethene	2.2	U	2.2	
10061-02-6	trans-1,3-Dichloropropene	2.2	U	2.2	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	8/5/13 18:05	
Dibromofluoromethane	89	70-130	8/5/13 18:05	
Toluene-d8	95	70-130	8/5/13 18:05	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil
Sample Name: BLDG 3 SB108-02
Lab Code: R1305507-010

Service Request: R1305507
Date Collected: 7/29/13 1030
Date Received: 7/30/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	92.8	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: 7/29/13 1030
Date Received: 7/30/13
Date Analyzed: 8/5/13 18:57

Sample Name: BLDG 3 SB108-02
Lab Code: R1305507-010

Units: µg/Kg
Basis: Dry
Percent Solids: 92.8

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4470.D\

Analysis Lot: 352271
Instrument Name: R-MS-07
Dilution Factor: 0.41

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	2.2	U	2.2	
79-34-5	1,1,2,2-Tetrachloroethane	2.2	U	2.2	
79-00-5	1,1,2-Trichloroethane	2.2	U	2.2	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.2	U	2.2	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.2	U	2.2	
107-06-2	1,2-Dichloroethane	2.2	U	2.2	
78-87-5	1,2-Dichloropropane	2.2	U	2.2	
67-64-1	Acetone	3.2		2.2	
75-27-4	Bromodichloromethane	2.2	U	2.2	
75-25-2	Bromoform	2.2	U	2.2	
74-83-9	Bromomethane	2.2	U	2.2	
56-23-5	Carbon Tetrachloride	2.2	U	2.2	
108-90-7	Chlorobenzene	2.2	U	2.2	
75-00-3	Chloroethane	2.2	U	2.2	
67-66-3	Chloroform	2.2	U	2.2	
74-87-3	Chloromethane	2.2	U	2.2	
124-48-1	Dibromochloromethane	2.2	U	2.2	
75-09-2	Methylene Chloride	2.2	U	2.2	
127-18-4	Tetrachloroethene (PCE)	21		2.2	
79-01-6	Trichloroethene (TCE)	2.2	U	2.2	
75-69-4	Trichlorofluoromethane (CFC 11)	2.2	U	2.2	
75-01-4	Vinyl Chloride	2.2	U	2.2	
156-59-2	cis-1,2-Dichloroethene	2.2	U	2.2	
10061-01-5	cis-1,3-Dichloropropene	2.2	U	2.2	
156-60-5	trans-1,2-Dichloroethene	2.2	U	2.2	
10061-02-6	trans-1,3-Dichloropropene	2.2	U	2.2	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	8/5/13 18:57	
Dibromofluoromethane	92	70-130	8/5/13 18:57	
Toluene-d8	96	70-130	8/5/13 18:57	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Water

Service Request: R1305507
Date Collected: 7/24/13
Date Received: 7/30/13
Date Analyzed: 8/1/13 17:32

Sample Name: TRIP BLANK
Lab Code: R1305507-011

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080113\K4394.D\

Analysis Lot: 352163
Instrument Name: R-MS-07
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-09-2	Methylene Chloride	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	5.0	U	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85-122	8/1/13 17:32	
Dibromofluoromethane	98	89-119	8/1/13 17:32	
Toluene-d8	98	87-121	8/1/13 17:32	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: R1305507-MB

Service Request: R1305507
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	1.0	U	Percent	1.0	1	NA	7/31/13 16:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Water

Service Request: R1305507
Date Collected: NA
Date Received: NA
Date Analyzed: 8/1/13 16:42

Sample Name: Method Blank
Lab Code: RQ1309117-04

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080113\K4393.D\

Analysis Lot: 352163
Instrument Name: R-MS-07
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
67-64-1	Acetone	10	U	10	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-09-2	Methylene Chloride	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	5.0	U	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	8/1/13 16:42	
Dibromofluoromethane	98	89-119	8/1/13 16:42	
Toluene-d8	98	87-121	8/1/13 16:42	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: NA
Date Received: NA
Date Analyzed: 8/5/13 10:31

Sample Name: Method Blank
Lab Code: RQ1309161-05

Units: µg/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080513\K4458.D\

Analysis Lot: 352271
Instrument Name: R-MS-07
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
67-64-1	Acetone	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-09-2	Methylene Chloride	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	5.0	U	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	8/5/13 10:31	
Dibromofluoromethane	89	70-130	8/5/13 10:31	
Toluene-d8	95	70-130	8/5/13 10:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Collected: NA
Date Received: NA
Date Analyzed: 8/9/13 10:48

Sample Name: Method Blank
Lab Code: RQ1309541-04

Units: µg/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA7\DATA\080913\K4522.D\

Analysis Lot: 353504
Instrument Name: R-MS-07
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.0	U	5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
67-64-1	Acetone	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-09-2	Methylene Chloride	5.0	U	5.0	
127-18-4	Tetrachloroethene (PCE)	5.0	U	5.0	
79-01-6	Trichloroethene (TCE)	5.0	U	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	8/9/13 10:48	
Dibromofluoromethane	94	70-130	8/9/13 10:48	
Toluene-d8	98	70-130	8/9/13 10:48	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Water

Service Request: R1305507
Date Analyzed: 8/ 1/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 352163

Lab Control Sample
RQ1309117-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	15.6	20.0	78	67 - 121
1,1,2,2-Tetrachloroethane	18.6	20.0	93	72 - 124
1,1,2-Trichloroethane	18.5	20.0	92	81 - 117
1,1-Dichloroethane (1,1-DCA)	17.2	20.0	86	76 - 124
1,1-Dichloroethene (1,1-DCE)	20.0	20.0	100	67 - 119
1,2-Dichloroethane	17.8	20.0	89	72 - 130
1,2-Dichloropropane	18.1	20.0	90	83 - 119
Acetone	15.2	20.0	76	64 - 133
Bromodichloromethane	18.2	20.0	91	79 - 123
Bromoform	19.7	20.0	99	69 - 126
Bromomethane	19.2	20.0	96	49 - 124
Carbon Tetrachloride	15.3	20.0	76	64 - 129
Chlorobenzene	17.9	20.0	90	80 - 121
Chloroethane	17.5	20.0	87	72 - 130
Chloroform	17.1	20.0	85	75 - 123
Chloromethane	17.3	20.0	87	55 - 139
Dibromochloromethane	19.7	20.0	99	78 - 127
Methylene Chloride	18.8	20.0	94	73 - 122
Tetrachloroethene (PCE)	15.7	20.0	78	71 - 127
Trichloroethene (TCE)	16.8	20.0	84	75 - 122
Trichlorofluoromethane (CFC 11)	16.2	20.0	81	64 - 134
Vinyl Chloride	17.6	20.0	88	68 - 139
cis-1,2-Dichloroethene	18.0	20.0	90	77 - 123
cis-1,3-Dichloropropene	17.5	20.0	87	77 - 125
trans-1,2-Dichloroethene	17.1	20.0	86	72 - 120
trans-1,3-Dichloropropene	18.4	20.0	92	69 - 127

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Analyzed: 8/ 5/13

**Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS**

Analytical Method: 8260C

Units: µg/Kg
Basis: Dry

Analysis Lot: 352271

Analyte Name	Lab Control Sample RQ1309161-03			Duplicate Lab Control Sample RQ1309161-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	15.7	20.0	78	14.8	20.0	74	70 - 130	6	20
1,1,2,2-Tetrachloroethane	19.3	20.0	96	19.9	20.0	100	70 - 130	3	20
1,1,2-Trichloroethane	18.3	20.0	92	19.0	20.0	95	70 - 130	4	20
1,1-Dichloroethane (1,1-DCA)	20.1	20.0	101	19.8	20.0	99	70 - 130	1	20
1,1-Dichloroethene (1,1-DCE)	24.6	20.0	123	21.7	20.0	108	70 - 130	12	20
1,2-Dichloroethane	16.1	20.0	81	16.1	20.0	81	70 - 130	<1	20
1,2-Dichloropropane	20.9	20.0	105	20.8	20.0	104	70 - 130	<1	20
Acetone	14.0	20.0	70	14.3	20.0	72	40 - 160	2	20
Bromodichloromethane	17.4	20.0	87	18.1	20.0	90	70 - 130	4	20
Bromoform	19.0	20.0	95	18.3	20.0	92	70 - 130	4	20
Bromomethane	23.4	20.0	117	21.4	20.0	107	40 - 160	9	20
Carbon Tetrachloride	16.2	20.0	81	14.1	20.0	71	70 - 130	13	20
Chlorobenzene	19.6	20.0	98	18.6	20.0	93	70 - 130	5	20
Chloroethane	21.5	20.0	108	18.4	20.0	92	70 - 130	16	20
Chloroform	18.7	20.0	93	18.3	20.0	91	70 - 130	2	20
Chloromethane	22.3	20.0	111	21.7	20.0	109	40 - 160	3	20
Dibromochloromethane	17.6	20.0	88	17.4	20.0	87	70 - 130	1	20
Methylene Chloride	22.0	20.0	110	22.9	20.0	115	70 - 130	4	20
Tetrachloroethene (PCE)	20.0	20.0	100	16.8	20.0	84	70 - 130	18	20
Trichloroethene (TCE)	18.6	20.0	93	17.4	20.0	87	70 - 130	6	20
Trichlorofluoromethane (CFC 11)	17.0	20.0	85	14.8	20.0	74	70 - 130	14	20
Vinyl Chloride	20.6	20.0	103	18.5	20.0	92	70 - 130	11	20
cis-1,2-Dichloroethene	21.0	20.0	105	20.4	20.0	102	70 - 130	3	20
cis-1,3-Dichloropropene	18.2	20.0	91	18.1	20.0	91	70 - 130	<1	20
trans-1,2-Dichloroethene	21.1	20.0	105	19.6	20.0	98	70 - 130	7	20
trans-1,3-Dichloropropene	15.7	20.0	78	15.8	20.0	79	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly - Soil/150151
Sample Matrix: Soil

Service Request: R1305507
Date Analyzed: 8/9/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/Kg
Basis: Dry

Analysis Lot: 353504

Lab Control Sample
RQ1309541-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	18.8	20.0	94	70 - 130
1,1,2,2-Tetrachloroethane	20.8	20.0	104	70 - 130
1,1,2-Trichloroethane	20.4	20.0	102	70 - 130
1,1-Dichloroethane (1,1-DCA)	20.5	20.0	102	70 - 130
1,1-Dichloroethene (1,1-DCE)	23.8	20.0	119	70 - 130
1,2-Dichloroethane	17.7	20.0	88	70 - 130
1,2-Dichloropropane	21.5	20.0	107	70 - 130
Acetone	15.8	20.0	79	40 - 160
Bromodichloromethane	19.4	20.0	97	70 - 130
Bromoform	19.3	20.0	97	70 - 130
Bromomethane	19.9	20.0	100	40 - 160
Carbon Tetrachloride	19.7	20.0	98	70 - 130
Chlorobenzene	21.0	20.0	105	70 - 130
Chloroethane	22.6	20.0	113	70 - 130
Chloroform	19.1	20.0	96	70 - 130
Chloromethane	22.3	20.0	112	40 - 160
Dibromochloromethane	20.0	20.0	100	70 - 130
Methylene Chloride	20.9	20.0	104	70 - 130
Tetrachloroethene (PCE)	22.5	20.0	112	70 - 130
Trichloroethene (TCE)	20.8	20.0	104	70 - 130
Trichlorofluoromethane (CFC 11)	19.5	20.0	98	70 - 130
Vinyl Chloride	22.8	20.0	114	70 - 130
cis-1,2-Dichloroethene	21.6	20.0	108	70 - 130
cis-1,3-Dichloropropene	19.8	20.0	99	70 - 130
trans-1,2-Dichloroethene	20.8	20.0	104	70 - 130
trans-1,3-Dichloropropene	18.8	20.0	94	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly - Soil/150151

Service Request: R1305507

Date Analyzed: 8/ 1/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 7/31/13

Calibration ID: RC1300083

Analysis Lot: 352163

Units: ppb

File ID: I:\ACQUDATA\MSVOA7\DATA\080113\K4390.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	50.6	0.6889	0.6977	1.3	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	49.3	0.7475	0.7366	-1.5	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	50.8	0.2590	0.2632	1.6	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	48.4	0.9613	0.9306	-3.2	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	52.9	0.3632	0.3839	5.7	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	46.8	0.4259	0.3982	-6.5	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	49.1	0.3513	0.3448	-1.8	NA	± 20 %	Average RF
Acetone	50.0	42.1	0.2129	0.1793	-15.8	NA	± 20 %	Average RF
Bromodichloromethane	50.0	49.8	0.4305	0.4286	-0.4	NA	± 20 %	Average RF
Bromoform	50.0	54.0	0.2163	0.2334	7.9	NA	± 20 %	Average RF
Bromomethane	50.0	51.9	0.3844	0.3987	3.7	NA	± 20 %	Average RF
Carbon Tetrachloride	50.0	52.3	0.3218	0.3362	4.5	NA	± 20 %	Average RF
Chlorobenzene	50.0	52.9	0.8879	0.9397	5.8	NA	± 20 %	Average RF
Chloroethane	50.0	47.1	0.3588	0.3378	-5.8	NA	± 20 %	Average RF
Chloroform	50.0	48.1	0.9153	0.8801	-3.8	NA	± 20 %	Average RF
Chloromethane	50.0	52.4	0.5073	0.5320	4.9	NA	± 20 %	Average RF
Dibromochloromethane	50.0	53.1	0.3344	0.3550	6.2	NA	± 20 %	Average RF
Methylene Chloride	50.0	49.4	0.5125	0.5059	-1.3	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	56.0	0.3421	0.3834	12.1	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	51.8	0.3129	0.3242	3.6	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	53.2	0.6288	0.6686	6.3	NA	± 20 %	Average RF
Vinyl Chloride	50.0	54.8	0.5090	0.5574	9.5	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	50.3	0.5780	0.5819	0.7	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	50.5	0.5779	0.5837	1.0	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	51.2	0.4980	0.5100	2.4	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	50.9	0.5431	0.5531	1.8	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	48.8	0.5564	0.5427	-2.5	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	49.1	0.3592	0.3531	-1.7	NA	± 20 %	Average RF
Toluene-d8	50.0	50.3	1.336	1.343	0.5	NA	± 20 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly - Soil/150151

Service Request: R1305507
Date Analyzed: 8/ 5/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 7/26/13
Calibration ID: RC1300079
Analysis Lot: 352271
Units: ppb

File ID: I:\ACQUDATA\MSVOA7\DATA\080513\K4455.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	43.2	0.8949	0.7739	-13.5	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	51.5	0.9586	0.9881	3.1	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	49.8	0.3040	0.3025	-0.5	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	50.4	1.085	1.094	0.9	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	55.4	0.3931	0.4353	10.7	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	40.6	0.5582	0.4533	-18.8	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	51.0	0.4067	0.4149	2.0	NA	± 20 %	Average RF
Acetone	50.0	39.2	0.3786	0.2966	-21.7	NA	± 60 %	Average RF
Bromodichloromethane	50.0	44.9	0.5332	0.4790	-10.2	NA	± 20 %	Average RF
Bromoform	50.0	54.0	0.2608	0.2819	8.1	NA	± 20 %	Average RF
Bromomethane	50.0	56.6	0.3796	0.4296	13.2	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	43.8	0.4237	0.3707	-12.5	NA	± 20 %	Average RF
Chlorobenzene	50.0	50.9	1.057	1.075	1.7	NA	± 20 %	Average RF
Chloroethane	50.0	50.2	0.3982	0.4001	0.5	NA	± 20 %	Average RF
Chloroform	50.0	46.0	1.087	0.9999	-8.0	NA	± 20 %	Average RF
Chloromethane	50.0	54.5	0.5930	0.6460	8.9	NA	± 60 %	Average RF
Dibromochloromethane	50.0	46.8	0.4189	0.3925	-6.3	NA	± 20 %	Average RF
Methylene Chloride	50.0	53.7	0.5599	0.6016	7.4	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	52.7	0.4148	0.4374	5.4	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	49.1	0.3797	0.3731	-1.7	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	44.7	0.7971	0.7122	-10.7	NA	± 20 %	Average RF
Vinyl Chloride	50.0	52.3	0.5880	0.6152	4.6	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	53.1	0.6521	0.6923	6.2	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	49.3	0.6826	0.6735	-1.3	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	53.3	0.5572	0.5941	6.6	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	43.0	0.6901	0.5930	-14.1	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	46.0	0.5566	0.5116	-8.1	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	44.4	0.3753	0.3332	-11.2	NA	± 20 %	Average RF
Toluene-d8	50.0	47.4	1.352	1.283	-5.1	NA	± 20 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly - Soil/150151

Service Request: R1305507
Date Analyzed: 8/9/13

Continuing Calibration Verification Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 7/31/13
Calibration ID: RC1300083
Analysis Lot: 353504
Units: ppb

File ID: I:\ACQUDATA\MSVOA7\DATA\080913\K4519.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	50.1	0.6889	0.6897	0.1	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	51.3	0.7475	0.7675	2.7	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	52.7	0.2590	0.2731	5.5	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	51.3	0.9613	0.9864	2.6	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	52.5	0.3632	0.3814	5.0	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	45.6	0.4259	0.3885	-8.8	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	54.3	0.3513	0.3817	8.7	NA	± 20 %	Average RF
Acetone	50.0	41.0	0.2129	0.1744	-18.1	NA	± 60 %	Average RF
Bromodichloromethane	50.0	50.2	0.4305	0.4324	0.5	NA	± 20 %	Average RF
Bromoform	50.0	50.5	0.2163	0.2185	1.0	NA	± 20 %	Average RF
Bromomethane	50.0	43.6	0.3844	0.3354	-12.7	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	50.7	0.3218	0.3266	1.5	NA	± 20 %	Average RF
Chlorobenzene	50.0	54.9	0.8879	0.9750	9.8	NA	± 20 %	Average RF
Chloroethane	50.0	51.9	0.3588	0.3723	3.8	NA	± 20 %	Average RF
Chloroform	50.0	49.3	0.9153	0.9027	-1.4	NA	± 20 %	Average RF
Chloromethane	50.0	55.0	0.5073	0.5582	10.0	NA	± 60 %	Average RF
Dibromochloromethane	50.0	51.4	0.3344	0.3436	2.8	NA	± 20 %	Average RF
Methylene Chloride	50.0	52.1	0.5125	0.5337	4.1	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	55.2	0.3421	0.3779	10.5	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	53.6	0.3129	0.3354	7.2	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	51.0	0.6288	0.6409	1.9	NA	± 20 %	Average RF
Vinyl Chloride	50.0	54.8	0.5090	0.5580	9.6	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	53.3	0.5780	0.6160	6.6	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	52.4	0.5779	0.6055	4.8	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	51.4	0.4980	0.5120	2.8	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	50.5	0.5431	0.5483	0.9	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	49.3	0.5564	0.5485	-1.4	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	48.7	0.3592	0.3495	-2.7	NA	± 20 %	Average RF
Toluene-d8	50.0	50.3	1.336	1.344	0.6	NA	± 20 %	Average RF



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 09601

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: <u>Varian</u>				Project Number: <u>150151</u>				ANALYSIS REQUESTED (Include Method Number and Container Preservative)											
Project Manager: <u>Ray Cadorette</u>				Report CC				PRESERVATIVE											
Company/Address: <u>150 Royall Dr. Canter, MA 02021</u>								NUMBER OF CONTAINERS											
Phone # <u>617-589-6102</u>				Email: <u>Raymond.Cadorette@CBT.com</u>				PRESERVATIVE											
Sampler's Signature: <u>[Signature]</u>				Sampler's Printed Name: <u>Dale D. Bailey</u>				PRESERVATIVE											
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	DATE	SAMPLING TIME	MATRIX	GC/MS VOAS 8260 • 624 • CLP	GC/MS SVOAS 8270 • 625	GC VOAS 8021 • 601/602	PESTICIDES 8081 • 608	PCBS 8082 • 608	METALS TOTAL (List in comments below)	METALS DISSOLVED (List in comments below)	8260 Loc. # 1603 Met. H ₂ SO ₄	8260 Loc. # 1603 Met. H ₂ SO ₄	PRESERVATIVE KEY	REMARKS/ ALTERNATE DESCRIPTION				
Bldg 3 SB104-01		7/24/13	1350	Soil								X	X	0. NONE					
Bldg 3 SB104-02		7/24/13	1400	Soil								X	X	1. HCL					
Bldg 3 SB104-01		7/25/13	1000	Soil								X	X	2. HNO ₃					
Bldg 3 SB105-02		7/25/13	1015	Soil								X	X	3. H ₂ SO ₄					
Bldg 3 SB106-01		7/26/13	1000	Soil								X	X	4. NaOH					
Bldg 3 SB106-02		7/26/13	1015	Soil								X	X	5. Zn Acetate					
Bldg 3 SB107-01		7/26/13	1130	Soil								X	X	6. MeOH					
Bldg 3 SB107-02		7/26/13	1145	Soil								X	X	7. NaHSO ₄					
Bldg 3 SB108-01		7/26/13	1020	Soil								X	X	8. Other					
Bldg 3 SB108-02		7/26/13	1030	Soil								X	X						
Trip Black				GW								X	X						

SPECIAL INSTRUCTIONS/COMMENTS

Metals

① Samples SB105-01; 02 have high contaminant concentrations, recommend dilution runs.

② All Samples should be named w/ the "Bldg 3" prefix. Prefix not included on sample labels due to space restrictions. Call 617-589-5727.

See QAPP ☐ to space restrictions.

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY: Dale D. Bailey Signature: [Signature] Printed Name: Dale D. Bailey Firm: CBT Date/Time: 7/29/13 16:00

RECEIVED BY: UPS Signature: [Signature] Printed Name: [Signature] Firm: UPS Date/Time: 7/29/13 16:00

RELINQUISHED BY: [Signature] Signature: [Signature] Printed Name: [Signature] Firm: [Signature] Date/Time: 7/30/13 09:55

RECEIVED BY: [Signature] Signature: [Signature] Printed Name: [Signature] Firm: [Signature] Date/Time: 7/30/13 09:55

TURNAROUND REQUIREMENTS

RUSH (SURCHARGES APPLY)

1 day — 2 day — 3 day

4 day — 5 day

X Standard

REQUESTED REPORT DATE

REPORT REQUIREMENTS

I. Results Only

II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

III. Results + QC and Calibration Summaries

IV. Data Validation Report with Raw Data

✓ MADEP CAM Requirements

Edata Yes No

INVOICE INFORMATION

PO # 863101

BILL TO: CBT

RELINQUISHED BY

R1305507

CBT Environmental & Infrastructure

Varian Beverly - Sol

7 Y

[Barcode]



Cooler Receipt and Preservation Check Form

Project/Client CBI Folder Number _____

Cooler received on 7/30/13 by: CD COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A *2 Trip Blank vial*
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROG, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: 4.1°

Is the temperature within 0° - 6° C?: YN Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 7/30/13 0944

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location R-002 by CD on 7/30/13 at 0945
 5035 samples placed in storage location F-05 by CD on 7/30/13 at 0945

PC Secondary Review:

Cooler Breakdown: Date: 7/30/13 Time: 3:42 by: JCS

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
≥12	NaOH									
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						No = Samples were preserved at lab as listed
	Na ₂ S ₂ O ₃	-	-							PM OK to Adjust:
	Zn Aceta	-	-							
	HCl	*	*	4112100	7/14					

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: TerraCore vials 102912-1RL 3-122-002

Other Comments: McOH Lot: 051313-3

PC Secondary Review: MP 7/30/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc	Job Number : 150148
Prepared By: Dale Dailey	Date : 9/4/2013
Matrix: Air	
Analyte Group : Volatile Organics	Analytical Method : EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes	Laboratory ID No. : R1305693
Chain of Custody included in Data Package ? Yes	Is it Complete ? Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
8/5/13	VOC TO-15		30 Days	8/13, 8/14/13

Sample temperature within QC limits: NA

Surrogate Recovery

Are all % recoveries within the allowable range ? Yes

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? Yes

If no, list sample ID where range was exceeded: NA

Equipment Field Blank ID : NA

Trip Blank ID : NA

Method Blank: EPA TO-15 8/13/2013

EPA TO-15 8/14/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

(1) All samples were initially analyzed at appropriate dilutions based on prescreening of the samples and/or historical data to bring the target analytes within the calibration range of the method. Most all samples were re-analyzed at a lower dilution to bring target analytes within the calibration range of the method or to obtain better reporting limits for other compounds than acetone. Both dilutions were reported with target analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

Reviewed By: Pernilla Haley 9/26/13



August 23, 2013

Service Request No: R1305693

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly Air Samples/146899

Dear Mr. Cadorette:

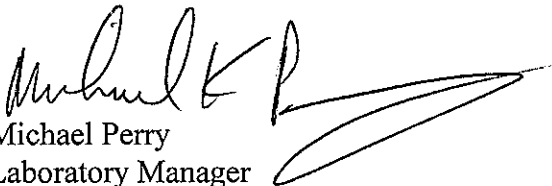
Enclosed are the results of the sample(s) submitted to our laboratory on August 7, 2013. For your reference, these analyses have been assigned our service request number **R1305693**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental


Michael Perry
Laboratory Manager

Page 1 of 48

ALS Environmental

Client: CB&I.
Project: Varian Beverly
Sample Matrix: Air

Service Request No.: R1305693
Project No.: 146899
Date Received: 8/07/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS environmental. This report contains analytical results for samples designated for Tier II, MASS. CAM deliverables. When appropriate to the method, blank and LCS results have been reported with each analytical test.

Sample Receipt

CB&I air samples were collected on 8/05/13 and received at ALS in good condition as noted on the receipt and preservation check form. The samples were stored in the laboratory at room temperature prior to analysis. See the ALS case narrative for a cross-reference between Client ID and ALS Job #.

TO - 15 Air Analysis

Fifteen air samples were analyzed for a site list of Volatile Organics by EPA method TO-15.

All samples were initially analyzed at appropriate dilutions based on prescreening of the samples and/or historical data to bring the target analytes within the calibration range of the method. Most all samples were re-analyzed at a lower dilution to bring target analytes within the calibration range of the method or to obtain better reporting limits for other compounds than Acetone. Both dilutions were reported with target analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All initial and continuing calibrations were compliant.

All surrogate standard recoveries were within QC limits.

The LCS recoveries were all within QC limits of 70 – 130 %.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 146899

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1305693-001 - 015

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water ☒ Air Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A	7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B <input checked="" type="checkbox"/>
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.		
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (Site list as requested)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Michael K. Perry

Position: Laboratory Director

Printed Name: Michael K. Perry

Date: 8/23/13 00002

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1305693

<u>Lab ID</u>	<u>Client ID</u>
R1305693-001	BLDG 5-SV1
R1305693-002	BLDG 5-SV2
R1305693-003	BLDG 5-SV3
R1305693-004	BLDG 5-SV5
R1305693-005	BLDG 5-SV6
R1305693-006	BLDG 5-1
R1305693-007	BLDG 5-2
R1305693-008	BLDG 5-3
R1305693-009	BLDG3-VP1
R1305693-010	BLDG3-VP2
R1305693-011	BLDG3-VP3
R1305693-012	BLDG 3-4
R1305693-013	BLDG 3-3
R1305693-014	BLDG 3-2
R1305693-015	BLDG 2-6

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Lab ID # for Massachusetts Certification M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

ALS ENVIRONMENTAL ROCHESTER
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Oscar C. Parcaro".

Director, Division of Environmental Analysis

Issued: 01 JUL 2013

Expires: 30 JUN 2014

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2013

M-NY032 ALS ENVIRONMENTAL ROCHESTER
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2013	Expiration Date	30 JUN 2014
<u>Analytes</u>				<u>Methods</u>
ALUMINUM				EPA 200.7
ANTIMONY				EPA 200.7
ANTIMONY				EPA 200.8
ARSENIC				EPA 200.7
ARSENIC				EPA 200.8
BERYLLIUM				EPA 200.7
BERYLLIUM				EPA 200.8
CADMIUM				EPA 200.7
CADMIUM				EPA 200.8
CHROMIUM				EPA 200.7
CHROMIUM				EPA 200.8
COBALT				EPA 200.7
COBALT				EPA 200.8
COPPER				EPA 200.7
COPPER				EPA 200.8
IRON				EPA 200.7
LEAD				EPA 200.7
LEAD				EPA 200.8
MANGANESE				EPA 200.7
MANGANESE				EPA 200.8
MERCURY				EPA 245.1
MOLYBDENUM				EPA 200.7
MOLYBDENUM				EPA 200.8
NICKEL				EPA 200.7
NICKEL				EPA 200.8
SELENIUM				EPA 200.7
SELENIUM				EPA 200.8
SILVER				EPA 200.7
SILVER				EPA 200.8
THALLIUM				EPA 200.7
THALLIUM				EPA 200.8
VANADIUM				EPA 200.7
VANADIUM				EPA 200.8
ZINC				EPA 200.7
ZINC				EPA 200.8
SPECIFIC CONDUCTIVITY				EPA 120.1
TOTAL DISSOLVED SOLIDS				SM 2540C
HARDNESS (CaCO3), TOTAL				SM 2340C
CALCIUM				EPA 200.7
MAGNESIUM				EPA 200.7
SODIUM				EPA 200.7
POTASSIUM				EPA 200.7
ALKALINITY, TOTAL				SM 2320B

June 25, 2013

*= Provisional Certification

Page 1 of 2

00007

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2013

M-NY032 ALS ENVIRONMENTAL ROCHESTER
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY)	Effective Date	01 JUL 2013	Expiration Date	30 JUN 2014
<u>Analytes</u>			<u>Methods</u>	
CHLORIDE			SM 4500-CL-E	
CHLORIDE			EPA 300.0	
FLUORIDE			EPA 300.0	
SULFATE			EPA 300.0	
AMMONIA-N			EPA 350.1	
NITRATE-N			EPA 300.0	
NITRATE-N			EPA 353.2	
KJELDAHL-N			EPA 351.2	
ORTHOPHOSPHATE			EPA 365.1	
PHOSPHORUS, TOTAL			EPA 365.1	
CHEMICAL OXYGEN DEMAND			EPA 410.4	
BIOCHEMICAL OXYGEN DEMAND			SM 5210B	
TOTAL ORGANIC CARBON			SM 5310C	
CYANIDE, TOTAL			EPA 335.4	
NON-FILTERABLE RESIDUE			SM 2540D	
OIL AND GREASE			EPA 1664	
PHENOLICS, TOTAL			EPA 420.4	
VOLATILE HALOCARBONS			EPA 601	
VOLATILE HALOCARBONS			EPA 624	
VOLATILE AROMATICS			EPA 602	
VOLATILE AROMATICS			EPA 624	
SVOC-ACID EXTRACTABLES			EPA 625	
SVOC-BASE/NEUTRAL EXTRACTABLES			EPA 625	
POLYCHLORINATED BIPHENYLS (WATEF			EPA 608	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-SV1
Lab Code: R1305693-001

Service Request: R1305693
Date Collected: 8/ 5/13 1253
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 1403
Canister Dilution Factor: 1.52

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	20	34	34	17	17	U
75-01-4	Vinyl Chloride	20	4.6	4.6	1.8	1.8	U
74-83-9	Bromomethane	20	33	33	8.4	8.4	U
75-00-3	Chloroethane	20	44	44	17	17	U
67-64-1	Acetone	20	1500	380	640	160	D
75-69-4	Trichlorofluoromethane (CFC 11)	20	47	47	8.4	8.4	U
75-35-4	1,1-Dichloroethene	20	33	33	8.4	8.4	U
75-09-2	Methylene Chloride	20	29	29	8.3	8.3	U
156-60-5	trans-1,2-Dichloroethene	20	33	33	8.4	8.4	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	34	34	8.5	8.5	U
156-59-2	cis-1,2-Dichloroethene	20	33	33	8.4	8.4	U
67-66-3	Chloroform	20	41	41	8.4	8.4	U
107-06-2	1,2-Dichloroethane	20	34	34	8.5	8.5	U
71-55-6	1,1,1-Trichloroethane (TCA)	20	46	46	8.4	8.4	U
56-23-5	Carbon Tetrachloride	20	5.3	5.3	0.85	0.85	U
78-87-5	1,2-Dichloropropane	20	39	39	8.4	8.4	U
75-27-4	Bromodichloromethane	20	11	11	1.7	1.7	U
79-01-6	Trichloroethene (TCE)	20	7.4	4.6	1.4	0.85	D
10061-01-5	cis-1,3-Dichloropropene	20	76	76	17	17	U
10061-02-6	trans-1,3-Dichloropropene	20	38	38	8.4	8.4	U
79-00-5	1,1,2-Trichloroethane	20	46	46	8.4	8.4	U
124-48-1	Dibromochloromethane	20	14	14	1.7	1.7	U
127-18-4	Tetrachloroethene (PCE)	20	6.1	6.1	0.90	0.90	U
108-90-7	Chlorobenzene	20	39	39	8.4	8.4	U
75-25-2	Bromoform	20	87	87	8.4	8.4	U
79-34-5	1,1,2,2-Tetrachloroethane	20	11	11	1.7	1.7	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	120	70-130	8/14/13 1403	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-SV1
Lab Code: R1305693-001
Run Type: Dilution

Service Request: R1305693
Date Collected: 8/ 5/13 1253
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 2102
Canister Dilution Factor: 1.52

Initial Pressure (psig): -2.65 Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	300	2.3	2.3	1.1	1.1	U
75-01-4	Vinyl Chloride	300	0.30	0.30	0.12	0.12	U
74-83-9	Bromomethane	300	2.2	2.2	0.56	0.56	U
75-00-3	Chloroethane	300	2.9	2.9	1.1	1.1	U
67-64-1	Acetone	300	1400	25	580	11	E
75-69-4	Trichlorofluoromethane (CFC 11)	300	4.0	3.1	0.71	0.56	
75-35-4	1,1-Dichloroethene	300	2.2	2.2	0.56	0.56	U
75-09-2	Methylene Chloride	300	1.9	1.9	0.55	0.55	U
156-60-5	trans-1,2-Dichloroethene	300	2.2	2.2	0.56	0.56	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	300	2.3	2.3	0.56	0.56	U
156-59-2	cis-1,2-Dichloroethene	300	2.2	2.2	0.56	0.56	U
67-66-3	Chloroform	300	2.7	2.7	0.56	0.56	U
107-06-2	1,2-Dichloroethane	300	2.3	2.3	0.56	0.56	U
71-55-6	1,1,1-Trichloroethane (TCA)	300	3.0	3.0	0.56	0.56	U
56-23-5	Carbon Tetrachloride	300	0.57	0.35	0.091	0.056	
78-87-5	1,2-Dichloropropane	300	2.6	2.6	0.56	0.56	U
75-27-4	Bromodichloromethane	300	0.76	0.76	0.11	0.11	U
79-01-6	Trichloroethene (TCE)	300	5.9	0.30	1.1	0.057	
10061-01-5	cis-1,3-Dichloropropene	300	5.1	5.1	1.1	1.1	U
10061-02-6	trans-1,3-Dichloropropene	300	2.5	2.5	0.56	0.56	U
79-00-5	1,1,2-Trichloroethane	300	3.0	3.0	0.56	0.56	U
124-48-1	Dibromochloromethane	300	0.96	0.96	0.11	0.11	U
127-18-4	Tetrachloroethene (PCE)	300	2.9	0.41	0.42	0.060	
108-90-7	Chlorobenzene	300	2.6	2.6	0.56	0.56	U
75-25-2	Bromoform	300	5.8	5.8	0.56	0.56	U
79-34-5	1,1,2,2-Tetrachloroethane	300	0.76	0.76	0.11	0.11	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	117	70-130	8/14/13 2102	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-SV2
Lab Code: R1305693-002

Service Request: R1305693
Date Collected: 8/ 5/13 1128
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 1201
Canister Dilution Factor: 1.44

Initial Pressure (psig): -1.92 Final Pressure (psig): 3.65

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	800	0.81	0.81	0.39	0.39	U
75-01-4	Vinyl Chloride	800	0.11	0.11	0.042	0.042	U
74-83-9	Bromomethane	800	0.77	0.77	0.20	0.20	U
75-00-3	Chloroethane	800	1.0	1.0	0.40	0.40	U
67-64-1	Acetone	800	46	9.0	19	3.8	E
75-69-4	Trichlorofluoromethane (CFC 11)	800	3.3	1.1	0.58	0.20	
75-35-4	1,1-Dichloroethene	800	0.79	0.79	0.20	0.20	U
75-09-2	Methylene Chloride	800	0.68	0.68	0.20	0.20	U
156-60-5	trans-1,2-Dichloroethene	800	0.79	0.79	0.20	0.20	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	800	0.81	0.81	0.20	0.20	U
156-59-2	cis-1,2-Dichloroethene	800	0.79	0.79	0.20	0.20	U
67-66-3	Chloroform	800	0.97	0.97	0.20	0.20	U
107-06-2	1,2-Dichloroethane	800	0.81	0.81	0.20	0.20	U
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.1	1.1	0.20	0.20	U
56-23-5	Carbon Tetrachloride	800	0.52	0.13	0.083	0.020	
78-87-5	1,2-Dichloropropane	800	0.92	0.92	0.20	0.20	U
75-27-4	Bromodichloromethane	800	0.27	0.27	0.040	0.040	U
79-01-6	Trichloroethene (TCE)	800	17	0.11	3.2	0.020	
10061-01-5	cis-1,3-Dichloropropene	800	1.8	1.8	0.40	0.40	U
10061-02-6	trans-1,3-Dichloropropene	800	0.90	0.90	0.20	0.20	U
79-00-5	1,1,2-Trichloroethane	800	1.1	1.1	0.20	0.20	U
124-48-1	Dibromochloromethane	800	0.34	0.34	0.040	0.040	U
127-18-4	Tetrachloroethene (PCE)	800	6.0	0.14	0.89	0.021	
108-90-7	Chlorobenzene	800	0.92	0.92	0.20	0.20	U
75-25-2	Bromoform	800	2.1	2.1	0.20	0.20	U
79-34-5	1,1,2,2-Tetrachloroethane	800	0.27	0.27	0.039	0.039	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	120	70-130	8/13/13 1201	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146899
 Sample Matrix: Air

Service Request: R1305693
 Date Collected: 8/ 5/13 1128
 Date Received: 8/ 7/13

Sample Name: BLDG 5-SV2
 Lab Code: R1305693-002
 Run Type: Dilution

Analytical Method: TO-15

Date Analyzed: 8/13/13 1936
 Canister Dilution Factor: 1.44

Initial Pressure (psig): -1.92

Final Pressure (psig): 3.65

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	400	1.6	1.6	0.78	0.78	U
75-01-4	Vinyl Chloride	400	0.22	0.22	0.085	0.085	U
74-83-9	Bromomethane	400	1.5	1.5	0.40	0.40	U
75-00-3	Chloroethane	400	2.1	2.1	0.79	0.79	U
67-64-1	Acetone	400	45	18	19	7.6	D
75-69-4	Trichlorofluoromethane (CFC 11)	400	3.2	2.2	0.56	0.40	D
75-35-4	1,1-Dichloroethene	400	1.6	1.6	0.40	0.40	U
75-09-2	Methylene Chloride	400	1.4	1.4	0.39	0.39	U
156-60-5	trans-1,2-Dichloroethene	400	1.6	1.6	0.40	0.40	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	400	1.6	1.6	0.40	0.40	U
156-59-2	cis-1,2-Dichloroethene	400	1.6	1.6	0.40	0.40	U
67-66-3	Chloroform	400	1.9	1.9	0.40	0.40	U
107-06-2	1,2-Dichloroethane	400	1.6	1.6	0.40	0.40	U
71-55-6	1,1,1-Trichloroethane (TCA)	400	2.2	2.2	0.40	0.40	U
56-23-5	Carbon Tetrachloride	400	0.55	0.25	0.088	0.040	D
78-87-5	1,2-Dichloropropane	400	1.8	1.8	0.40	0.40	U
75-27-4	Bromodichloromethane	400	0.54	0.54	0.081	0.081	U
79-01-6	Trichloroethene (TCE)	400	17	0.22	3.2	0.040	D
10061-01-5	cis-1,3-Dichloropropene	400	3.6	3.6	0.79	0.79	U
10061-02-6	trans-1,3-Dichloropropene	400	1.8	1.8	0.40	0.40	U
79-00-5	1,1,2-Trichloroethane	400	2.2	2.2	0.40	0.40	U
124-48-1	Dibromochloromethane	400	0.68	0.68	0.080	0.080	U
127-18-4	Tetrachloroethene (PCE)	400	6.0	0.29	0.88	0.042	D
108-90-7	Chlorobenzene	400	1.8	1.8	0.40	0.40	U
75-25-2	Bromoform	400	4.1	4.1	0.40	0.40	U
79-34-5	1,1,2,2-Tetrachloroethane	400	0.54	0.54	0.079	0.079	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/13/13 1936	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-SV3
Lab Code: R1305693-003

Service Request: R1305693
Date Collected: 8/ 5/13 1130
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 1246
Canister Dilution Factor: 1.72

Initial Pressure (psig): -4.03 Final Pressure (psig): 3.67

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	350	2.2	2.2	1.1	1.1	U
75-01-4	Vinyl Chloride	350	0.29	0.29	0.12	0.12	U
74-83-9	Bromomethane	350	2.1	2.1	0.54	0.54	U
75-00-3	Chloroethane	350	2.9	2.9	1.1	1.1	U
67-64-1	Acetone	350	180	25	74	10	E
75-69-4	Trichlorofluoromethane (CFC 11)	350	3.0	3.0	0.54	0.54	U
75-35-4	1,1-Dichloroethene	350	2.2	2.2	0.55	0.55	U
75-09-2	Methylene Chloride	350	1.9	1.9	0.54	0.54	U
156-60-5	trans-1,2-Dichloroethene	350	2.2	2.2	0.55	0.55	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	350	2.2	2.2	0.55	0.55	U
156-59-2	cis-1,2-Dichloroethene	350	2.2	2.2	0.55	0.55	U
67-66-3	Chloroform	350	2.7	2.7	0.54	0.54	U
107-06-2	1,2-Dichloroethane	350	2.2	2.2	0.55	0.55	U
71-55-6	1,1,1-Trichloroethane (TCA)	350	2.9	2.9	0.54	0.54	U
56-23-5	Carbon Tetrachloride	350	0.56	0.34	0.090	0.055	
78-87-5	1,2-Dichloropropane	350	2.5	2.5	0.54	0.54	U
75-27-4	Bromodichloromethane	350	0.74	0.74	0.11	0.11	U
79-01-6	Trichloroethene (TCE)	350	750	0.29	140	0.055	E
10061-01-5	cis-1,3-Dichloropropene	350	4.9	4.9	1.1	1.1	U
10061-02-6	trans-1,3-Dichloropropene	350	2.5	2.5	0.54	0.54	U
79-00-5	1,1,2-Trichloroethane	350	2.9	2.9	0.54	0.54	U
124-48-1	Dibromochloromethane	350	0.93	0.93	0.11	0.11	U
127-18-4	Tetrachloroethene (PCE)	350	200	0.39	30	0.058	
108-90-7	Chlorobenzene	350	2.5	2.5	0.54	0.54	U
75-25-2	Bromoform	350	5.6	5.6	0.54	0.54	U
79-34-5	1,1,2,2-Tetrachloroethane	350	0.74	0.74	0.11	0.11	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	123	70-130	8/13/13 1246	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-SV3
Lab Code: R1305693-003
Run Type: Dilution

Service Request: R1305693
Date Collected: 8/ 5/13 1130
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 2352
Canister Dilution Factor: 1.72

Initial Pressure (psig): -4.03

Final Pressure (psig): 3.67

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	100	7.7	7.7	3.7	3.7	U
75-01-4	Vinyl Chloride	100	1.0	1.0	0.40	0.40	U
74-83-9	Bromomethane	100	7.4	7.4	1.9	1.9	U
75-00-3	Chloroethane	100	10	10	3.8	3.8	U
67-64-1	Acetone	100	190	86	79	36	D
75-69-4	Trichlorofluoromethane (CFC 11)	100	11	11	1.9	1.9	U
75-35-4	1,1-Dichloroethene	100	7.6	7.6	1.9	1.9	U
75-09-2	Methylene Chloride	100	6.5	6.5	1.9	1.9	U
156-60-5	trans-1,2-Dichloroethene	100	7.6	7.6	1.9	1.9	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	7.7	7.7	1.9	1.9	U
156-59-2	cis-1,2-Dichloroethene	100	7.6	7.6	1.9	1.9	U
67-66-3	Chloroform	100	9.3	9.3	1.9	1.9	U
107-06-2	1,2-Dichloroethane	100	7.7	7.7	1.9	1.9	U
71-55-6	1,1,1-Trichloroethane (TCA)	100	10	10	1.9	1.9	U
56-23-5	Carbon Tetrachloride	100	1.2	1.2	0.19	0.19	U
78-87-5	1,2-Dichloropropane	100	8.8	8.8	1.9	1.9	U
75-27-4	Bromodichloromethane	100	2.6	2.6	0.39	0.39	U
79-01-6	Trichloroethene (TCE)	100	720	1.0	130	0.19	D
10061-01-5	cis-1,3-Dichloropropene	100	17	17	3.8	3.8	U
10061-02-6	trans-1,3-Dichloropropene	100	8.6	8.6	1.9	1.9	U
79-00-5	1,1,2-Trichloroethane	100	10	10	1.9	1.9	U
124-48-1	Dibromochloromethane	100	3.3	3.3	0.38	0.38	U
127-18-4	Tetrachloroethene (PCE)	100	200	1.4	30	0.20	D
108-90-7	Chlorobenzene	100	8.8	8.8	1.9	1.9	U
75-25-2	Bromoform	100	20	20	1.9	1.9	U
79-34-5	1,1,2,2-Tetrachloroethane	100	2.6	2.6	0.38	0.38	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	120	70-130	8/13/13 2352	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-SV5
Lab Code: R1305693-004

Service Request: R1305693
Date Collected: 8/ 5/13 1131
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 0036
Canister Dilution Factor: 1.80

Initial Pressure (psig): -4.47

Final Pressure (psig): 3.73

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	300	2.7	2.7	1.3	1.3	U
75-01-4	Vinyl Chloride	300	0.36	0.36	0.14	0.14	U
74-83-9	Bromomethane	300	2.6	2.6	0.66	0.66	U
75-00-3	Chloroethane	300	3.5	3.5	1.3	1.3	U
67-64-1	Acetone	300	56	30	24	13	
75-69-4	Trichlorofluoromethane (CFC 11)	300	3.7	3.7	0.66	0.66	U
75-35-4	1,1-Dichloroethene	300	2.6	2.6	0.67	0.67	U
75-09-2	Methylene Chloride	300	2.3	2.3	0.66	0.66	U
156-60-5	trans-1,2-Dichloroethene	300	2.6	2.6	0.67	0.67	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	300	2.7	2.7	0.67	0.67	U
156-59-2	cis-1,2-Dichloroethene	300	2.6	2.6	0.67	0.67	U
67-66-3	Chloroform	300	3.2	3.2	0.66	0.66	U
107-06-2	1,2-Dichloroethane	300	2.7	2.7	0.67	0.67	U
71-55-6	1,1,1-Trichloroethane (TCA)	300	3.6	3.6	0.66	0.66	U
56-23-5	Carbon Tetrachloride	300	0.62	0.42	0.099	0.067	
78-87-5	1,2-Dichloropropane	300	3.1	3.1	0.66	0.66	U
75-27-4	Bromodichloromethane	300	0.90	0.90	0.13	0.13	U
79-01-6	Trichloroethene (TCE)	300	5.9	0.36	1.1	0.067	
10061-01-5	cis-1,3-Dichloropropene	300	6.0	6.0	1.3	1.3	U
10061-02-6	trans-1,3-Dichloropropene	300	3.0	3.0	0.66	0.66	U
79-00-5	1,1,2-Trichloroethane	300	3.6	3.6	0.66	0.66	U
124-48-1	Dibromochloromethane	300	1.1	1.1	0.13	0.13	U
127-18-4	Tetrachloroethene (PCE)	300	270	0.48	39	0.071	
108-90-7	Chlorobenzene	300	3.1	3.1	0.66	0.66	U
75-25-2	Bromoform	300	6.8	6.8	0.66	0.66	U
79-34-5	1,1,2,2-Tetrachloroethane	300	0.90	0.90	0.13	0.13	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/14/13 0036	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-SV6
Lab Code: R1305693-005

Service Request: R1305693
Date Collected: 8/ 5/13 1132
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 1230
Canister Dilution Factor: 1.50

Initial Pressure (psig): -2.55 Final Pressure (psig): 3.55

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	24	28	28	14	14	U
75-01-4	Vinyl Chloride	24	81	3.8	32	1.5	
74-83-9	Bromomethane	24	27	27	6.9	6.9	U
75-00-3	Chloroethane	24	36	36	14	14	U
67-64-1	Acetone	24	310	310	130	130	U
75-69-4	Trichlorofluoromethane (CFC 11)	24	39	39	6.9	6.9	U
75-35-4	1,1-Dichloroethene	24	340	28	86	6.9	
75-09-2	Methylene Chloride	24	24	24	6.8	6.8	U
156-60-5	trans-1,2-Dichloroethene	24	28	28	6.9	6.9	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	24	1500	28	380	7.0	
156-59-2	cis-1,2-Dichloroethene	24	1800	28	450	6.9	
67-66-3	Chloroform	24	34	34	6.9	6.9	U
107-06-2	1,2-Dichloroethane	24	28	28	7.0	7.0	U
71-55-6	1,1,1-Trichloroethane (TCA)	24	1200	38	210	6.9	
56-23-5	Carbon Tetrachloride	24	4.4	4.4	0.70	0.70	U
78-87-5	1,2-Dichloropropane	24	32	32	6.9	6.9	U
75-27-4	Bromodichloromethane	24	9.4	9.4	1.4	1.4	U
79-01-6	Trichloroethene (TCE)	24	3300	3.8	620	0.70	
10061-01-5	cis-1,3-Dichloropropene	24	63	63	14	14	U
10061-02-6	trans-1,3-Dichloropropene	24	31	31	6.9	6.9	U
79-00-5	1,1,2-Trichloroethane	24	38	38	6.9	6.9	U
124-48-1	Dibromochloromethane	24	12	12	1.4	1.4	U
127-18-4	Tetrachloroethene (PCE)	24	1200	5.0	170	0.74	
108-90-7	Chlorobenzene	24	32	32	6.9	6.9	U
75-25-2	Bromoform	24	71	71	6.9	6.9	U
79-34-5	1,1,2,2-Tetrachloroethane	24	9.4	9.4	1.4	1.4	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	118	70-130	8/14/13 1230	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-1
Lab Code: R1305693-006

Service Request: R1305693
Date Collected: 8/ 5/13 1326
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 1316
Canister Dilution Factor: 1.43

Initial Pressure (psig): -1.96

Final Pressure (psig): 3.53

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	21	31	31	15	15	U
75-01-4	Vinyl Chloride	21	4.1	4.1	1.6	1.6	U
74-83-9	Bromomethane	21	29	29	7.5	7.5	U
75-00-3	Chloroethane	21	39	39	15	15	U
67-64-1	Acetone	21	1000	340	440	140	
75-69-4	Trichlorofluoromethane (CFC 11)	21	42	42	7.5	7.5	U
75-35-4	1,1-Dichloroethene	21	30	30	7.6	7.6	U
75-09-2	Methylene Chloride	21	26	26	7.5	7.5	U
156-60-5	trans-1,2-Dichloroethene	21	30	30	7.6	7.6	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	21	31	31	7.6	7.6	U
156-59-2	cis-1,2-Dichloroethene	21	30	30	7.6	7.6	U
67-66-3	Chloroform	21	37	37	7.5	7.5	U
107-06-2	1,2-Dichloroethane	21	31	31	7.6	7.6	U
71-55-6	1,1,1-Trichloroethane (TCA)	21	41	41	7.5	7.5	U
56-23-5	Carbon Tetrachloride	21	4.8	4.8	0.76	0.76	U
78-87-5	1,2-Dichloropropane	21	35	35	7.5	7.5	U
75-27-4	Bromodichloromethane	21	10	10	1.5	1.5	U
79-01-6	Trichloroethene (TCE)	21	11	4.1	2.0	0.76	
10061-01-5	cis-1,3-Dichloropropene	21	68	68	15	15	U
10061-02-6	trans-1,3-Dichloropropene	21	34	34	7.5	7.5	U
79-00-5	1,1,2-Trichloroethane	21	41	41	7.5	7.5	U
124-48-1	Dibromochloromethane	21	13	13	1.5	1.5	U
127-18-4	Tetrachloroethene (PCE)	21	6.3	5.4	0.93	0.80	
108-90-7	Chlorobenzene	21	35	35	7.5	7.5	U
75-25-2	Bromoform	21	78	78	7.5	7.5	U
79-34-5	1,1,2,2-Tetrachloroethane	21	10	10	1.5	1.5	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/14/13 1316	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-2
Lab Code: R1305693-007

Service Request: R1305693
Date Collected: 8/ 5/13 1331
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 2019
Canister Dilution Factor: 1.36

Initial Pressure (psig): -1.28

Final Pressure (psig): 3.60

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	50	12	12	5.9	5.9	U
75-01-4	Vinyl Chloride	50	1.6	1.6	0.64	0.64	U
74-83-9	Bromomethane	50	12	12	3.0	3.0	U
75-00-3	Chloroethane	50	16	16	6.0	6.0	U
67-64-1	Acetone	50	640	140	270	57	
75-69-4	Trichlorofluoromethane (CFC 11)	50	17	17	3.0	3.0	U
75-35-4	1,1-Dichloroethene	50	12	12	3.0	3.0	U
75-09-2	Methylene Chloride	50	10	10	3.0	3.0	U
156-60-5	trans-1,2-Dichloroethene	50	12	12	3.0	3.0	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	12	12	3.0	3.0	U
156-59-2	cis-1,2-Dichloroethene	50	12	12	3.0	3.0	U
67-66-3	Chloroform	50	15	15	3.0	3.0	U
107-06-2	1,2-Dichloroethane	50	12	12	3.0	3.0	U
71-55-6	1,1,1-Trichloroethane (TCA)	50	16	16	3.0	3.0	U
56-23-5	Carbon Tetrachloride	50	1.9	1.9	0.30	0.30	U
78-87-5	1,2-Dichloropropane	50	14	14	3.0	3.0	U
75-27-4	Bromodichloromethane	50	4.1	4.1	0.61	0.61	U
79-01-6	Trichloroethene (TCE)	50	12	1.6	2.2	0.30	
10061-01-5	cis-1,3-Dichloropropene	50	27	27	6.0	6.0	U
10061-02-6	trans-1,3-Dichloropropene	50	14	14	3.0	3.0	U
79-00-5	1,1,2-Trichloroethane	50	16	16	3.0	3.0	U
124-48-1	Dibromochloromethane	50	5.2	5.2	0.61	0.61	U
127-18-4	Tetrachloroethene (PCE)	50	8.2	2.2	1.2	0.32	
108-90-7	Chlorobenzene	50	14	14	3.0	3.0	U
75-25-2	Bromoform	50	31	31	3.0	3.0	U
79-34-5	1,1,2,2-Tetrachloroethane	50	4.1	4.1	0.59	0.59	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/13/13 2019	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-3
Lab Code: R1305693-008

Service Request: R1305693
Date Collected: 8/ 5/13 1324
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 2144
Canister Dilution Factor: 1.42

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	76	8.4	8.4	4.1	4.1	U
75-01-4	Vinyl Chloride	76	1.1	1.1	0.44	0.44	U
74-83-9	Bromomethane	76	8.0	8.0	2.1	2.1	U
75-00-3	Chloroethane	76	11	11	4.1	4.1	U
67-64-1	Acetone	76	400	93	170	39	D
75-69-4	Trichlorofluoromethane (CFC 11)	76	12	12	2.1	2.1	U
75-35-4	1,1-Dichloroethene	76	8.2	8.2	2.1	2.1	U
75-09-2	Methylene Chloride	76	7.1	7.1	2.0	2.0	U
156-60-5	trans-1,2-Dichloroethene	76	8.2	8.2	2.1	2.1	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	76	8.4	8.4	2.1	2.1	U
156-59-2	cis-1,2-Dichloroethene	76	8.2	8.2	2.1	2.1	U
67-66-3	Chloroform	76	10	10	2.1	2.1	U
107-06-2	1,2-Dichloroethane	76	8.4	8.4	2.1	2.1	U
71-55-6	1,1,1-Trichloroethane (TCA)	76	11	11	2.1	2.1	U
56-23-5	Carbon Tetrachloride	76	1.3	1.3	0.21	0.21	U
78-87-5	1,2-Dichloropropane	76	9.5	9.5	2.1	2.1	U
75-27-4	Bromodichloromethane	76	2.8	2.8	0.42	0.42	U
79-01-6	Trichloroethene (TCE)	76	7.9	1.1	1.5	0.21	D
10061-01-5	cis-1,3-Dichloropropene	76	19	19	4.1	4.1	U
10061-02-6	trans-1,3-Dichloropropene	76	9.3	9.3	2.1	2.1	U
79-00-5	1,1,2-Trichloroethane	76	11	11	2.1	2.1	U
124-48-1	Dibromochloromethane	76	3.6	3.6	0.42	0.42	U
127-18-4	Tetrachloroethene (PCE)	76	1.5	1.5	0.22	0.22	U
108-90-7	Chlorobenzene	76	9.5	9.5	2.1	2.1	U
75-25-2	Bromoform	76	21	21	2.1	2.1	U
79-34-5	1,1,2,2-Tetrachloroethane	76	2.8	2.8	0.41	0.41	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	121	70-130	8/13/13 2144	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 5-3
Lab Code: R1305693-008
Run Type: Dilution

Service Request: R1305693
Date Collected: 8/ 5/13 1324
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 1929
Canister Dilution Factor: 1.42

Initial Pressure (psig): -1.87 Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	700	0.91	0.91	0.44	0.44	U
75-01-4	Vinyl Chloride	700	0.12	0.12	0.048	0.048	U
74-83-9	Bromomethane	700	0.87	0.87	0.22	0.22	U
75-00-3	Chloroethane	700	1.2	1.2	0.45	0.45	U
67-64-1	Acetone	700	480	10	200	4.3	E
75-69-4	Trichlorofluoromethane (CFC 11)	700	2.5	1.3	0.44	0.22	
75-35-4	1,1-Dichloroethene	700	0.89	0.89	0.23	0.23	U
75-09-2	Methylene Chloride	700	0.77	0.77	0.22	0.22	U
156-60-5	trans-1,2-Dichloroethene	700	0.89	0.89	0.23	0.23	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	700	0.91	0.91	0.23	0.23	U
156-59-2	cis-1,2-Dichloroethene	700	0.89	0.89	0.23	0.23	U
67-66-3	Chloroform	700	1.1	1.1	0.22	0.22	U
107-06-2	1,2-Dichloroethane	700	0.91	0.91	0.23	0.23	U
71-55-6	1,1,1-Trichloroethane (TCA)	700	1.2	1.2	0.22	0.22	U
56-23-5	Carbon Tetrachloride	700	0.53	0.14	0.085	0.023	
78-87-5	1,2-Dichloropropane	700	1.0	1.0	0.22	0.22	U
75-27-4	Bromodichloromethane	700	0.30	0.30	0.045	0.045	U
79-01-6	Trichloroethene (TCE)	700	8.5	0.12	1.6	0.023	
10061-01-5	cis-1,3-Dichloropropene	700	2.0	2.0	0.45	0.45	U
10061-02-6	trans-1,3-Dichloropropene	700	1.0	1.0	0.22	0.22	U
79-00-5	1,1,2-Trichloroethane	700	1.2	1.2	0.22	0.22	U
124-48-1	Dibromochloromethane	700	0.39	0.39	0.045	0.045	U
127-18-4	Tetrachloroethene (PCE)	700	1.8	0.16	0.27	0.024	
108-90-7	Chlorobenzene	700	1.0	1.0	0.22	0.22	U
75-25-2	Bromoform	700	2.3	2.3	0.22	0.22	U
79-34-5	1,1,2,2-Tetrachloroethane	700	0.30	0.30	0.044	0.044	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/14/13 1929	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-VP1
Lab Code: R1305693-009

Service Request: R1305693
Date Collected: 8/ 5/13 1340
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 1143
Canister Dilution Factor: 1.50

Initial Pressure (psig): -2.50 Final Pressure (psig): 3.55

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	20	34	34	16	16	U
75-01-4	Vinyl Chloride	20	4.5	4.5	1.8	1.8	U
74-83-9	Bromomethane	20	32	32	8.3	8.3	U
75-00-3	Chloroethane	20	44	44	16	16	U
67-64-1	Acetone	20	380	380	160	160	U
75-69-4	Trichlorofluoromethane (CFC 11)	20	47	47	8.3	8.3	U
75-35-4	1,1-Dichloroethene	20	33	33	8.3	8.3	U
75-09-2	Methylene Chloride	20	29	29	8.2	8.2	U
156-60-5	trans-1,2-Dichloroethene	20	33	33	8.3	8.3	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	20	34	34	8.3	8.3	U
156-59-2	cis-1,2-Dichloroethene	20	33	33	8.3	8.3	U
67-66-3	Chloroform	20	41	41	8.3	8.3	U
107-06-2	1,2-Dichloroethane	20	34	34	8.3	8.3	U
71-55-6	1,1,1-Trichloroethane (TCA)	20	45	45	8.3	8.3	U
56-23-5	Carbon Tetrachloride	20	5.3	5.3	0.83	0.83	U
78-87-5	1,2-Dichloropropane	20	38	38	8.3	8.3	U
75-27-4	Bromodichloromethane	20	11	11	1.7	1.7	U
79-01-6	Trichloroethene (TCE)	20	670	4.5	120	0.84	U
10061-01-5	cis-1,3-Dichloropropene	20	75	75	17	17	U
10061-02-6	trans-1,3-Dichloropropene	20	38	38	8.3	8.3	U
79-00-5	1,1,2-Trichloroethane	20	45	45	8.3	8.3	U
124-48-1	Dibromochloromethane	20	14	14	1.7	1.7	U
127-18-4	Tetrachloroethene (PCE)	20	3200	6.0	470	0.89	U
108-90-7	Chlorobenzene	20	38	38	8.3	8.3	U
75-25-2	Bromoform	20	86	86	8.3	8.3	U
79-34-5	1,1,2,2-Tetrachloroethane	20	11	11	1.6	1.6	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	117	70-130	8/14/13 1143	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-VP2
Lab Code: R1305693-010

Service Request: R1305693
Date Collected: 8/ 5/13 1341
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 1550
Canister Dilution Factor: 1.48

Initial Pressure (psig): -2.31

Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	500	1.3	1.3	0.65	0.65	U
75-01-4	Vinyl Chloride	500	0.18	0.18	0.070	0.070	U
74-83-9	Bromomethane	500	1.3	1.3	0.33	0.33	U
75-00-3	Chloroethane	500	2.5	1.7	0.96	0.65	
67-64-1	Acetone	500	210	15	88	6.2	E
75-69-4	Trichlorofluoromethane (CFC 11)	500	1.8	1.8	0.33	0.33	U
75-35-4	1,1-Dichloroethene	500	1.3	1.3	0.33	0.33	U
75-09-2	Methylene Chloride	500	1.1	1.1	0.32	0.32	U
156-60-5	trans-1,2-Dichloroethene	500	1.3	1.3	0.33	0.33	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	500	1.3	1.3	0.33	0.33	U
156-59-2	cis-1,2-Dichloroethene	500	1.3	1.3	0.33	0.33	U
67-66-3	Chloroform	500	25	1.6	5.2	0.33	
107-06-2	1,2-Dichloroethane	500	1.3	1.3	0.33	0.33	U
71-55-6	1,1,1-Trichloroethane (TCA)	500	1.8	1.8	0.33	0.33	U
56-23-5	Carbon Tetrachloride	500	0.52	0.21	0.082	0.033	
78-87-5	1,2-Dichloropropane	500	1.5	1.5	0.33	0.33	U
75-27-4	Bromodichloromethane	500	0.44	0.44	0.066	0.066	U
79-01-6	Trichloroethene (TCE)	500	25	0.18	4.7	0.033	
10061-01-5	cis-1,3-Dichloropropene	500	3.0	3.0	0.65	0.65	U
10061-02-6	trans-1,3-Dichloropropene	500	1.5	1.5	0.33	0.33	U
79-00-5	1,1,2-Trichloroethane	500	1.8	1.8	0.33	0.33	U
124-48-1	Dibromochloromethane	500	0.56	0.56	0.066	0.066	U
127-18-4	Tetrachloroethene (PCE)	500	130	0.24	19	0.035	
108-90-7	Chlorobenzene	500	1.5	1.5	0.33	0.33	U
75-25-2	Bromoform	500	3.4	3.4	0.33	0.33	U
79-34-5	1,1,2,2-Tetrachloroethane	500	0.44	0.44	0.065	0.065	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	117	70-130	8/13/13 1550	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air

Service Request: R1305693
Date Collected: 8/ 5/13 1341
Date Received: 8/ 7/13

Sample Name: BLDG 3-VP2
Lab Code: R1305693-010
Run Type: Dilution

Analytical Method: TO-15

Date Analyzed: 8/13/13 2227
Canister Dilution Factor: 1.48

Initial Pressure (psig): -2.31

Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	100	6.7	6.7	3.2	3.2	U
75-01-4	Vinyl Chloride	100	0.89	0.89	0.35	0.35	U
74-83-9	Bromomethane	100	6.4	6.4	1.6	1.6	U
75-00-3	Chloroethane	100	8.6	8.6	3.3	3.3	U
67-64-1	Acetone	100	220	74	93	31	D
75-69-4	Trichlorofluoromethane (CFC 11)	100	9.2	9.2	1.6	1.6	U
75-35-4	1,1-Dichloroethene	100	6.5	6.5	1.6	1.6	U
75-09-2	Methylene Chloride	100	5.6	5.6	1.6	1.6	U
156-60-5	trans-1,2-Dichloroethene	100	6.5	6.5	1.6	1.6	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	6.7	6.7	1.6	1.6	U
156-59-2	cis-1,2-Dichloroethene	100	6.5	6.5	1.6	1.6	U
67-66-3	Chloroform	100	26	8.0	5.4	1.6	D
107-06-2	1,2-Dichloroethane	100	6.7	6.7	1.6	1.6	U
71-55-6	1,1,1-Trichloroethane (TCA)	100	8.9	8.9	1.6	1.6	U
56-23-5	Carbon Tetrachloride	100	1.0	1.0	0.16	0.16	U
78-87-5	1,2-Dichloropropane	100	7.5	7.5	1.6	1.6	U
75-27-4	Bromodichloromethane	100	2.2	2.2	0.33	0.33	U
79-01-6	Trichloroethene (TCE)	100	25	0.89	4.7	0.17	D
10061-01-5	cis-1,3-Dichloropropene	100	15	15	3.3	3.3	U
10061-02-6	trans-1,3-Dichloropropene	100	7.4	7.4	1.6	1.6	U
79-00-5	1,1,2-Trichloroethane	100	8.9	8.9	1.6	1.6	U
124-48-1	Dibromochloromethane	100	2.8	2.8	0.33	0.33	U
127-18-4	Tetrachloroethene (PCE)	100	120	1.2	18	0.17	D
108-90-7	Chlorobenzene	100	7.5	7.5	1.6	1.6	U
75-25-2	Bromoform	100	17	17	1.6	1.6	U
79-34-5	1,1,2,2-Tetrachloroethane	100	2.2	2.2	0.32	0.32	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/13/13 2227	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-VP3
Lab Code: R1305693-011

Service Request: R1305693
Date Collected: 8/ 5/13 1342
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 1633
Canister Dilution Factor: 1.60

Initial Pressure (psig): -3.29

Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	125	5.8	5.8	2.8	2.8	U
75-01-4	Vinyl Chloride	125	0.77	0.77	0.30	0.30	U
74-83-9	Bromomethane	125	5.5	5.5	1.4	1.4	U
75-00-3	Chloroethane	125	7.4	7.4	2.8	2.8	U
67-64-1	Acetone	125	160	64	68	27	
75-69-4	Trichlorofluoromethane (CFC 11)	125	7.9	7.9	1.4	1.4	U
75-35-4	1,1-Dichloroethene	125	5.6	5.6	1.4	1.4	U
75-09-2	Methylene Chloride	125	4.9	4.9	1.4	1.4	U
156-60-5	trans-1,2-Dichloroethene	125	5.6	5.6	1.4	1.4	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	125	5.8	5.8	1.4	1.4	U
156-59-2	cis-1,2-Dichloroethene	125	19	5.6	4.9	1.4	
67-66-3	Chloroform	125	14	6.9	2.9	1.4	
107-06-2	1,2-Dichloroethane	125	5.8	5.8	1.4	1.4	U
71-55-6	1,1,1-Trichloroethane (TCA)	125	7.7	7.7	1.4	1.4	U
56-23-5	Carbon Tetrachloride	125	1.0	0.90	0.16	0.14	
78-87-5	1,2-Dichloropropane	125	6.5	6.5	1.4	1.4	U
75-27-4	Bromodichloromethane	125	1.9	1.9	0.29	0.29	U
79-01-6	Trichloroethene (TCE)	125	380	0.77	71	0.14	
10061-01-5	cis-1,3-Dichloropropene	125	13	13	2.8	2.8	U
10061-02-6	trans-1,3-Dichloropropene	125	6.4	6.4	1.4	1.4	U
79-00-5	1,1,2-Trichloroethane	125	7.7	7.7	1.4	1.4	U
124-48-1	Dibromochloromethane	125	2.4	2.4	0.29	0.29	U
127-18-4	Tetrachloroethene (PCE)	125	1200	1.0	180	0.15	E
108-90-7	Chlorobenzene	125	6.5	6.5	1.4	1.4	U
75-25-2	Bromoform	125	15	15	1.4	1.4	U
79-34-5	1,1,2,2-Tetrachloroethane	125	1.9	1.9	0.28	0.28	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	116	70-130	8/13/13 1633	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-VP3
Lab Code: R1305693-011
Run Type: Dilution

Service Request: R1305693
Date Collected: 8/ 5/13 1342
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 2309
Canister Dilution Factor: 1.60

Initial Pressure (psig): -3.29 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	65	11	11	5.4	5.4	U
75-01-4	Vinyl Chloride	65	1.5	1.5	0.58	0.58	U
74-83-9	Bromomethane	65	11	11	2.7	2.7	U
75-00-3	Chloroethane	65	14	14	5.4	5.4	U
67-64-1	Acetone	65	180	120	76	52	D
75-69-4	Trichlorofluoromethane (CFC 11)	65	15	15	2.7	2.7	U
75-35-4	1,1-Dichloroethene	65	11	11	2.7	2.7	U
75-09-2	Methylene Chloride	65	9.4	9.4	2.7	2.7	U
156-60-5	trans-1,2-Dichloroethene	65	11	11	2.7	2.7	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	65	11	11	2.7	2.7	U
156-59-2	cis-1,2-Dichloroethene	65	18	11	4.5	2.7	D
67-66-3	Chloroform	65	15	13	3.0	2.7	D
107-06-2	1,2-Dichloroethane	65	11	11	2.7	2.7	U
71-55-6	1,1,1-Trichloroethane (TCA)	65	15	15	2.7	2.7	U
56-23-5	Carbon Tetrachloride	65	1.7	1.7	0.27	0.27	U
78-87-5	1,2-Dichloropropane	65	13	13	2.7	2.7	U
75-27-4	Bromodichloromethane	65	3.7	3.7	0.55	0.55	U
79-01-6	Trichloroethene (TCE)	65	390	1.5	72	0.27	D
10061-01-5	cis-1,3-Dichloropropene	65	25	25	5.4	5.4	U
10061-02-6	trans-1,3-Dichloropropene	65	12	12	2.7	2.7	U
79-00-5	1,1,2-Trichloroethane	65	15	15	2.7	2.7	U
124-48-1	Dibromochloromethane	65	4.7	4.7	0.55	0.55	U
127-18-4	Tetrachloroethene (PCE)	65	1200	2.0	180	0.29	D
108-90-7	Chlorobenzene	65	13	13	2.7	2.7	U
75-25-2	Bromoform	65	28	28	2.7	2.7	U
79-34-5	1,1,2,2-Tetrachloroethane	65	3.7	3.7	0.54	0.54	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/13/13 2309	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-4
Lab Code: R1305693-012

Service Request: R1305693
Date Collected: 8/ 5/13 1546
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 1449
Canister Dilution Factor: 1.29

Initial Pressure (psig): -0.59 Final Pressure (psig): 3.55

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	21	28	28	13	13	U
75-01-4	Vinyl Chloride	21	3.7	3.7	1.4	1.4	U
74-83-9	Bromomethane	21	26	26	6.8	6.8	U
75-00-3	Chloroethane	21	36	36	14	14	U
67-64-1	Acetone	21	1000	310	420	130	D
75-69-4	Trichlorofluoromethane (CFC 11)	21	38	38	6.8	6.8	U
75-35-4	1,1-Dichloroethene	21	27	27	6.8	6.8	U
75-09-2	Methylene Chloride	21	23	23	6.7	6.7	U
156-60-5	trans-1,2-Dichloroethene	21	27	27	6.8	6.8	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	21	28	28	6.8	6.8	U
156-59-2	cis-1,2-Dichloroethene	21	27	27	6.8	6.8	U
67-66-3	Chloroform	21	33	33	6.8	6.8	U
107-06-2	1,2-Dichloroethane	21	28	28	6.8	6.8	U
71-55-6	1,1,1-Trichloroethane (TCA)	21	37	37	6.8	6.8	U
56-23-5	Carbon Tetrachloride	21	4.3	4.3	0.68	0.68	U
78-87-5	1,2-Dichloropropane	21	31	31	6.8	6.8	U
75-27-4	Bromodichloromethane	21	9.2	9.2	1.4	1.4	U
79-01-6	Trichloroethene (TCE)	21	3.7	3.7	0.69	0.69	U
10061-01-5	cis-1,3-Dichloropropene	21	61	61	14	14	U
10061-02-6	trans-1,3-Dichloropropene	21	31	31	6.8	6.8	U
79-00-5	1,1,2-Trichloroethane	21	37	37	6.8	6.8	U
124-48-1	Dibromochloromethane	21	12	12	1.4	1.4	U
127-18-4	Tetrachloroethene (PCE)	21	4.9	4.9	0.72	0.72	U
108-90-7	Chlorobenzene	21	31	31	6.8	6.8	U
75-25-2	Bromoform	21	70	70	6.8	6.8	U
79-34-5	1,1,2,2-Tetrachloroethane	21	9.2	9.2	1.3	1.3	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	117	70-130	8/14/13 1449	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146899
 Sample Matrix: Air
 Sample Name: BLDG 3-4
 Lab Code: R1305693-012
 Run Type: Dilution

Service Request: R1305693
 Date Collected: 8/ 5/13 1546
 Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 2146
 Canister Dilution Factor: 1.29

Initial Pressure (psig): -0.59 Final Pressure (psig): 3.55

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	300	1.9	1.9	0.94	0.94	U
75-01-4	Vinyl Chloride	300	0.26	0.26	0.10	0.10	U
74-83-9	Bromomethane	300	1.8	1.8	0.48	0.48	U
75-00-3	Chloroethane	300	2.5	2.5	0.95	0.95	U
67-64-1	Acetone	300	1000	22	430	9.1	E
75-69-4	Trichlorofluoromethane (CFC 11)	300	2.7	2.7	0.47	0.47	U
75-35-4	1,1-Dichloroethene	300	1.9	1.9	0.48	0.48	U
75-09-2	Methylene Chloride	300	1.6	1.6	0.47	0.47	U
156-60-5	trans-1,2-Dichloroethene	300	1.9	1.9	0.48	0.48	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	300	1.9	1.9	0.48	0.48	U
156-59-2	cis-1,2-Dichloroethene	300	1.9	1.9	0.48	0.48	U
67-66-3	Chloroform	300	2.3	2.3	0.48	0.48	U
107-06-2	1,2-Dichloroethane	300	1.9	1.9	0.48	0.48	U
71-55-6	1,1,1-Trichloroethane (TCA)	300	2.6	2.6	0.47	0.47	U
56-23-5	Carbon Tetrachloride	300	0.56	0.30	0.088	0.048	
78-87-5	1,2-Dichloropropane	300	2.2	2.2	0.47	0.47	U
75-27-4	Bromodichloromethane	300	0.65	0.65	0.096	0.096	U
79-01-6	Trichloroethene (TCE)	300	0.26	0.26	0.048	0.048	U
10061-01-5	cis-1,3-Dichloropropene	300	4.3	4.3	0.95	0.95	U
10061-02-6	trans-1,3-Dichloropropene	300	2.2	2.2	0.47	0.47	U
79-00-5	1,1,2-Trichloroethane	300	2.6	2.6	0.47	0.47	U
124-48-1	Dibromochloromethane	300	0.82	0.82	0.096	0.096	U
127-18-4	Tetrachloroethene (PCE)	300	0.90	0.34	0.13	0.051	
108-90-7	Chlorobenzene	300	2.2	2.2	0.48	0.48	U
75-25-2	Bromoform	300	4.9	4.9	0.47	0.47	U
79-34-5	1,1,2,2-Tetrachloroethane	300	0.65	0.65	0.094	0.094	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	120	70-130	8/14/13 2146	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-3
Lab Code: R1305693-013

Service Request: R1305693
Date Collected: 8/ 5/13 1543
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 1536
Canister Dilution Factor: 1.44

Initial Pressure (psig): -1.77 Final Pressure (psig): 3.90

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	26	25	25	12	12	U
75-01-4	Vinyl Chloride	26	3.3	3.3	1.3	1.3	U
74-83-9	Bromomethane	26	24	24	6.1	6.1	U
75-00-3	Chloroethane	26	32	32	12	12	U
67-64-1	Acetone	26	860	280	360	120	D
75-69-4	Trichlorofluoromethane (CFC 11)	26	34	34	6.1	6.1	U
75-35-4	1,1-Dichloroethene	26	24	24	6.1	6.1	U
75-09-2	Methylene Chloride	26	21	21	6.1	6.1	U
156-60-5	trans-1,2-Dichloroethene	26	24	24	6.1	6.1	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	26	25	25	6.2	6.2	U
156-59-2	cis-1,2-Dichloroethene	26	24	24	6.1	6.1	U
67-66-3	Chloroform	26	30	30	6.1	6.1	U
107-06-2	1,2-Dichloroethane	26	25	25	6.2	6.2	U
71-55-6	1,1,1-Trichloroethane (TCA)	26	33	33	6.1	6.1	U
56-23-5	Carbon Tetrachloride	26	3.9	3.9	0.62	0.62	U
78-87-5	1,2-Dichloropropane	26	28	28	6.1	6.1	U
75-27-4	Bromodichloromethane	26	8.3	8.3	1.2	1.2	U
79-01-6	Trichloroethene (TCE)	26	3.3	3.3	0.62	0.62	U
10061-01-5	cis-1,3-Dichloropropene	26	55	55	12	12	U
10061-02-6	trans-1,3-Dichloropropene	26	28	28	6.1	6.1	U
79-00-5	1,1,2-Trichloroethane	26	33	33	6.1	6.1	U
124-48-1	Dibromochloromethane	26	11	11	1.2	1.2	U
127-18-4	Tetrachloroethene (PCE)	26	4.4	4.4	0.65	0.65	U
108-90-7	Chlorobenzene	26	28	28	6.1	6.1	U
75-25-2	Bromoform	26	63	63	6.1	6.1	U
79-34-5	1,1,2,2-Tetrachloroethane	26	8.3	8.3	1.2	1.2	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/14/13 1536	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-3
Lab Code: R1305693-013
Run Type: Dilution

Service Request: R1305693
Date Collected: 8/ 5/13 1543
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 2233
Canister Dilution Factor: 1.44

Initial Pressure (psig): -1.77 Final Pressure (psig): 3.90

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	450	1.4	1.4	0.70	0.70	U
75-01-4	Vinyl Chloride	450	0.19	0.19	0.075	0.075	U
74-83-9	Bromomethane	450	1.4	1.4	0.35	0.35	U
75-00-3	Chloroethane	450	1.9	1.9	0.70	0.70	U
67-64-1	Acetone	450	930	16	390	6.7	E
75-69-4	Trichlorofluoromethane (CFC 11)	450	2.0	2.0	0.35	0.35	U
75-35-4	1,1-Dichloroethene	450	1.4	1.4	0.36	0.36	U
75-09-2	Methylene Chloride	450	1.2	1.2	0.35	0.35	U
156-60-5	trans-1,2-Dichloroethene	450	1.4	1.4	0.36	0.36	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	450	1.4	1.4	0.36	0.36	U
156-59-2	cis-1,2-Dichloroethene	450	1.4	1.4	0.36	0.36	U
67-66-3	Chloroform	450	1.7	1.7	0.35	0.35	U
107-06-2	1,2-Dichloroethane	450	1.4	1.4	0.36	0.36	U
71-55-6	1,1,1-Trichloroethane (TCA)	450	1.9	1.9	0.35	0.35	U
56-23-5	Carbon Tetrachloride	450	0.52	0.22	0.083	0.036	
78-87-5	1,2-Dichloropropane	450	1.6	1.6	0.35	0.35	U
75-27-4	Bromodichloromethane	450	0.48	0.48	0.072	0.072	U
79-01-6	Trichloroethene (TCE)	450	0.39	0.19	0.073	0.036	
10061-01-5	cis-1,3-Dichloropropene	450	3.2	3.2	0.71	0.71	U
10061-02-6	trans-1,3-Dichloropropene	450	1.6	1.6	0.35	0.35	U
79-00-5	1,1,2-Trichloroethane	450	1.9	1.9	0.35	0.35	U
124-48-1	Dibromochloromethane	450	0.61	0.61	0.071	0.071	U
127-18-4	Tetrachloroethene (PCE)	450	0.89	0.26	0.13	0.038	
108-90-7	Chlorobenzene	450	1.6	1.6	0.35	0.35	U
75-25-2	Bromoform	450	3.6	3.6	0.35	0.35	U
79-34-5	1,1,2,2-Tetrachloroethane	450	0.48	0.48	0.070	0.070	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/14/13 2233	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-2
Lab Code: R1305693-014

Service Request: R1305693
Date Collected: 8/ 5/13 1547
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 1622
Canister Dilution Factor: 1.79

Initial Pressure (psig): -4.37 Final Pressure (psig): 3.74

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	10	81	81	39	39	U
75-01-4	Vinyl Chloride	10	11	11	4.2	4.2	U
74-83-9	Bromomethane	10	77	77	20	20	U
75-00-3	Chloroethane	10	100	100	39	39	U
67-64-1	Acetone	10	2900	900	1200	380	D
75-69-4	Trichlorofluoromethane (CFC 11)	10	110	110	20	20	U
75-35-4	1,1-Dichloroethene	10	79	79	20	20	U
75-09-2	Methylene Chloride	10	68	68	20	20	U
156-60-5	trans-1,2-Dichloroethene	10	79	79	20	20	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	10	81	81	20	20	U
156-59-2	cis-1,2-Dichloroethene	10	79	79	20	20	U
67-66-3	Chloroform	10	97	97	20	20	U
107-06-2	1,2-Dichloroethane	10	81	81	20	20	U
71-55-6	1,1,1-Trichloroethane (TCA)	10	110	110	20	20	U
56-23-5	Carbon Tetrachloride	10	13	13	2.0	2.0	U
78-87-5	1,2-Dichloropropane	10	91	91	20	20	U
75-27-4	Bromodichloromethane	10	27	27	4.0	4.0	U
79-01-6	Trichloroethene (TCE)	10	11	11	2.0	2.0	U
10061-01-5	cis-1,3-Dichloropropene	10	180	180	39	39	U
10061-02-6	trans-1,3-Dichloropropene	10	90	90	20	20	U
79-00-5	1,1,2-Trichloroethane	10	110	110	20	20	U
124-48-1	Dibromochloromethane	10	34	34	4.0	4.0	U
127-18-4	Tetrachloroethene (PCE)	10	14	14	2.1	2.1	U
108-90-7	Chlorobenzene	10	91	91	20	20	U
75-25-2	Bromoform	10	200	200	20	20	U
79-34-5	1,1,2,2-Tetrachloroethane	10	27	27	3.9	3.9	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	118	70-130	8/14/13 1622	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 3-2
Lab Code: R1305693-014
Run Type: Dilution

Service Request: R1305693
Date Collected: 8/ 5/13 1547
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/14/13 2317
Canister Dilution Factor: 1.79

Initial Pressure (psig): -4.37 Final Pressure (psig): 3.74

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	300	2.7	2.7	1.3	1.3	U
75-01-4	Vinyl Chloride	300	0.36	0.36	0.14	0.14	U
74-83-9	Bromomethane	300	2.6	2.6	0.66	0.66	U
75-00-3	Chloroethane	300	3.5	3.5	1.3	1.3	U
67-64-1	Acetone	300	3300	30	1400	13	E
75-69-4	Trichlorofluoromethane (CFC 11)	300	3.7	3.7	0.66	0.66	U
75-35-4	1,1-Dichloroethene	300	2.6	2.6	0.66	0.66	U
75-09-2	Methylene Chloride	300	2.3	2.3	0.65	0.65	U
156-60-5	trans-1,2-Dichloroethene	300	2.6	2.6	0.66	0.66	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	300	2.7	2.7	0.66	0.66	U
156-59-2	cis-1,2-Dichloroethene	300	2.6	2.6	0.66	0.66	U
67-66-3	Chloroform	300	3.2	3.2	0.66	0.66	U
107-06-2	1,2-Dichloroethane	300	2.7	2.7	0.66	0.66	U
71-55-6	1,1,1-Trichloroethane (TCA)	300	3.6	3.6	0.66	0.66	U
56-23-5	Carbon Tetrachloride	300	0.58	0.42	0.092	0.066	
78-87-5	1,2-Dichloropropane	300	3.0	3.0	0.66	0.66	U
75-27-4	Bromodichloromethane	300	0.90	0.90	0.13	0.13	U
79-01-6	Trichloroethene (TCE)	300	0.58	0.36	0.11	0.067	
10061-01-5	cis-1,3-Dichloropropene	300	6.0	6.0	1.3	1.3	U
10061-02-6	trans-1,3-Dichloropropene	300	3.0	3.0	0.66	0.66	U
79-00-5	1,1,2-Trichloroethane	300	3.6	3.6	0.66	0.66	U
124-48-1	Dibromochloromethane	300	1.1	1.1	0.13	0.13	U
127-18-4	Tetrachloroethene (PCE)	300	1.6	0.48	0.24	0.070	
108-90-7	Chlorobenzene	300	3.0	3.0	0.66	0.66	U
75-25-2	Bromoform	300	6.8	6.8	0.66	0.66	U
79-34-5	1,1,2,2-Tetrachloroethane	300	0.90	0.90	0.13	0.13	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	120	70-130	8/14/13 2317	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 2-6
Lab Code: R1305693-015

Service Request: R1305693
Date Collected: 8/ 5/13 1549
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 1715
Canister Dilution Factor: 1.40

Initial Pressure (psig): -1.62 Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	75	8.4	8.4	4.1	4.1	U
75-01-4	Vinyl Chloride	75	1.1	1.1	0.44	0.44	U
74-83-9	Bromomethane	75	8.0	8.0	2.1	2.1	U
75-00-3	Chloroethane	75	11	11	4.1	4.1	U
67-64-1	Acetone	75	340	93	140	39	D
75-69-4	Trichlorofluoromethane (CFC 11)	75	12	12	2.1	2.1	U
75-35-4	1,1-Dichloroethene	75	8.2	8.2	2.1	2.1	U
75-09-2	Methylene Chloride	75	7.1	7.1	2.0	2.0	U
156-60-5	trans-1,2-Dichloroethene	75	8.2	8.2	2.1	2.1	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	75	8.4	8.4	2.1	2.1	U
156-59-2	cis-1,2-Dichloroethene	75	8.2	8.2	2.1	2.1	U
67-66-3	Chloroform	75	10	10	2.1	2.1	U
107-06-2	1,2-Dichloroethane	75	8.4	8.4	2.1	2.1	U
71-55-6	1,1,1-Trichloroethane (TCA)	75	11	11	2.1	2.1	U
56-23-5	Carbon Tetrachloride	75	1.3	1.3	0.21	0.21	U
78-87-5	1,2-Dichloropropane	75	9.5	9.5	2.1	2.1	U
75-27-4	Bromodichloromethane	75	2.8	2.8	0.42	0.42	U
79-01-6	Trichloroethene (TCE)	75	2.4	1.1	0.45	0.21	D
10061-01-5	cis-1,3-Dichloropropene	75	19	19	4.1	4.1	U
10061-02-6	trans-1,3-Dichloropropene	75	9.3	9.3	2.1	2.1	U
79-00-5	1,1,2-Trichloroethane	75	11	11	2.1	2.1	U
124-48-1	Dibromochloromethane	75	3.5	3.5	0.42	0.42	U
127-18-4	Tetrachloroethene (PCE)	75	7.6	1.5	1.1	0.22	D
108-90-7	Chlorobenzene	75	9.5	9.5	2.1	2.1	U
75-25-2	Bromoform	75	21	21	2.1	2.1	U
79-34-5	1,1,2,2-Tetrachloroethane	75	2.8	2.8	0.41	0.41	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/13/13 1715	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: BLDG 2-6
Lab Code: R1305693-015
Run Type: Dilution

Service Request: R1305693
Date Collected: 8/ 5/13 1549
Date Received: 8/ 7/13

Analytical Method: TO-15

Date Analyzed: 8/13/13 1804
Canister Dilution Factor: 1.40

Initial Pressure (psig): -1.62

Final Pressure (psig): 3.58

CAS #	Analyte Name	Sample Amount mL	Result $\mu\text{g}/\text{m}^3$	MRL $\mu\text{g}/\text{m}^3$	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	750	0.84	0.84	0.41	0.41	U
75-01-4	Vinyl Chloride	750	0.11	0.11	0.044	0.044	U
74-83-9	Bromomethane	750	0.80	0.80	0.21	0.21	U
75-00-3	Chloroethane	750	1.1	1.1	0.41	0.41	U
67-64-1	Acetone	750	390	9.3	170	3.9	E
75-69-4	Trichlorofluoromethane (CFC 11)	750	1.8	1.2	0.32	0.21	
75-35-4	1,1-Dichloroethene	750	0.82	0.82	0.21	0.21	U
75-09-2	Methylene Chloride	750	0.71	0.71	0.20	0.20	U
156-60-5	trans-1,2-Dichloroethene	750	1.4	0.82	0.37	0.21	
75-34-3	1,1-Dichloroethane (1,1-DCA)	750	0.84	0.84	0.21	0.21	U
156-59-2	cis-1,2-Dichloroethene	750	0.82	0.82	0.21	0.21	U
67-66-3	Chloroform	750	1.0	1.0	0.21	0.21	U
107-06-2	1,2-Dichloroethane	750	0.84	0.84	0.21	0.21	U
71-55-6	1,1,1-Trichloroethane (TCA)	750	1.1	1.1	0.21	0.21	U
56-23-5	Carbon Tetrachloride	750	0.51	0.13	0.081	0.021	
78-87-5	1,2-Dichloropropane	750	0.95	0.95	0.21	0.21	U
75-27-4	Bromodichloromethane	750	0.28	0.28	0.042	0.042	U
79-01-6	Trichloroethene (TCE)	750	2.3	0.11	0.42	0.021	
10061-01-5	cis-1,3-Dichloropropene	750	1.9	1.9	0.41	0.41	U
10061-02-6	trans-1,3-Dichloropropene	750	0.93	0.93	0.21	0.21	U
79-00-5	1,1,2-Trichloroethane	750	1.1	1.1	0.21	0.21	U
124-48-1	Dibromochloromethane	750	0.35	0.35	0.042	0.042	U
127-18-4	Tetrachloroethene (PCE)	750	7.5	0.15	1.1	0.022	
108-90-7	Chlorobenzene	750	0.95	0.95	0.21	0.21	U
75-25-2	Bromoform	750	2.1	2.1	0.21	0.21	U
79-34-5	1,1,2,2-Tetrachloroethane	750	0.28	0.28	0.041	0.041	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/13/13 1804	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1309871-01

Service Request: R1305693
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 8/13/13 1112

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	8/13/13 1112	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1309868-01

Service Request: R1305693
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 8/14/13 1057

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	1000	0.45	0.45	0.22	0.22	U
75-01-4	Vinyl Chloride	1000	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
75-00-3	Chloroethane	1000	0.58	0.58	0.22	0.22	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	U
75-69-4	Trichlorofluoromethane (CFC 11)	1000	0.62	0.62	0.11	0.11	U
75-35-4	1,1-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-09-2	Methylene Chloride	1000	0.38	0.38	0.11	0.11	U
156-60-5	trans-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.45	0.45	0.11	0.11	U
156-59-2	cis-1,2-Dichloroethene	1000	0.44	0.44	0.11	0.11	U
67-66-3	Chloroform	1000	0.54	0.54	0.11	0.11	U
107-06-2	1,2-Dichloroethane	1000	0.45	0.45	0.11	0.11	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.60	0.60	0.11	0.11	U
56-23-5	Carbon Tetrachloride	1000	0.070	0.070	0.011	0.011	U
78-87-5	1,2-Dichloropropane	1000	0.51	0.51	0.11	0.11	U
75-27-4	Bromodichloromethane	1000	0.15	0.15	0.022	0.022	U
79-01-6	Trichloroethene (TCE)	1000	0.060	0.060	0.011	0.011	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.50	0.50	0.11	0.11	U
79-00-5	1,1,2-Trichloroethane	1000	0.60	0.60	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
127-18-4	Tetrachloroethene (PCE)	1000	0.080	0.080	0.012	0.012	U
108-90-7	Chlorobenzene	1000	0.51	0.51	0.11	0.11	U
75-25-2	Bromoform	1000	1.1	1.1	0.11	0.11	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.15	0.15	0.022	0.022	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	114	70-130	8/14/13 1057	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air

Service Request: R1305693
Date Analyzed: 8/13/13

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³

Basis: NA

Analysis Lot: 354546

Lab Control Sample
RQ1309871-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.22	5.26	80	70 - 130
Vinyl Chloride	6.28	6.58	95	70 - 130
Bromomethane	10.2	9.89	103	70 - 130
Chloroethane	6.39	6.66	96	70 - 130
Acetone	5.44	6.47	84	50 - 150
Trichlorofluoromethane (CFC 11)	15.4	14.3	108	70 - 130
1,1-Dichloroethene	9.56	10.4	92	70 - 130
Methylene Chloride	7.86	9.03	87	70 - 130
trans-1,2-Dichloroethene	9.16	10.4	88	70 - 130
1,1-Dichloroethane (1,1-DCA)	8.88	10.5	84	70 - 130
cis-1,2-Dichloroethene	9.29	10.5	88	70 - 130
Chloroform	12.1	13.2	92	70 - 130
1,2-Dichloroethane	11.5	10.6	108	70 - 130
1,1,1-Trichloroethane (TCA)	14.7	14.3	103	70 - 130
Carbon Tetrachloride	16.8	15.9	106	70 - 130
1,2-Dichloropropane	9.52	12.1	79	70 - 130
Bromodichloromethane	17.1	17.4	98	70 - 130
Trichloroethene (TCE)	13.7	14.0	98	70 - 130
cis-1,3-Dichloropropene	11.6	12.3	94	70 - 130
trans-1,3-Dichloropropene	10.4	11.0	94	70 - 130
1,1,2-Trichloroethane	13.1	14.6	90	70 - 130
Dibromochloromethane	24.1	23.4	103	70 - 130
Tetrachloroethene (PCE)	19.2	18.0	107	70 - 130
Chlorobenzene	11.1	12.3	90	70 - 130
Bromoform	29.0	26.6	109	70 - 130
1,1,2,2-Tetrachloroethane	14.2	18.9	75	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly Air Samples/146899
Sample Matrix: Air

Service Request: R1305693
Date Analyzed: 8/14/13

Lab Control Sample Summary
Volatile Organic Compounds in Air Collected In SUMMA Passivated Canisters and Analyzed By GC/MS

Analytical Method: TO-15

Units: µg/m³

Basis: NA

Analysis Lot: 354524

Lab Control Sample
RQ1309868-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	3.85	5.26	73	70 - 130
Vinyl Chloride	5.88	6.58	89	70 - 130
Bromomethane	9.45	9.89	95	70 - 130
Chloroethane	6.08	6.66	91	70 - 130
Acetone	5.32	6.47	82	50 - 150
Trichlorofluoromethane (CFC 11)	13.9	14.3	97	70 - 130
1,1-Dichloroethene	8.86	10.4	85	70 - 130
Methylene Chloride	7.52	9.03	83	70 - 130
trans-1,2-Dichloroethene	8.59	10.4	83	70 - 130
1,1-Dichloroethane (1,1-DCA)	8.63	10.5	82	70 - 130
cis-1,2-Dichloroethene	8.87	10.5	84	70 - 130
Chloroform	11.5	13.2	87	70 - 130
1,2-Dichloroethane	10.8	10.6	102	70 - 130
1,1,1-Trichloroethane (TCA)	14.0	14.3	98	70 - 130
Carbon Tetrachloride	15.9	15.9	100	70 - 130
1,2-Dichloropropane	9.67	12.1	80	70 - 130
Bromodichloromethane	16.8	17.4	96	70 - 130
Trichloroethene (TCE)	13.3	14.0	96	70 - 130
cis-1,3-Dichloropropene	11.5	12.3	94	70 - 130
trans-1,3-Dichloropropene	10.2	11.0	93	70 - 130
1,1,2-Trichloroethane	13.3	14.6	91	70 - 130
Dibromochloromethane	23.8	23.4	102	70 - 130
Tetrachloroethene (PCE)	19.0	18.0	106	70 - 130
Chlorobenzene	11.1	12.3	90	70 - 130
Bromoform	28.3	26.6	106	70 - 130
1,1,2,2-Tetrachloroethane	14.6	18.9	77	70 - 130

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

TITLE

TD-15

8/13/13
PROJECT

P. Herring

U-682

BOOK

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Leak Check: 0.8 psia \rightarrow 1.3 psia in 500 sec

Pressures: He = 20.8 psia IS = 25.5 psia, ATM = 14.4 psia

Volumes: IS = 250 mL # 60827, Nominal Sample Vol. = 1000 mL

Methods: TUN = BFB.V, GC/MS = 120712.M, Entech = CAS.MPT

AS PS.	VOL (mL)	Sample	File #	OK?/Comments
14	500	Room Air	B4646	-
14	500	Room Air	B4647	-
14	0	TUN Check	B4648	Y (06:24)
15	500	CCV # 60055	B4649	Y
16	250	LCS # 60689	B4650	Y
1	1000	MET BLK	B4651	Y
2	800	R1305693 -002	B4652	Y Acetone \uparrow rpt @ 400 mL
3	350	-003	B4653	Y TCE + Acetone \uparrow Rpt @ 100.
4	800	-004	B4654	N 2IS \uparrow rpt @ 300
5	50	-007	B4655	N 2IS \uparrow rpt @ 50
6	76	-008	B4656	N 2IS \uparrow rpt @ 76
7	500	-010	B4657	Y Acetone \uparrow Rpt @ 100
8	125	-011	B4658	Y Rpt \uparrow rpt @ 65
9	75	-015	B4659	Y rpt 750 for higher PLE/PLE
9	750	-015	B4660	Y Acetone \uparrow - report B4661
1	500	Room Air	B4661	-
2	400	-002	B4662	Y [DL]
3	50	-007	B4663	Y
3	50	-007 dup	B4664	Y
4	76	-008	B4665	Y rpt @ 700 for higher TCE/PLE [DL]
5	100	-010	B4666	Y [DL]
6	65	-011	B4667	Y [DL]
7	400	-003	B4668	Y [DL]
8	300	-004	B4669	Y

RTH
8/13/13

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DATE

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DATE

PROPRIETARY INFORMATION

00038

8/14/13

BOOK

PAGE

TITLE

TD-15

PROJECT

R. Herring

Continued from page

Leak Check: 0.8 psia \rightarrow 1.3 psia in 500 sec.

Pressures: He = 21.2 psia, IS = 17.2 psia, ATM = 14.5 psia

Volumes: IS = 250 mL #60827, Nominal Sample Vol. = 1000 mL

5 Methods: Tune = BFB.1, GC/MS = 120712.M, EnterCh = CAS.MPT

A.S. PS	VOL (mL)	Sample	File #	OK?/Comments
14	500	Room Air	B4670	-
14	500	Room Air	B4671	-
10 14	0	Tune Check	B4672	Y 06:53
15	500	LEV # 60055	B4673	Y
16	250	LCS # 60689	B4674	Y
1	1000	MET BLK	B4675	Y
SYR	20	R1305693-009	B4676	Y [CB#I 9760 T2]
15 SYR	24	-005	B4677	Y
SYR	21	-006	B4678	Y
SYR	20	-001	B4679	Y - rpt @ 300 for higher TIE/PC
SYR	21	-012	B4680	Y - rpt @ 300 for higher TIE/PC
SYR	26	-013	B4681	Y - rpt @ 450 for higher TIE/PC
20 SYR	10	-014	B4682	Y - rpt @ 300 for higher TIE/PC
SYR	35	R1305781-001	B4683	Y [Barton 9932 T2]
2	250	-002	B4684	N OVER DILUTED rpt @ 550 mL
2	550	-002	B4685	Y
4	700	R1305693-008	B4686	Y [CB#I 9760 T2] Acetone/MET
25 4	700	-008 DUP	B4687	Y DUP DL Affixing
5	300	-001	B4688	Y Acetone report to original run
6	300	-012	B4689	Y
7	450	-013	B4690	Y
8	300	-014	B4691	Y

RH
8/14/13

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DISCLOSED TO AND UNDERSTOOD BY

DATE

PROPRIETARY INFORMATION

00039

Client: CB&I
Project: Varian Beverly Air Samples 146899

Detailed Sample Information

<u>CAS Sample ID</u>	<u>Client Sample ID</u>	<u>Container Type</u>	<u>Pi1</u> (Hg)	<u>Pi1</u> (psig)	<u>Pf1</u> (Hg)	<u>Pi2</u> (psig)	<u>Pf2</u> (psig)	<u>Cont ID</u>	<u>Order #</u>	<u>FC ID</u>
R1305693-001.01	BLDG 5-SV1	6.0 L-Non-Specified SC	-5.40	-2.65	3.58			SLC00147	41230	FC00834
R1305693-002.01	BLDG 5-SV2	6.0 L-Non-Specified SC	-3.90	-1.92	3.65			SLC00022	41230	FC00843
R1305693-003.01	BLDG 5-SV3	6.0 L-Non-Specified SC	-8.20	-4.03	3.67			SLC00209	41230	FC00774
R1305693-004.01	BLDG 5-SV5	6.0 L-Non-Specified SC	-9.10	-4.47	3.73			SLC00103	41230	FC00729
R1305693-005.01	BLDG 5-SV6	6.0 L-Non-Specified SC	-5.20	-2.55	3.55			SLC00168	41230	FC00842
R1305693-006.01	BLDG 5-1	6.0 L-Non-Specified SC	-4.00	-1.96	3.53			SLC00172	41230	FC00861
R1305693-007.01	BLDG 5-2	6.0 L-Non-Specified SC	-2.60	-1.28	3.60			SLC00151	41230	FC00848
R1305693-008.01	BLDG 5-3	6.0 L-Non-Specified SC	-3.80	-1.87	3.58			SLC00157	41230	FC00863
R1305693-009.01	BLDG3-VP1	6.0 L-Non-Specified SC	-5.10	-2.50	3.55			SLC00181	41230	FC00832
R1305693-010.01	BLDG3-VP2	6.0 L-Non-Specified SC	-4.70	-2.31	3.58			SLC00101	41230	FC00722
R1305693-011.01	BLDG3-VP3	6.0 L-Non-Specified SC	-6.70	-3.29	3.52			SLC00200	41230	FC00742
R1305693-012.01	BLDG 3-4	6.0 L-Non-Specified SC	-1.20	-0.59	3.55			SLC00248	41230	FC00858
R1305693-013.01	BLDG 3-3	6.0 L-Non-Specified SC	-3.60	-1.77	3.90			SLC00224	41230	FC00860
R1305693-014.01	BLDG 3-2	6.0 L-Non-Specified SC	-8.90	-4.37	3.74			SLC00071	41230	FC00864
R1305693-015.01	BLDG 2-6	6.0 L-Non-Specified SC	-3.30	-1.62	3.58			SLC00031	41230	FC00845

Miscellaneous Items - received

00040

Folder # R1305693

00041



ALS Environmental
1565 Jefferson Rd, Building 300
Suite 360
Rochester, NY 14623
Ph. 585-288-5380
Fax 585-288-8475

QC Certification

<u>Container IDs</u>	<u>Cleaned Date</u>	<u>Date Analyzed</u>	<u>QC Results</u>	<u>Comments</u>
FC00722	7/29/13	7/29/13		
FC00729	3/25/13	3/25/13		
FC00742	7/29/13	7/29/13		
FC00774	7/10/13	7/11/13		
FC00832	7/10/13	7/11/13		
FC00834	7/10/13	7/11/13		
FC00842	7/29/13	7/29/13		
FC00843	7/10/13	7/11/13		
FC00845	3/26/13	3/26/13		
FC00848	3/26/13	3/26/13		
FC00858	3/26/13	3/26/13		
FC00860	3/26/13	3/26/13		
FC00861	3/26/13	3/26/13		
FC00863	3/26/13	3/26/13		
FC00864	3/26/13	3/26/13		
SLC00022	5/31/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00031	5/31/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00071	5/31/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00101	5/31/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00103	6/4/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00147	5/31/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00151	6/7/13	6/11/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00157	6/4/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00168	5/31/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00172	5/31/13	6/6/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00181	6/7/13	6/11/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00200	5/10/13	5/14/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)

* QC Canister

00042

00043

<u>Container IDs</u>	<u>Cleaned Date</u>	<u>Date Analyzed</u>	<u>QC Results</u>	<u>Comments</u>
SLC00209*	5/10/13	5/14/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00224	5/16/13	5/21/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00248	5/10/13	5/14/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)

* QC Canister

Sample Collection Supplies



T019262

Client: CB&I
Project: Varian Beverly
SDG Name: Varian Beverly Air Samples

P.O. Number: 821947

Shipped To: Vallerie Sasso
150 Royall Street
Canton, MA 02021

E-mail: vallerie.sasso@cbi.com

Phone: 617-589-6163

Comments: **Bag containers by sample template.**

Order #: 41230

Date Required: 7/31/13

Project Chemist: Michael Perry

Phone Number: 585-288-5380 x7469

Shipped Date: 07/29/2013

Shipping Cost: \$ 0.00

Grouped by Container Type

ID	Container	Shipped Pressure
15	6.0L-Non-Specified	

Precautions: Preserved sample containers should not be overflowed while filling. Under no circumstances should the inside of the containers or lids be handled.

Please return this form with your coolers when delivering your samples to ALS Environmental.

Sample Collection Supplies



T019262

Client: CB&I
Project: Varian Beverly
SDG Name: Varian Beverly Air Samples

P.O. Number: 821947

Shipped To: Vallerie Sasso
150 Royall Street
Canton, MA 02021
E-mail: vallerie.sasso@cbi.com
Phone: 617-589-6163

Order #: 41230
Date Required: 7/31/13
Project Chemist: Michael Perry
Phone Number: 585-288-5380 x7469

Shipped Date: 07/29/2013
Shipping Cost: \$ 0.00

Comments: **Bag containers by sample template.**

FC00722	1 each-Flow Controller Stainless Steel	
FC00729	1 each-Flow Controller Stainless Steel	
FC00742	1 each-Flow Controller Stainless Steel	
FC00774	1 each-Flow Controller Stainless Steel	
FC00832	1 each-Flow Controller Stainless Steel	
FC00834	1 each-Flow Controller Stainless Steel	
FC00842	1 each-Flow Controller Stainless Steel	
FC00843	1 each-Flow Controller Stainless Steel	
FC00845	1 each-Flow Controller Stainless Steel	
FC00848	1 each-Flow Controller Stainless Steel	
FC00858	1 each-Flow Controller Stainless Steel	
FC00860	1 each-Flow Controller Stainless Steel	
FC00861	1 each-Flow Controller Stainless Steel	
FC00863	1 each-Flow Controller Stainless Steel	
FC00864	1 each-Flow Controller Stainless Steel	
SLC00022	6.0 L-Non-Specified SC	-29.40
SLC00031	6.0 L-Non-Specified SC	-29.40
SLC00071	6.0 L-Non-Specified SC	-29.40
SLC00101	6.0 L-Non-Specified SC	-29.40
SLC00103	6.0 L-Non-Specified SC	-29.40
SLC00147	6.0 L-Non-Specified SC	-29.40
SLC00151	6.0 L-Non-Specified SC	-29.40
SLC00157	6.0 L-Non-Specified SC	-29.40
SLC00168	6.0 L-Non-Specified SC	-29.40
SLC00172	6.0 L-Non-Specified SC	-29.40
SLC00181	6.0 L-Non-Specified SC	-29.40
SLC00200	6.0 L-Non-Specified SC	-29.40
SLC00209	6.0 L-Non-Specified SC	-29.40
SLC00224	6.0 L-Non-Specified SC	-29.40
SLC00248	6.0 L-Non-Specified SC	-29.40

Precautions: Preserved sample containers should not be overflowed while filling. Under no circumstances should the inside of the containers or lids be handled.

Please return this form with your coolers when delivering your samples to ALS Environmental.



1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 | 585.288.5380 | 585.288.8475 (fax) | www.caslab.com

Requested Turnaround Time in Business Days from Receipt, please circle:

[illegible]

Requested Turnaround Time in Business Days from Receipt, please circle: 1 Day 2 Day 3 Day 4 Day 5 Day 10 Day-Standard		CAS Project #:	
Company Name: CB&I		CAS Contact:	
Address: 150 Royall Street Canton, MA 02021		Analysis Method and/or Analytes	
Project Manager: Raymond Cadorette		Comments Specific Instructions	
Phone: 617-589-6102	Fax: 617-589-5495		
Email (for result reporting): Raymond.Cadorette@Shawgrp.com			
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected
Bldg 5-SV1		8.5.13	12:53
Bldg 5-SV2			11:28
Bldg 5-SV3			11:30
Bldg 5-SV5			11:31
Bldg 5-SV6			11:32
Bldg 5-1			13:26
Bldg 5-2			13:31
Bldg 5-3			13:34
What State were samples collected in: MA			
Report Tier Levels - please select: Tier I (Results/Default, if not specified) _____ Tier II (Results + QC) _____			
EDD required: YES / NO Type: GISKey _____ EDD Units: ug/m3 & ppmv			
Relinquished by: (Signature) <i>Raymond Cadorette</i>		Received by: (Signature) <i>[Signature]</i>	
Date: 8.5.13		Date: 8/7/13	
Time: _____		Time: 1:50	
Relinquished by: (Signature)		Received by: (Signature)	
Date: _____		Date: _____	
Time: _____		Time: _____	
Relinquished by: (Signature)		Received by: (Signature)	
Date: _____		Date: _____	
Time: _____		Time: _____	



CHAIN OF CUSTODY - AIR

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623 | 585.288.5380 | 585.288.8475 (fax) | www.caslab.com

Requested Turnaround Time in Business Days from Receipt, please circle: 1 Day 2 Day 3 Day 4 Day 5 Day 10 Day-Standard		CAS Project #:					
Company Name: CB&I		Project Name: Varian Beverly (Bldg. 3)					
Address: 150 Royall Street Canton, MA 02021		Project Number: 146899-01000000					
Project Manager: Raymond Cadorette		P.O. #/Billing Information: P.O. # 863241					
Phone: 617-589-6102		Fax: 617-589-5495					
Email (for result reporting): Raymond.Cadorette@Shawgrp.com		Sampler (Print & Sign):					
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID	Analysis Method and/or Analytes	Comments Specific Instructions
Bldg 3 - VP1		8.5.13	1340	00181	FC00742		
Bldg 3 - VP2			1341	00101	FC00742		
Bldg 3 - VP3			1342	00200	FC00832		
Bldg 3-4			1546	00248	FC00858		
Bldg 3-3			1543	00224	FC00860		
Bldg 3-2			1547	00071	FC00864		
Bldg 2-6			1549	00031	FC00840		
What State were samples collected in: MA						Project Requirements (MRLs, QAPP, etc.):	
Report Tier Levels - please select: Tier I (Results/Default, if not specified) _____ Tier II (Results + QC) _____ Tier III (CLP Forms Only) _____ Tier IV (Data Validation) _____						EDD required: YES / NO Type: GISKey EDD Units: ug/m3 & ppmv	
Relinquished by: (Signature)		Date: 8.5.13		Received by: (Signature)		Date: 8/7/13	
Relinquished by: (Signature)		Date:		Received by: (Signature)		Date:	
Relinquished by: (Signature)		Date:		Received by: (Signature)		Date:	

QA/QC: MADEP CAM
Complete Second Run



Cooler Receipt and Preservation Check Form

Project/Client CBEI Folder Number _____

Cooler received on 8/7/13 by: JFS COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES YES NO NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES YES NO NO
3. Did all bottles arrive in good condition (unbroken)? YES YES NO NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES YES NO N/A
5. Were Ice or Ice packs present? YES YES NO NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: _____

Is the temperature within 0° - 6° C?: Y N Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 8/7/13 11:57

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location SMD by JFS on 8/7 at 11:57
 5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: _____

Cooler Breakdown: Date: 8/8/13 Time: 0820 by: JFS

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES YES NO NO
2. Did all bottle labels and tags agree with custody papers? YES YES NO NO
3. Were correct containers used for the tests indicated? YES YES NO NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
≥12	NaOH									
≤2	HNO ₃									No = Samples were preserved at lab as listed
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						PM OK to Adjust: _____
	Na ₂ S ₂ O ₃	-	-							*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet
	Zn Aceta	-	-							
	HCl	*	*							

Bottle lot numbers: VOA LAWS

Other Comments: _____

PC Secondary Review: MKP 8/7/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name :	Varian Medical Systems, Inc	Job Number :	150151
Prepared By:	Jennifer Gailey	Date :	10/15/2013
Matrix:	Soil		
Analyte Group :	Volatile Organics Total Solids	Analytical Method :	SW-846 8260C Modified EPA 160.3
Completed MADEP CAM Certification Form included:	Yes	Laboratory ID No. :	R1306722
Chain of Custody included in Data Package ?	Yes	Is it Complete ?	Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
9/10/2013-9/12/2013	Modified EPA 160.3	14 days	14 Days	9/16/2013
9/10/2013-9/12/2013	VOC 8260C	14 days	30 Days	9/21, 9/23, 9/24/2013

Sample temperature within QC limits: Yes, 4.5 C

Surrogate Recovery

Are all % recoveries within the allowable range ? Yes

If No, List sample ID where range was exceeded: NA

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? No

If no, list sample ID where range was exceeded: see notes

Equipment Field Blank ID : NA
Trip Blank ID : TRIP BLANK

Method Blank: 8260C 9/21, 9/23, 9/24/2013
 160.3 Modified 9/16/2013

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

All samples were analyzed as medium level dilution due to the level of target analytes present. Sample AP34 (21-23') was analyzed as a medium level dilution since the low level vials contained too much soil to analyze them properly. Sample AP34 (34-36) was re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

The % recovery was outside limits in the LCS or LCSD for 1,1,1-DCE, 1-4,dioxane, 2,2-dichloropropane, carbon disulfide, and naphthalene in in batch 3597013 (AP-35(33-35')). The % recovery was outside limits in the LCS or LCSD for carbondisulfide in batch 359862 (AP33(22-24'), AP33(24-26'), AP24(21-23'), AP34(34-36'), and 0912-Drum-01). The data was not impacted since the analytical results analytes in these batches were non-detect for these analytes.

Reviewed By: Pernilla Haley 10/15/13



September 27, 2013

Service Request No: R1306722

Mr. Ray Cadorette
CB&I Environmental & Infrastructure
150 Royall Street
Canton, MA 02021

Laboratory Results for: Varian Beverly/150151

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on September 13, 2013. For your reference, these analyses have been assigned our service request number **R1306722**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental



Michael Perry
Laboratory Manager

Page 1 of 74

ALS Environmental

Client: CB&I
Project: Varian Beverly
Sample Matrix: Soil

Service Request No.: R1306702
Project Number: 150151
Date Received: 9/13/13

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II, deliverables with Massachusetts CAM analyses reporting. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Samples were collected on 9/10/13 – 9/12/13 and received at ALS in good condition at a cooler temperature of 4.5 °C as noted on the cooler receipt and preservation check form. The samples were stored in a refrigerator at 1 - 6 °C upon receipt at the laboratory. See the second page of the Case Narrative for a cross-reference between Client ID and ALS Job #.

Volatile Organics

Nine soil samples and a Trip Blank were analyzed for the MADEP CAM list of Volatile Organics by SW-846 Method 8260C.

All samples were analyzed as medium level dilution due to the level of target analytes present. Sample AP34 (21-23') was analyzed as a medium level dilution since the low level vials contained too much soil to analyze them properly. Sample AP34 (34-36) was re-analyzed at larger dilutions to bring target analytes within the calibration range of the method. Both dilutions were reported with analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes.

All Surrogate Standard recoveries were within QC limits.

All Bank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were within QC limits.

All samples were analyzed within the required holding time of 14 days.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 150151

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1306722 - 001 - 010

Matrices: Groundwater ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other: _____

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input checked="" type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6850 Perchlorate CAM VIII B <input type="checkbox"/>	Other: 624 <input type="checkbox"/>

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only: a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
----------	-----------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)? (site <input type="checkbox"/>)	Yes <input type="checkbox"/> No ¹ <input checked="" type="checkbox"/>

¹All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: 

Position: Laboratory Manager

00003

Printed Name: Michael K. Perry

Date: 9/27/13

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1306722

<u>Lab ID</u>	<u>Client ID</u>
R1306722-001	AP33 (22-24')
R1306722-002	AP33 (24-26')
R1306722-003	AP33-DO
R1306722-004	AP34 (21-23')
R1306722-005	AP34 (34-36')
R1306722-006	AP34-DO
R1306722-007	AP35 (33-35')
R1306722-008	0912-DRUM-01
R1306722-009	AP35-DO
R1306722-010	TRIP BLANK

REPORT QUALIFIERS AND DEFINITIONS

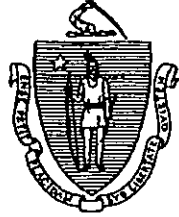
U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Lab ID # for Massachusetts Certification

M-NY032

Analyses were conducted in accordance with Massachusetts Department of Environmental Protection certification standards, except as noted in the laboratory case narrative provided. A copy of the current Department issued parameter list is included in this report.

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

M-NY032

ALS ENVIRONMENTAL ROCHESTER
1565 JEFFERSON RD
BUILDING 300, SUITE 360
ROCHESTER, NY 14623-0000

Laboratory Director: Michael K. Perry

for the analysis of NON POTABLE WATER (CHEMISTRY)

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P. Contact the Division of Environmental Analysis to verify the current certification status of the laboratory.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Jacob C. Pascalis".

Director, Division of Environmental Analysis

Issued: 01 JUL 2013

Expires: 30 JUN 2014

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

Certified Parameter List as of: 01 JUL 2013

M-NY032 **ALS ENVIRONMENTAL ROCHESTER
ROCHESTER NY**

NON POTABLE WATER (CHEMISTRY) **Effective Date** **01 JUL 2013** **Expiration Date** **30 JUN 2014**

<u>Analytes</u>	<u>Methods</u>
ALUMINUM	EPA 200.7
ANTIMONY	EPA 200.7
ANTIMONY	EPA 200.8
ARSENIC	EPA 200.7
ARSENIC	EPA 200.8
BERYLLIUM	EPA 200.7
BERYLLIUM	EPA 200.8
CADMIUM	EPA 200.7
CADMIUM	EPA 200.8
CHROMIUM	EPA 200.7
CHROMIUM	EPA 200.8
COBALT	EPA 200.7
COBALT	EPA 200.8
COPPER	EPA 200.7
COPPER	EPA 200.8
IRON	EPA 200.7
LEAD	EPA 200.7
LEAD	EPA 200.8
MANGANESE	EPA 200.7
MANGANESE	EPA 200.8
MERCURY	EPA 245.1
MOLYBDENUM	EPA 200.7
MOLYBDENUM	EPA 200.8
NICKEL	EPA 200.7
NICKEL	EPA 200.8
SELENIUM	EPA 200.7
SELENIUM	EPA 200.8
SILVER	EPA 200.7
SILVER	EPA 200.8
THALLIUM	EPA 200.7
THALLIUM	EPA 200.8
VANADIUM	EPA 200.7
VANADIUM	EPA 200.8
ZINC	EPA 200.7
ZINC	EPA 200.8
SPECIFIC CONDUCTIVITY	EPA 120.1
TOTAL DISSOLVED SOLIDS	SM 2540C
HARDNESS (CaCO3), TOTAL	SM 2340C
CALCIUM	EPA 200.7
MAGNESIUM	EPA 200.7
SODIUM	EPA 200.7
POTASSIUM	EPA 200.7
ALKALINITY, TOTAL	SM 2320B

June 25, 2013

*= Provisional Certification

Page 1 of 2

000007

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Certified Parameter List as of: 01 JUL 2013

M-NY032 ALS ENVIRONMENTAL ROCHESTER
ROCHESTER NY

NON POTABLE WATER (CHEMISTRY) Effective Date 01 JUL 2013 Expiration Date 30 JUN 2014

<u>Analytes</u>	<u>Methods</u>
CHLORIDE	SM 4500-CL-E
CHLORIDE	EPA 300.0
FLUORIDE	EPA 300.0
SULFATE	EPA 300.0
AMMONIA-N	EPA 350.1
NITRATE-N	EPA 300.0
NITRATE-N	EPA 353.2
KJELDAHL-N	EPA 351.2
ORTHOPHOSPHATE	EPA 365.1
PHOSPHORUS, TOTAL	EPA 365.1
CHEMICAL OXYGEN DEMAND	EPA 410.4
BIOCHEMICAL OXYGEN DEMAND	SM 5210B
TOTAL ORGANIC CARBON	SM 5310C
CYANIDE, TOTAL	EPA 335.4
NON-FILTERABLE RESIDUE	SM 2540D
OIL AND GREASE	EPA 1664
PHENOLICS, TOTAL	EPA 420.4
VOLATILE HALOCARBONS	EPA 601
VOLATILE HALOCARBONS	EPA 624
VOLATILE AROMATICS	EPA 602
VOLATILE AROMATICS	EPA 624
SVOC-ACID EXTRACTABLES	EPA 625
SVOC-BASE/NEUTRAL EXTRACTABLES	EPA 625
POLYCHLORINATED BIPHENYLS (WATEF	EPA 608

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil
Sample Name: AP33 (22-24')
Lab Code: R1306722-001

Service Request: R1306722
Date Collected: 9/10/13 1103
Date Received: 9/13/13

Basis: As Received

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	84.1	Percent	1.0	1	NA	9/16/13 13:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/10/13 1103
Date Received: 9/13/13
Date Analyzed: 9/24/13 13:28

Sample Name: AP33 (22-24")
Lab Code: R1306722-001

Units: µg/Kg
Basis: Dry
Percent Solids: 84.1

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2309.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 52.5

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	310	U	310	
71-55-6	1,1,1-Trichloroethane (TCA)	2000		310	
79-34-5	1,1,2,2-Tetrachloroethane	310	U	310	
79-00-5	1,1,2-Trichloroethane	310	U	310	
75-34-3	1,1-Dichloroethane (1,1-DCA)	310	U	310	
75-35-4	1,1-Dichloroethene (1,1-DCE)	310	U	310	
563-58-6	1,1-Dichloropropene	310	U	310	
87-61-6	1,2,3-Trichlorobenzene	310	U	310	
96-18-4	1,2,3-Trichloropropane	310	U	310	
120-82-1	1,2,4-Trichlorobenzene	310	U	310	
95-63-6	1,2,4-Trimethylbenzene	310	U	310	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	310	U	310	
106-93-4	1,2-Dibromoethane	310	U	310	
95-50-1	1,2-Dichlorobenzene	310	U	310	
107-06-2	1,2-Dichloroethane	310	U	310	
78-87-5	1,2-Dichloropropane	310	U	310	
108-67-8	1,3,5-Trimethylbenzene	310	U	310	
541-73-1	1,3-Dichlorobenzene	310	U	310	
142-28-9	1,3-Dichloropropane	310	U	310	
106-46-7	1,4-Dichlorobenzene	310	U	310	
123-91-1	1,4-Dioxane	6200	U	6200	
594-20-7	2,2-Dichloropropane	310	U	310	
78-93-3	2-Butanone (MEK)	310	U	310	
95-49-8	2-Chlorotoluene	310	U	310	
591-78-6	2-Hexanone	310	U	310	
106-43-4	4-Chlorotoluene	310	U	310	
99-87-6	p-Isopropyltoluene	310	U	310	
108-10-1	4-Methyl-2-pentanone	310	U	310	
67-64-1	Acetone	310	U	310	
71-43-2	Benzene	310	U	310	
108-86-1	Bromobenzene	310	U	310	
74-97-5	Bromochloromethane	310	U	310	
75-27-4	Bromodichloromethane	310	U	310	
75-25-2	Bromoform	310	U	310	
74-83-9	Bromomethane	310	U	310	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/10/13 1103
Date Received: 9/13/13
Date Analyzed: 9/24/13 13:28

Sample Name: AP33 (22-24')
Lab Code: R1306722-001

Units: µg/Kg
Basis: Dry
Percent Solids: 84.1

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2309.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 52.5

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	310	U	310	
56-23-5	Carbon Tetrachloride	310	U	310	
108-90-7	Chlorobenzene	310	U	310	
75-00-3	Chloroethane	310	U	310	
67-66-3	Chloroform	310	U	310	
74-87-3	Chloromethane	310	U	310	
124-48-1	Dibromochloromethane	310	U	310	
74-95-3	Dibromomethane	310	U	310	
75-71-8	Dichlorodifluoromethane (CFC 12)	310	U	310	
75-09-2	Dichloromethane	310	U	310	
60-29-7	Diethyl Ether	310	U	310	
108-20-3	Diisopropyl Ether	310	U	310	
637-92-3	Ethyl tert-Butyl Ether	310	U	310	
100-41-4	Ethylbenzene	310	U	310	
87-68-3	Hexachlorobutadiene	310	U	310	
98-82-8	Isopropylbenzene (Cumene)	310	U	310	
1634-04-4	Methyl tert-Butyl Ether	310	U	310	
91-20-3	Naphthalene	310	U	310	
100-42-5	Styrene	310	U	310	
127-18-4	Tetrachloroethene (PCE)	310	U	310	
109-99-9	Tetrahydrofuran (THF)	310	U	310	
108-88-3	Toluene	310	U	310	
79-01-6	Trichloroethene (TCE)	310	U	310	
75-69-4	Trichlorofluoromethane (CFC 11)	310	U	310	
75-01-4	Vinyl Chloride	310	U	310	
156-59-2	cis-1,2-Dichloroethene	420		310	
10061-01-5	cis-1,3-Dichloropropene	310	U	310	
179601-23-1	m,p-Xylenes	620	U	620	
104-51-8	n-Butylbenzene	310	U	310	
103-65-1	n-Propylbenzene	310	U	310	
95-47-6	o-Xylene	310	U	310	
135-98-8	sec-Butylbenzene	310	U	310	
994-05-8	tert-Amyl Methyl Ether	310	U	310	
98-06-6	tert-Butylbenzene	310	U	310	
156-60-5	trans-1,2-Dichloroethene	310	U	310	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/10/13 1103
Date Received: 9/13/13
Date Analyzed: 9/24/13 13:28

Sample Name: AP33 (22-24')
Lab Code: R1306722-001

Units: µg/Kg
Basis: Dry
Percent Solids: 84.1

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2309.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 52.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	310 U	310	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	9/24/13 13:28	
Dibromofluoromethane	110	70-130	9/24/13 13:28	
Toluene-d8	94	70-130	9/24/13 13:28	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil
Sample Name: AP33 (24-26")
Lab Code: R1306722-002

Service Request: R1306722
Date Collected: 9/10/13 1145
Date Received: 9/13/13

Basis: As Received

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	91.8	Percent	1.0	1	NA	9/16/13 13:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Soil

Service Request: R1306722
 Date Collected: 9/10/13 1145
 Date Received: 9/13/13
 Date Analyzed: 9/24/13 13:59

Sample Name: AP33 (24-26')
 Lab Code: R1306722-002

Units: µg/Kg
 Basis: Dry
 Percent Solids: 91.8

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2310.D\

Analysis Lot: 359862
 Instrument Name: R-MS-10
 Dilution Factor: 30.5

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	170 U	170	
71-55-6	1,1,1-Trichloroethane (TCA)	1700	170	
79-34-5	1,1,2,2-Tetrachloroethane	170 U	170	
79-00-5	1,1,2-Trichloroethane	170 U	170	
75-34-3	1,1-Dichloroethane (1,1-DCA)	170 U	170	
75-35-4	1,1-Dichloroethene (1,1-DCE)	170 U	170	
563-58-6	1,1-Dichloropropene	170 U	170	
87-61-6	1,2,3-Trichlorobenzene	170 U	170	
96-18-4	1,2,3-Trichloropropane	170 U	170	
120-82-1	1,2,4-Trichlorobenzene	170 U	170	
95-63-6	1,2,4-Trimethylbenzene	170 U	170	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	170 U	170	
106-93-4	1,2-Dibromoethane	170 U	170	
95-50-1	1,2-Dichlorobenzene	170 U	170	
107-06-2	1,2-Dichloroethane	170 U	170	
78-87-5	1,2-Dichloropropane	170 U	170	
108-67-8	1,3,5-Trimethylbenzene	170 U	170	
541-73-1	1,3-Dichlorobenzene	170 U	170	
142-28-9	1,3-Dichloropropane	170 U	170	
106-46-7	1,4-Dichlorobenzene	170 U	170	
123-91-1	1,4-Dioxane	3300 U	3300	
594-20-7	2,2-Dichloropropane	170 U	170	
78-93-3	2-Butanone (MEK)	170 U	170	
95-49-8	2-Chlorotoluene	170 U	170	
591-78-6	2-Hexanone	170 U	170	
106-43-4	4-Chlorotoluene	170 U	170	
99-87-6	p-Isopropyltoluene	170 U	170	
108-10-1	4-Methyl-2-pentanone	170 U	170	
67-64-1	Acetone	190	170	
71-43-2	Benzene	170 U	170	
108-86-1	Bromobenzene	170 U	170	
74-97-5	Bromochloromethane	170 U	170	
75-27-4	Bromodichloromethane	170 U	170	
75-25-2	Bromoform	170 U	170	
74-83-9	Bromomethane	170 U	170	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Soil

Service Request: R1306722
 Date Collected: 9/10/13 1145
 Date Received: 9/13/13
 Date Analyzed: 9/24/13 13:59

Sample Name: AP33 (24-26')
 Lab Code: R1306722-002

Units: µg/Kg
 Basis: Dry
 Percent Solids: 91.8

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2310.D\

Analysis Lot: 359862
 Instrument Name: R-MS-10
 Dilution Factor: 30.5

CAS No.	Analyte Name	Result Q	MRL	Note
75-15-0	Carbon Disulfide	170 U	170	
56-23-5	Carbon Tetrachloride	170 U	170	
108-90-7	Chlorobenzene	170 U	170	
75-00-3	Chloroethane	170 U	170	
67-66-3	Chloroform	170 U	170	
74-87-3	Chloromethane	170 U	170	
124-48-1	Dibromochloromethane	170 U	170	
74-95-3	Dibromomethane	170 U	170	
75-71-8	Dichlorodifluoromethane (CFC 12)	170 U	170	
75-09-2	Dichloromethane	170 U	170	
60-29-7	Diethyl Ether	170 U	170	
108-20-3	Diisopropyl Ether	170 U	170	
637-92-3	Ethyl tert-Butyl Ether	170 U	170	
100-41-4	Ethylbenzene	170 U	170	
87-68-3	Hexachlorobutadiene	170 U	170	
98-82-8	Isopropylbenzene (Cumene)	170 U	170	
1634-04-4	Methyl tert-Butyl Ether	170 U	170	
91-20-3	Naphthalene	170 U	170	
100-42-5	Styrene	170 U	170	
127-18-4	Tetrachloroethene (PCE)	290	170	
109-99-9	Tetrahydrofuran (THF)	170 U	170	
108-88-3	Toluene	170 U	170	
79-01-6	Trichloroethene (TCE)	170 U	170	
75-69-4	Trichlorofluoromethane (CFC 11)	170 U	170	
75-01-4	Vinyl Chloride	520	170	
156-59-2	cis-1,2-Dichloroethene	1700	170	
10061-01-5	cis-1,3-Dichloropropene	170 U	170	
179601-23-1	m,p-Xylenes	330 U	330	
104-51-8	n-Butylbenzene	170 U	170	
103-65-1	n-Propylbenzene	170 U	170	
95-47-6	o-Xylene	170 U	170	
135-98-8	sec-Butylbenzene	170 U	170	
994-05-8	tert-Amyl Methyl Ether	170 U	170	
98-06-6	tert-Butylbenzene	170 U	170	
156-60-5	trans-1,2-Dichloroethene	170 U	170	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/10/13 1145
Date Received: 9/13/13
Date Analyzed: 9/24/13 13:59

Sample Name: AP33 (24-26")
Lab Code: R1306722-002

Units: µg/Kg
Basis: Dry
Percent Solids: 91.8

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa10\data\092413\F2310.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 30.5

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	170 U	170	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70-130	9/24/13 13:59	
Dibromofluoromethane	106	70-130	9/24/13 13:59	
Toluene-d8	93	70-130	9/24/13 13:59	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/11/13 0800
Date Received: 9/13/13
Date Analyzed: 9/23/13 12:18

Sample Name: AP33-DO
Lab Code: R1306722-003

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092313\C0444.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	500 U	500	
71-55-6	1,1,1-Trichloroethane (TCA)	19000	500	
79-34-5	1,1,2,2-Tetrachloroethane	500 U	500	
79-00-5	1,1,2-Trichloroethane	500 U	500	
75-34-3	1,1-Dichloroethane (1,1-DCA)	500 U	500	
75-35-4	1,1-Dichloroethene (1,1-DCE)	850	500	
563-58-6	1,1-Dichloropropene	500 U	500	
87-61-6	1,2,3-Trichlorobenzene	500 U	500	
96-18-4	1,2,3-Trichloropropane	500 U	500	
120-82-1	1,2,4-Trichlorobenzene	500 U	500	
95-63-6	1,2,4-Trimethylbenzene	500 U	500	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	500 U	500	
106-93-4	1,2-Dibromoethane	500 U	500	
95-50-1	1,2-Dichlorobenzene	500 U	500	
107-06-2	1,2-Dichloroethane	500 U	500	
78-87-5	1,2-Dichloropropane	500 U	500	
108-67-8	1,3,5-Trimethylbenzene	500 U	500	
541-73-1	1,3-Dichlorobenzene	500 U	500	
142-28-9	1,3-Dichloropropane	500 U	500	
106-46-7	1,4-Dichlorobenzene	500 U	500	
123-91-1	1,4-Dioxane	10000 U	10000	
594-20-7	2,2-Dichloropropane	500 U	500	
78-93-3	2-Butanone (MEK)	2500 U	2500	
95-49-8	2-Chlorotoluene	500 U	500	
591-78-6	2-Hexanone	2500 U	2500	
106-43-4	4-Chlorotoluene	500 U	500	
99-87-6	p-Isopropyltoluene	500 U	500	
108-10-1	4-Methyl-2-pentanone	2500 U	2500	
67-64-1	Acetone	2500 U	2500	
71-43-2	Benzene	500 U	500	
108-86-1	Bromobenzene	500 U	500	
74-97-5	Bromochloromethane	500 U	500	
75-27-4	Bromodichloromethane	500 U	500	
75-25-2	Bromoform	500 U	500	
74-83-9	Bromomethane	500 U	500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/11/13 0800
Date Received: 9/13/13
Date Analyzed: 9/23/13 12:18

Sample Name: AP33-DO
Lab Code: R1306722-003

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092313\C0444.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 250

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	500	U	500	
56-23-5	Carbon Tetrachloride	500	U	500	
108-90-7	Chlorobenzene	500	U	500	
75-00-3	Chloroethane	500	U	500	
67-66-3	Chloroform	500	U	500	
74-87-3	Chloromethane	500	U	500	
124-48-1	Dibromochloromethane	500	U	500	
74-95-3	Dibromomethane	500	U	500	
75-71-8	Dichlorodifluoromethane (CFC 12)	500	U	500	
75-09-2	Dichloromethane	500	U	500	
60-29-7	Diethyl Ether	500	U	500	
108-20-3	Diisopropyl Ether	500	U	500	
637-92-3	Ethyl tert-Butyl Ether	500	U	500	
100-41-4	Ethylbenzene	500	U	500	
87-68-3	Hexachlorobutadiene	500	U	500	
98-82-8	Isopropylbenzene (Cumene)	500	U	500	
1634-04-4	Methyl tert-Butyl Ether	500	U	500	
91-20-3	Naphthalene	500	U	500	
100-42-5	Styrene	500	U	500	
127-18-4	Tetrachloroethene (PCE)	24000		500	
109-99-9	Tetrahydrofuran (THF)	500	U	500	
108-88-3	Toluene	500	U	500	
79-01-6	Trichloroethene (TCE)	26000		500	
75-69-4	Trichlorofluoromethane (CFC 11)	500	U	500	
75-01-4	Vinyl Chloride	740		500	
156-59-2	cis-1,2-Dichloroethene	4600		500	
10061-01-5	cis-1,3-Dichloropropene	500	U	500	
179601-23-1	m,p-Xylenes	500	U	500	
104-51-8	n-Butylbenzene	500	U	500	
103-65-1	n-Propylbenzene	500	U	500	
95-47-6	o-Xylene	500	U	500	
135-98-8	sec-Butylbenzene	500	U	500	
994-05-8	tert-Amyl Methyl Ether	500	U	500	
98-06-6	tert-Butylbenzene	500	U	500	
156-60-5	trans-1,2-Dichloroethene	500	U	500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/11/13 0800
Date Received: 9/13/13
Date Analyzed: 9/23/13 12:18

Sample Name: AP33-DO
Lab Code: R1306722-003

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\092313\C0444.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	500 U	500	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	70-130	9/23/13 12:18	
Dibromofluoromethane	101	70-130	9/23/13 12:18	
Toluene-d8	95	70-130	9/23/13 12:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Soil
 Sample Name: AP34 (21-23')
 Lab Code: R1306722-004

Service Request: R1306722
 Date Collected: 9/11/13 1145
 Date Received: 9/13/13

Basis: As Received

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	86.2	Percent	1.0	1	NA	9/16/13 13:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1145
Date Received: 9/13/13
Date Analyzed: 9/24/13 14:29

Sample Name: AP34 (21-23')
Lab Code: R1306722-004

Units: µg/Kg
Basis: Dry
Percent Solids: 86.2

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2311.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 48

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	280	U	280	
71-55-6	1,1,1-Trichloroethane (TCA)	280	U	280	
79-34-5	1,1,2,2-Tetrachloroethane	280	U	280	
79-00-5	1,1,2-Trichloroethane	280	U	280	
75-34-3	1,1-Dichloroethane (1,1-DCA)	280	U	280	
75-35-4	1,1-Dichloroethene (1,1-DCE)	280	U	280	
563-58-6	1,1-Dichloropropene	280	U	280	
87-61-6	1,2,3-Trichlorobenzene	280	U	280	
96-18-4	1,2,3-Trichloropropane	280	U	280	
120-82-1	1,2,4-Trichlorobenzene	280	U	280	
95-63-6	1,2,4-Trimethylbenzene	280	U	280	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	280	U	280	
106-93-4	1,2-Dibromoethane	280	U	280	
95-50-1	1,2-Dichlorobenzene	280	U	280	
107-06-2	1,2-Dichloroethane	280	U	280	
78-87-5	1,2-Dichloropropane	280	U	280	
108-67-8	1,3,5-Trimethylbenzene	280	U	280	
541-73-1	1,3-Dichlorobenzene	280	U	280	
142-28-9	1,3-Dichloropropane	280	U	280	
106-46-7	1,4-Dichlorobenzene	280	U	280	
123-91-1	1,4-Dioxane	5600	U	5600	
594-20-7	2,2-Dichloropropane	280	U	280	
78-93-3	2-Butanone (MEK)	280	U	280	
95-49-8	2-Chlorotoluene	280	U	280	
591-78-6	2-Hexanone	280	U	280	
106-43-4	4-Chlorotoluene	280	U	280	
99-87-6	p-Isopropyltoluene	280	U	280	
108-10-1	4-Methyl-2-pentanone	280	U	280	
67-64-1	Acetone	280	U	280	
71-43-2	Benzene	280	U	280	
108-86-1	Bromobenzene	280	U	280	
74-97-5	Bromochloromethane	280	U	280	
75-27-4	Bromodichloromethane	280	U	280	
75-25-2	Bromoform	280	U	280	
74-83-9	Bromomethane	280	U	280	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1145
Date Received: 9/13/13
Date Analyzed: 9/24/13 14:29

Sample Name: AP34 (21-23')
Lab Code: R1306722-004

Units: µg/Kg
Basis: Dry
Percent Solids: 86.2

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2311.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 48

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	280	U	280	
56-23-5	Carbon Tetrachloride	280	U	280	
108-90-7	Chlorobenzene	280	U	280	
75-00-3	Chloroethane	280	U	280	
67-66-3	Chloroform	280	U	280	
74-87-3	Chloromethane	280	U	280	
124-48-1	Dibromochloromethane	280	U	280	
74-95-3	Dibromomethane	280	U	280	
75-71-8	Dichlorodifluoromethane (CFC 12)	280	U	280	
75-09-2	Dichloromethane	280	U	280	
60-29-7	Diethyl Ether	280	U	280	
108-20-3	Diisopropyl Ether	280	U	280	
637-92-3	Ethyl tert-Butyl Ether	280	U	280	
100-41-4	Ethylbenzene	280	U	280	
87-68-3	Hexachlorobutadiene	280	U	280	
98-82-8	Isopropylbenzene (Cumene)	280	U	280	
1634-04-4	Methyl tert-Butyl Ether	280	U	280	
91-20-3	Naphthalene	280	U	280	
100-42-5	Styrene	280	U	280	
127-18-4	Tetrachloroethene (PCE)	280	U	280	
109-99-9	Tetrahydrofuran (THF)	280	U	280	
108-88-3	Toluene	280	U	280	
79-01-6	Trichloroethene (TCE)	280	U	280	
75-69-4	Trichlorofluoromethane (CFC 11)	280	U	280	
75-01-4	Vinyl Chloride	280	U	280	
156-59-2	cis-1,2-Dichloroethene	280	U	280	
10061-01-5	cis-1,3-Dichloropropene	280	U	280	
179601-23-1	m,p-Xylenes	560	U	560	
104-51-8	n-Butylbenzene	280	U	280	
103-65-1	n-Propylbenzene	280	U	280	
95-47-6	o-Xylene	280	U	280	
135-98-8	sec-Butylbenzene	280	U	280	
994-05-8	tert-Amyl Methyl Ether	280	U	280	
98-06-6	tert-Butylbenzene	280	U	280	
156-60-5	trans-1,2-Dichloroethene	280	U	280	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1145
Date Received: 9/13/13
Date Analyzed: 9/24/13 14:29

Sample Name: AP34 (21-23')
Lab Code: R1306722-004

Units: µg/Kg
Basis: Dry
Percent Solids: 86.2

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa10\data\092413\F2311.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 48

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	280 U	280	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
4-Bromofluorobenzene	90	70-130	9/24/13 14:29
Dibromofluoromethane	108	70-130	9/24/13 14:29
Toluene-d8	94	70-130	9/24/13 14:29

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil
Sample Name: AP34 (34-36')
Lab Code: R1306722-005

Service Request: R1306722
Date Collected: 9/11/13 1200
Date Received: 9/13/13

Basis: As Received

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	85.0	Percent	1.0	1	NA	9/16/13 13:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1200
Date Received: 9/13/13
Date Analyzed: 9/24/13 15:00

Sample Name: AP34 (34-36')
Lab Code: R1306722-005

Units: µg/Kg
Basis: Dry
Percent Solids: 85.0

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2312.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 265

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	1600	U	1600	
71-55-6	1,1,1-Trichloroethane (TCA)	1600	U	1600	
79-34-5	1,1,2,2-Tetrachloroethane	1600	U	1600	
79-00-5	1,1,2-Trichloroethane	1600	U	1600	
75-34-3	1,1-Dichloroethane (1,1-DCA)	1600	U	1600	
75-35-4	1,1-Dichloroethene (1,1-DCE)	1600	U	1600	
563-58-6	1,1-Dichloropropene	1600	U	1600	
87-61-6	1,2,3-Trichlorobenzene	1600	U	1600	
96-18-4	1,2,3-Trichloropropane	1600	U	1600	
120-82-1	1,2,4-Trichlorobenzene	1600	U	1600	
95-63-6	1,2,4-Trimethylbenzene	1600	U	1600	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	1600	U	1600	
106-93-4	1,2-Dibromoethane	1600	U	1600	
95-50-1	1,2-Dichlorobenzene	1600	U	1600	
107-06-2	1,2-Dichloroethane	1600	U	1600	
78-87-5	1,2-Dichloropropane	1600	U	1600	
108-67-8	1,3,5-Trimethylbenzene	1600	U	1600	
541-73-1	1,3-Dichlorobenzene	1600	U	1600	
142-28-9	1,3-Dichloropropane	1600	U	1600	
106-46-7	1,4-Dichlorobenzene	1600	U	1600	
123-91-1	1,4-Dioxane	31000	U	31000	
594-20-7	2,2-Dichloropropane	1600	U	1600	
78-93-3	2-Butanone (MEK)	1600	U	1600	
95-49-8	2-Chlorotoluene	1600	U	1600	
591-78-6	2-Hexanone	1600	U	1600	
106-43-4	4-Chlorotoluene	1600	U	1600	
99-87-6	p-Isopropyltoluene	1600	U	1600	
108-10-1	4-Methyl-2-pentanone	1600	U	1600	
67-64-1	Acetone	12000		1600	
71-43-2	Benzene	1600	U	1600	
108-86-1	Bromobenzene	1600	U	1600	
74-97-5	Bromochloromethane	1600	U	1600	
75-27-4	Bromodichloromethane	1600	U	1600	
75-25-2	Bromoform	1600	U	1600	
74-83-9	Bromomethane	1600	U	1600	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1200
Date Received: 9/13/13
Date Analyzed: 9/24/13 15:00

Sample Name: AP34 (34-36")
Lab Code: R1306722-005

Units: µg/Kg
Basis: Dry
Percent Solids: 85.0

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2312.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 265

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	1600	U	1600	
56-23-5	Carbon Tetrachloride	1600	U	1600	
108-90-7	Chlorobenzene	1600	U	1600	
75-00-3	Chloroethane	1600	U	1600	
67-66-3	Chloroform	1600	U	1600	
74-87-3	Chloromethane	1600	U	1600	
124-48-1	Dibromochloromethane	1600	U	1600	
74-95-3	Dibromomethane	1600	U	1600	
75-71-8	Dichlorodifluoromethane (CFC 12)	1600	U	1600	
75-09-2	Dichloromethane	1600	U	1600	
60-29-7	Diethyl Ether	1600	U	1600	
108-20-3	Diisopropyl Ether	1600	U	1600	
637-92-3	Ethyl tert-Butyl Ether	1600	U	1600	
100-41-4	Ethylbenzene	1600	U	1600	
87-68-3	Hexachlorobutadiene	1600	U	1600	
98-82-8	Isopropylbenzene (Cumene)	1600	U	1600	
1634-04-4	Methyl tert-Butyl Ether	1600	U	1600	
91-20-3	Naphthalene	1600	U	1600	
100-42-5	Styrene	1600	U	1600	
127-18-4	Tetrachloroethene (PCE)	52000		1600	
109-99-9	Tetrahydrofuran (THF)	1600	U	1600	
108-88-3	Toluene	1600	U	1600	
79-01-6	Trichloroethene (TCE)	69000	E	1600	
75-69-4	Trichlorofluoromethane (CFC 11)	1600	U	1600	
75-01-4	Vinyl Chloride	1600	U	1600	
156-59-2	cis-1,2-Dichloroethene	1600	U	1600	
10061-01-5	cis-1,3-Dichloropropene	1600	U	1600	
179601-23-1	m,p-Xylenes	3100	U	3100	
104-51-8	n-Butylbenzene	1600	U	1600	
103-65-1	n-Propylbenzene	1600	U	1600	
95-47-6	o-Xylene	1600	U	1600	
135-98-8	sec-Butylbenzene	1600	U	1600	
994-05-8	tert-Amyl Methyl Ether	1600	U	1600	
98-06-6	tert-Butylbenzene	1600	U	1600	
156-60-5	trans-1,2-Dichloroethene	1600	U	1600	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1200
Date Received: 9/13/13
Date Analyzed: 9/24/13 15:00

Sample Name: AP34 (34-36')
Lab Code: R1306722-005

Units: µg/Kg
Basis: Dry
Percent Solids: 85.0

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2312.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 265

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	1600 U	1600	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
4-Bromofluorobenzene	90	70-130	9/24/13 15:00
Dibromofluoromethane	107	70-130	9/24/13 15:00
Toluene-d8	94	70-130	9/24/13 15:00

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1200
Date Received: 9/13/13
Date Analyzed: 9/24/13 16:00

Sample Name: AP34 (34-36)
Lab Code: R1306722-005
Run Type: Dilution

Units: µg/Kg
Basis: Dry
Percent Solids: 85.0

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2314.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 530

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	3100	U	3100	
71-55-6	1,1,1-Trichloroethane (TCA)	3100	U	3100	
79-34-5	1,1,2,2-Tetrachloroethane	3100	U	3100	
79-00-5	1,1,2-Trichloroethane	3100	U	3100	
75-34-3	1,1-Dichloroethane (1,1-DCA)	3100	U	3100	
75-35-4	1,1-Dichloroethene (1,1-DCE)	3100	U	3100	
563-58-6	1,1-Dichloropropene	3100	U	3100	
87-61-6	1,2,3-Trichlorobenzene	3100	U	3100	
96-18-4	1,2,3-Trichloropropane	3100	U	3100	
120-82-1	1,2,4-Trichlorobenzene	3100	U	3100	
95-63-6	1,2,4-Trimethylbenzene	3100	U	3100	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	3100	U	3100	
106-93-4	1,2-Dibromoethane	3100	U	3100	
95-50-1	1,2-Dichlorobenzene	3100	U	3100	
107-06-2	1,2-Dichloroethane	3100	U	3100	
78-87-5	1,2-Dichloropropane	3100	U	3100	
108-67-8	1,3,5-Trimethylbenzene	3100	U	3100	
541-73-1	1,3-Dichlorobenzene	3100	U	3100	
142-28-9	1,3-Dichloropropane	3100	U	3100	
106-46-7	1,4-Dichlorobenzene	3100	U	3100	
123-91-1	1,4-Dioxane	62000	U	62000	
594-20-7	2,2-Dichloropropane	3100	U	3100	
78-93-3	2-Butanone (MEK)	3100	U	3100	
95-49-8	2-Chlorotoluene	3100	U	3100	
591-78-6	2-Hexanone	3100	U	3100	
106-43-4	4-Chlorotoluene	3100	U	3100	
99-87-6	p-Isopropyltoluene	3100	U	3100	
108-10-1	4-Methyl-2-pentanone	3100	U	3100	
67-64-1	Acetone	11000	D	3100	
71-43-2	Benzene	3100	U	3100	
108-86-1	Bromobenzene	3100	U	3100	
74-97-5	Bromochloromethane	3100	U	3100	
75-27-4	Bromodichloromethane	3100	U	3100	
75-25-2	Bromoform	3100	U	3100	
74-83-9	Bromomethane	3100	U	3100	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1200
Date Received: 9/13/13
Date Analyzed: 9/24/13 16:00

Sample Name: AP34 (34-36')
Lab Code: R1306722-005
Run Type: Dilution

Units: µg/Kg
Basis: Dry
Percent Solids: 85.0

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2314.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 530

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	3100	U	3100	
56-23-5	Carbon Tetrachloride	3100	U	3100	
108-90-7	Chlorobenzene	3100	U	3100	
75-00-3	Chloroethane	3100	U	3100	
67-66-3	Chloroform	3100	U	3100	
74-87-3	Chloromethane	3100	U	3100	
124-48-1	Dibromochloromethane	3100	U	3100	
74-95-3	Dibromomethane	3100	U	3100	
75-71-8	Dichlorodifluoromethane (CFC 12)	3100	U	3100	
75-09-2	Dichloromethane	3100	U	3100	
60-29-7	Diethyl Ether	3100	U	3100	
108-20-3	Diisopropyl Ether	3100	U	3100	
637-92-3	Ethyl tert-Butyl Ether	3100	U	3100	
100-41-4	Ethylbenzene	3100	U	3100	
87-68-3	Hexachlorobutadiene	3100	U	3100	
98-82-8	Isopropylbenzene (Cumene)	3100	U	3100	
1634-04-4	Methyl tert-Butyl Ether	3100	U	3100	
91-20-3	Naphthalene	3100	U	3100	
100-42-5	Styrene	3100	U	3100	
127-18-4	Tetrachloroethene (PCE)	54000	D	3100	
109-99-9	Tetrahydrofuran (THF)	3100	U	3100	
108-88-3	Toluene	3100	U	3100	
79-01-6	Trichloroethene (TCE)	70000	D	3100	
75-69-4	Trichlorofluoromethane (CFC 11)	3100	U	3100	
75-01-4	Vinyl Chloride	3100	U	3100	
156-59-2	cis-1,2-Dichloroethene	3100	U	3100	
10061-01-5	cis-1,3-Dichloropropene	3100	U	3100	
179601-23-1	m,p-Xylenes	6200	U	6200	
104-51-8	n-Butylbenzene	3100	U	3100	
103-65-1	n-Propylbenzene	3100	U	3100	
95-47-6	o-Xylene	3100	U	3100	
135-98-8	sec-Butylbenzene	3100	U	3100	
994-05-8	tert-Amyl Methyl Ether	3100	U	3100	
98-06-6	tert-Butylbenzene	3100	U	3100	
156-60-5	trans-1,2-Dichloroethene	3100	U	3100	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/11/13 1200
Date Received: 9/13/13
Date Analyzed: 9/24/13 16:00

Sample Name: AP34 (34-36')
Lab Code: R1306722-005
Run Type: Dilution

Units: µg/Kg
Basis: Dry
Percent Solids: 85.0

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2314.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 530

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	3100 U	3100	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	9/24/13 16:00	
Dibromofluoromethane	106	70-130	9/24/13 16:00	
Toluene-d8	95	70-130	9/24/13 16:00	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/11/13 1430
Date Received: 9/13/13
Date Analyzed: 9/23/13 12:45

Sample Name: AP34-DO
Lab Code: R1306722-006

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092313\C0445.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	500 U	500	
71-55-6	1,1,1-Trichloroethane (TCA)	500 U	500	
79-34-5	1,1,2,2-Tetrachloroethane	500 U	500	
79-00-5	1,1,2-Trichloroethane	500 U	500	
75-34-3	1,1-Dichloroethane (1,1-DCA)	500 U	500	
75-35-4	1,1-Dichloroethene (1,1-DCE)	500 U	500	
563-58-6	1,1-Dichloropropene	500 U	500	
87-61-6	1,2,3-Trichlorobenzene	500 U	500	
96-18-4	1,2,3-Trichloropropane	500 U	500	
120-82-1	1,2,4-Trichlorobenzene	500 U	500	
95-63-6	1,2,4-Trimethylbenzene	500 U	500	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	500 U	500	
106-93-4	1,2-Dibromoethane	500 U	500	
95-50-1	1,2-Dichlorobenzene	500 U	500	
107-06-2	1,2-Dichloroethane	500 U	500	
78-87-5	1,2-Dichloropropane	500 U	500	
108-67-8	1,3,5-Trimethylbenzene	500 U	500	
541-73-1	1,3-Dichlorobenzene	500 U	500	
142-28-9	1,3-Dichloropropane	500 U	500	
106-46-7	1,4-Dichlorobenzene	500 U	500	
123-91-1	1,4-Dioxane	10000 U	10000	
594-20-7	2,2-Dichloropropane	500 U	500	
78-93-3	2-Butanone (MEK)	2500 U	2500	
95-49-8	2-Chlorotoluene	500 U	500	
591-78-6	2-Hexanone	2500 U	2500	
106-43-4	4-Chlorotoluene	500 U	500	
99-87-6	p-Isopropyltoluene	500 U	500	
108-10-1	4-Methyl-2-pentanone	2500 U	2500	
67-64-1	Acetone	2500 U	2500	
71-43-2	Benzene	500 U	500	
108-86-1	Bromobenzene	500 U	500	
74-97-5	Bromochloromethane	500 U	500	
75-27-4	Bromodichloromethane	500 U	500	
75-25-2	Bromoform	500 U	500	
74-83-9	Bromomethane	500 U	500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/11/13 1430
Date Received: 9/13/13
Date Analyzed: 9/23/13 12:45

Sample Name: AP34-DO
Lab Code: R1306722-006

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQDATA\MSVOA8\DATA\092313\C0445.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 250

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	500	U	500	
56-23-5	Carbon Tetrachloride	500	U	500	
108-90-7	Chlorobenzene	500	U	500	
75-00-3	Chloroethane	500	U	500	
67-66-3	Chloroform	500	U	500	
74-87-3	Chloromethane	500	U	500	
124-48-1	Dibromochloromethane	500	U	500	
74-95-3	Dibromomethane	500	U	500	
75-71-8	Dichlorodifluoromethane (CFC 12)	500	U	500	
75-09-2	Dichloromethane	500	U	500	
60-29-7	Diethyl Ether	500	U	500	
108-20-3	Diisopropyl Ether	500	U	500	
637-92-3	Ethyl tert-Butyl Ether	500	U	500	
100-41-4	Ethylbenzene	500	U	500	
87-68-3	Hexachlorobutadiene	500	U	500	
98-82-8	Isopropylbenzene (Cumene)	500	U	500	
1634-04-4	Methyl tert-Butyl Ether	500	U	500	
91-20-3	Naphthalene	500	U	500	
100-42-5	Styrene	500	U	500	
127-18-4	Tetrachloroethene (PCE)	35000		500	
109-99-9	Tetrahydrofuran (THF)	500	U	500	
108-88-3	Toluene	500	U	500	
79-01-6	Trichloroethene (TCE)	25000		500	
75-69-4	Trichlorofluoromethane (CFC 11)	500	U	500	
75-01-4	Vinyl Chloride	500	U	500	
156-59-2	cis-1,2-Dichloroethene	730		500	
10061-01-5	cis-1,3-Dichloropropene	500	U	500	
179601-23-1	m,p-Xylenes	500	U	500	
104-51-8	n-Butylbenzene	500	U	500	
103-65-1	n-Propylbenzene	500	U	500	
95-47-6	o-Xylene	500	U	500	
135-98-8	sec-Butylbenzene	500	U	500	
994-05-8	tert-Amyl Methyl Ether	500	U	500	
98-06-6	tert-Butylbenzene	500	U	500	
156-60-5	trans-1,2-Dichloroethene	500	U	500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/11/13 1430
Date Received: 9/13/13
Date Analyzed: 9/23/13 12:45

Sample Name: AP34-DO
Lab Code: R1306722-006

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\092313\C0445.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	500 U	500	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	70-130	9/23/13 12:45	
Dibromofluoromethane	98	70-130	9/23/13 12:45	
Toluene-d8	94	70-130	9/23/13 12:45	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil
Sample Name: AP35 (33-35')
Lab Code: R1306722-007

Service Request: R1306722
Date Collected: 9/12/13 1000
Date Received: 9/13/13

Basis: As Received

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	86.9	Percent	1.0	1	NA	9/16/13 13:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/12/13 1000
Date Received: 9/13/13
Date Analyzed: 9/24/13 05:43

Sample Name: AP35 (33-35')
Lab Code: R1306722-007

Units: µg/Kg
Basis: Dry
Percent Solids: 86.9

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092313\F2296.D\

Analysis Lot: 359703
Instrument Name: R-MS-10
Dilution Factor: 4600

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	26000	U	26000	
71-55-6	1,1,1-Trichloroethane (TCA)	26000	U	26000	
79-34-5	1,1,2,2-Tetrachloroethane	26000	U	26000	
79-00-5	1,1,2-Trichloroethane	26000	U	26000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	26000	U	26000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	26000	U	26000	
563-58-6	1,1-Dichloropropene	26000	U	26000	
87-61-6	1,2,3-Trichlorobenzene	26000	U	26000	
96-18-4	1,2,3-Trichloropropane	26000	U	26000	
120-82-1	1,2,4-Trichlorobenzene	26000	U	26000	
95-63-6	1,2,4-Trimethylbenzene	26000	U	26000	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	26000	U	26000	
106-93-4	1,2-Dibromoethane	26000	U	26000	
95-50-1	1,2-Dichlorobenzene	26000	U	26000	
107-06-2	1,2-Dichloroethane	26000	U	26000	
78-87-5	1,2-Dichloropropane	26000	U	26000	
108-67-8	1,3,5-Trimethylbenzene	26000	U	26000	
541-73-1	1,3-Dichlorobenzene	26000	U	26000	
142-28-9	1,3-Dichloropropane	26000	U	26000	
106-46-7	1,4-Dichlorobenzene	26000	U	26000	
123-91-1	1,4-Dioxane	530000	U	530000	
594-20-7	2,2-Dichloropropane	26000	U	26000	
78-93-3	2-Butanone (MEK)	26000	U	26000	
95-49-8	2-Chlorotoluene	26000	U	26000	
591-78-6	2-Hexanone	26000	U	26000	
106-43-4	4-Chlorotoluene	26000	U	26000	
99-87-6	p-Isopropyltoluene	26000	U	26000	
108-10-1	4-Methyl-2-pentanone	26000	U	26000	
67-64-1	Acetone	26000	U	26000	
71-43-2	Benzene	26000	U	26000	
108-86-1	Bromobenzene	26000	U	26000	
74-97-5	Bromochloromethane	26000	U	26000	
75-27-4	Bromodichloromethane	26000	U	26000	
75-25-2	Bromoform	26000	U	26000	
74-83-9	Bromomethane	26000	U	26000	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/12/13 1000
Date Received: 9/13/13
Date Analyzed: 9/24/13 05:43

Sample Name: AP35 (33-35')
Lab Code: R1306722-007

Units: µg/Kg
Basis: Dry
Percent Solids: 86.9

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoo10\data\092313\F2296.D\

Analysis Lot: 359703
Instrument Name: R-MS-10
Dilution Factor: 4600

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	26000	U	26000	
56-23-5	Carbon Tetrachloride	26000	U	26000	
108-90-7	Chlorobenzene	26000	U	26000	
75-00-3	Chloroethane	26000	U	26000	
67-66-3	Chloroform	26000	U	26000	
74-87-3	Chloromethane	26000	U	26000	
124-48-1	Dibromochloromethane	26000	U	26000	
74-95-3	Dibromomethane	26000	U	26000	
75-71-8	Dichlorodifluoromethane (CFC 12)	26000	U	26000	
75-09-2	Dichloromethane	26000	U	26000	
60-29-7	Diethyl Ether	26000	U	26000	
108-20-3	Diisopropyl Ether	26000	U	26000	
637-92-3	Ethyl tert-Butyl Ether	26000	U	26000	
100-41-4	Ethylbenzene	26000	U	26000	
87-68-3	Hexachlorobutadiene	26000	U	26000	
98-82-8	Isopropylbenzene (Cumene)	26000	U	26000	
1634-04-4	Methyl tert-Butyl Ether	26000	U	26000	
91-20-3	Naphthalene	26000	U	26000	
100-42-5	Styrene	26000	U	26000	
127-18-4	Tetrachloroethene (PCE)	740000		26000	
109-99-9	Tetrahydrofuran (THF)	26000	U	26000	
108-88-3	Toluene	26000	U	26000	
79-01-6	Trichloroethene (TCE)	450000		26000	
75-69-4	Trichlorofluoromethane (CFC 11)	26000	U	26000	
75-01-4	Vinyl Chloride	26000	U	26000	
156-59-2	cis-1,2-Dichloroethene	26000	U	26000	
10061-01-5	cis-1,3-Dichloropropene	26000	U	26000	
179601-23-1	m,p-Xylenes	53000	U	53000	
104-51-8	n-Butylbenzene	26000	U	26000	
103-65-1	n-Propylbenzene	26000	U	26000	
95-47-6	o-Xylene	26000	U	26000	
135-98-8	sec-Butylbenzene	26000	U	26000	
994-05-8	tert-Amyl Methyl Ether	26000	U	26000	
98-06-6	tert-Butylbenzene	26000	U	26000	
156-60-5	trans-1,2-Dichloroethene	26000	U	26000	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/12/13 1000
Date Received: 9/13/13
Date Analyzed: 9/24/13 05:43

Sample Name: AP35 (33-35')
Lab Code: R1306722-007

Units: µg/Kg
Basis: Dry
Percent Solids: 86.9

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092313\F2296.D\

Analysis Lot: 359703
Instrument Name: R-MS-10
Dilution Factor: 4600

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	26000 U	26000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	9/24/13 05:43	
Dibromofluoromethane	109	70-130	9/24/13 05:43	
Toluene-d8	94	70-130	9/24/13 05:43	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil
Sample Name: 0912-DRUM-01
Lab Code: R1306722-008

Service Request: R1306722
Date Collected: 9/12/13 1030
Date Received: 9/13/13

Basis: As Received

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	84.1	Percent	1.0	1	NA	9/16/13 13:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/12/13 1030
Date Received: 9/13/13
Date Analyzed: 9/24/13 15:30

Sample Name: 0912-DRUM-01
Lab Code: R1306722-008

Units: µg/Kg
Basis: Dry
Percent Solids: 84.1

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2313.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 68

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	400	U	400	
71-55-6	1,1,1-Trichloroethane (TCA)	400	U	400	
79-34-5	1,1,2,2-Tetrachloroethane	400	U	400	
79-00-5	1,1,2-Trichloroethane	400	U	400	
75-34-3	1,1-Dichloroethane (1,1-DCA)	400	U	400	
75-35-4	1,1-Dichloroethene (1,1-DCE)	400	U	400	
563-58-6	1,1-Dichloropropene	400	U	400	
87-61-6	1,2,3-Trichlorobenzene	400	U	400	
96-18-4	1,2,3-Trichloropropane	400	U	400	
120-82-1	1,2,4-Trichlorobenzene	400	U	400	
95-63-6	1,2,4-Trimethylbenzene	400	U	400	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	400	U	400	
106-93-4	1,2-Dibromoethane	400	U	400	
95-50-1	1,2-Dichlorobenzene	400	U	400	
107-06-2	1,2-Dichloroethane	400	U	400	
78-87-5	1,2-Dichloropropane	400	U	400	
108-67-8	1,3,5-Trimethylbenzene	400	U	400	
541-73-1	1,3-Dichlorobenzene	400	U	400	
142-28-9	1,3-Dichloropropane	400	U	400	
106-46-7	1,4-Dichlorobenzene	400	U	400	
123-91-1	1,4-Dioxane	8100	U	8100	
594-20-7	2,2-Dichloropropane	400	U	400	
78-93-3	2-Butanone (MEK)	400	U	400	
95-49-8	2-Chlorotoluene	400	U	400	
591-78-6	2-Hexanone	400	U	400	
106-43-4	4-Chlorotoluene	400	U	400	
99-87-6	p-Isopropyltoluene	400	U	400	
108-10-1	4-Methyl-2-pentanone	400	U	400	
67-64-1	Acetone	400	U	400	
71-43-2	Benzene	400	U	400	
108-86-1	Bromobenzene	400	U	400	
74-97-5	Bromochloromethane	400	U	400	
75-27-4	Bromodichloromethane	400	U	400	
75-25-2	Bromoform	400	U	400	
74-83-9	Bromomethane	400	U	400	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Soil

Service Request: R1306722
 Date Collected: 9/12/13 1030
 Date Received: 9/13/13
 Date Analyzed: 9/24/13 15:30

Sample Name: 0912-DRUM-01
 Lab Code: R1306722-008

Units: µg/Kg
 Basis: Dry
 Percent Solids: 84.1

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2313.D\

Analysis Lot: 359862
 Instrument Name: R-MS-10
 Dilution Factor: 68

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	400	U	400	
56-23-5	Carbon Tetrachloride	400	U	400	
108-90-7	Chlorobenzene	400	U	400	
75-00-3	Chloroethane	400	U	400	
67-66-3	Chloroform	400	U	400	
74-87-3	Chloromethane	400	U	400	
124-48-1	Dibromochloromethane	400	U	400	
74-95-3	Dibromomethane	400	U	400	
75-71-8	Dichlorodifluoromethane (CFC 12)	400	U	400	
75-09-2	Dichloromethane	400	U	400	
60-29-7	Diethyl Ether	400	U	400	
108-20-3	Diisopropyl Ether	400	U	400	
637-92-3	Ethyl tert-Butyl Ether	400	U	400	
100-41-4	Ethylbenzene	400	U	400	
87-68-3	Hexachlorobutadiene	400	U	400	
98-82-8	Isopropylbenzene (Cumene)	400	U	400	
1634-04-4	Methyl tert-Butyl Ether	400	U	400	
91-20-3	Naphthalene	400	U	400	
100-42-5	Styrene	400	U	400	
127-18-4	Tetrachloroethene (PCE)	8100		400	
109-99-9	Tetrahydrofuran (THF)	400	U	400	
108-88-3	Toluene	400	U	400	
79-01-6	Trichloroethene (TCE)	1800		400	
75-69-4	Trichlorofluoromethane (CFC 11)	400	U	400	
75-01-4	Vinyl Chloride	400	U	400	
156-59-2	cis-1,2-Dichloroethene	1100		400	
10061-01-5	cis-1,3-Dichloropropene	400	U	400	
179601-23-1	m,p-Xylenes	810	U	810	
104-51-8	n-Butylbenzene	400	U	400	
103-65-1	n-Propylbenzene	400	U	400	
95-47-6	o-Xylene	400	U	400	
135-98-8	sec-Butylbenzene	400	U	400	
994-05-8	tert-Amyl Methyl Ether	400	U	400	
98-06-6	tert-Butylbenzene	400	U	400	
156-60-5	trans-1,2-Dichloroethene	400	U	400	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: 9/12/13 1030
Date Received: 9/13/13
Date Analyzed: 9/24/13 15:30

Sample Name: 0912-DRUM-01
Lab Code: R1306722-008

Units: µg/Kg
Basis: Dry
Percent Solids: 84.1

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUADATA\msvoa10\data\092413\F2313.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 68

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	400 U	400	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	70-130	9/24/13 15:30	
Dibromofluoromethane	107	70-130	9/24/13 15:30	
Toluene-d8	95	70-130	9/24/13 15:30	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/12/13 1230
Date Received: 9/13/13
Date Analyzed: 9/21/13 19:36

Sample Name: AP35-DO
Lab Code: R1306722-009

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0431.D\

Analysis Lot: 359518
Instrument Name: R-MS-08
Dilution Factor: 1000

CAS No.	Analyte Name	Result	Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2000	U	2000	
71-55-6	1,1,1-Trichloroethane (TCA)	2000	U	2000	
79-34-5	1,1,2,2-Tetrachloroethane	2000	U	2000	
79-00-5	1,1,2-Trichloroethane	2000	U	2000	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2000	U	2000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2000	U	2000	
563-58-6	1,1-Dichloropropene	2000	U	2000	
87-61-6	1,2,3-Trichlorobenzene	2000	U	2000	
96-18-4	1,2,3-Trichloropropane	2000	U	2000	
120-82-1	1,2,4-Trichlorobenzene	2000	U	2000	
95-63-6	1,2,4-Trimethylbenzene	2000	U	2000	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2000	U	2000	
106-93-4	1,2-Dibromoethane	2000	U	2000	
95-50-1	1,2-Dichlorobenzene	2000	U	2000	
107-06-2	1,2-Dichloroethane	2000	U	2000	
78-87-5	1,2-Dichloropropane	2000	U	2000	
108-67-8	1,3,5-Trimethylbenzene	2000	U	2000	
541-73-1	1,3-Dichlorobenzene	2000	U	2000	
142-28-9	1,3-Dichloropropane	2000	U	2000	
106-46-7	1,4-Dichlorobenzene	2000	U	2000	
123-91-1	1,4-Dioxane	40000	U	40000	
594-20-7	2,2-Dichloropropane	2000	U	2000	
78-93-3	2-Butanone (MEK)	10000	U	10000	
95-49-8	2-Chlorotoluene	2000	U	2000	
591-78-6	2-Hexanone	10000	U	10000	
106-43-4	4-Chlorotoluene	2000	U	2000	
99-87-6	p-Isopropyltoluene	2000	U	2000	
108-10-1	4-Methyl-2-pentanone	10000	U	10000	
67-64-1	Acetone	10000	U	10000	
71-43-2	Benzene	2000	U	2000	
108-86-1	Bromobenzene	2000	U	2000	
74-97-5	Bromochloromethane	2000	U	2000	
75-27-4	Bromodichloromethane	2000	U	2000	
75-25-2	Bromoform	2000	U	2000	
74-83-9	Bromomethane	2000	U	2000	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/12/13 1230
Date Received: 9/13/13
Date Analyzed: 9/21/13 19:36

Sample Name: AP35-DO
Lab Code: R1306722-009

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0431.D\

Analysis Lot: 359518
Instrument Name: R-MS-08
Dilution Factor: 1000

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2000	U	2000	
56-23-5	Carbon Tetrachloride	2000	U	2000	
108-90-7	Chlorobenzene	2000	U	2000	
75-00-3	Chloroethane	2000	U	2000	
67-66-3	Chloroform	2000	U	2000	
74-87-3	Chloromethane	2000	U	2000	
124-48-1	Dibromochloromethane	2000	U	2000	
74-95-3	Dibromomethane	2000	U	2000	
75-71-8	Dichlorodifluoromethane (CFC 12)	2000	U	2000	
75-09-2	Dichloromethane	2000	U	2000	
60-29-7	Diethyl Ether	2000	U	2000	
108-20-3	Diisopropyl Ether	2000	U	2000	
637-92-3	Ethyl tert-Butyl Ether	2000	U	2000	
100-41-4	Ethylbenzene	2000	U	2000	
87-68-3	Hexachlorobutadiene	2000	U	2000	
98-82-8	Isopropylbenzene (Cumene)	2000	U	2000	
1634-04-4	Methyl tert-Butyl Ether	2000	U	2000	
91-20-3	Naphthalene	2000	U	2000	
100-42-5	Styrene	2000	U	2000	
127-18-4	Tetrachloroethene (PCE)	77000		2000	
109-99-9	Tetrahydrofuran (THF)	2000	U	2000	
108-88-3	Toluene	2000	U	2000	
79-01-6	Trichloroethene (TCE)	98000		2000	
75-69-4	Trichlorofluoromethane (CFC 11)	2000	U	2000	
75-01-4	Vinyl Chloride	2100		2000	
156-59-2	cis-1,2-Dichloroethene	19000		2000	
10061-01-5	cis-1,3-Dichloropropene	2000	U	2000	
179601-23-1	m,p-Xylenes	2000	U	2000	
104-51-8	n-Butylbenzene	2000	U	2000	
103-65-1	n-Propylbenzene	2000	U	2000	
95-47-6	o-Xylene	2000	U	2000	
135-98-8	sec-Butylbenzene	2000	U	2000	
994-05-8	tert-Amyl Methyl Ether	2000	U	2000	
98-06-6	tert-Butylbenzene	2000	U	2000	
156-60-5	trans-1,2-Dichloroethene	2000	U	2000	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/12/13 1230
Date Received: 9/13/13
Date Analyzed: 9/21/13 19:36

Sample Name: AP35-DO
Lab Code: R1306722-009

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0431.D\

Analysis Lot: 359518
Instrument Name: R-MS-08
Dilution Factor: 1000

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2000 U	2000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	70-130	9/21/13 19:36	
Dibromofluoromethane	101	70-130	9/21/13 19:36	
Toluene-d8	95	70-130	9/21/13 19:36	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Water

Service Request: R1306722
 Date Collected: 9/10/13 1420
 Date Received: 9/13/13
 Date Analyzed: 9/21/13 20:04

Sample Name: TRIP BLANK
 Lab Code: R1306722-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0432.D\

Analysis Lot: 359518
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene.	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Water

Service Request: R1306722
 Date Collected: 9/10/13 1420
 Date Received: 9/13/13
 Date Analyzed: 9/21/13 20:04

Sample Name: TRIP BLANK
 Lab Code: R1306722-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0432.D\

Analysis Lot: 359518
 Instrument Name: R-MS-08
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: 9/10/13 1420
Date Received: 9/13/13
Date Analyzed: 9/21/13 20:04

Sample Name: TRIP BLANK
Lab Code: R1306722-010

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0432.D\

Analysis Lot: 359518
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
4-Bromofluorobenzene	94	70-130	9/21/13 20:04
Dibromofluoromethane	99	70-130	9/21/13 20:04
Toluene-d8	93	70-130	9/21/13 20:04

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Soil
 Sample Name: Method Blank
 Lab Code: R1306722-MB

Service Request: R1306722
 Date Collected: NA
 Date Received: NA

Basis: As Received

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	1.0 U	Percent	1.0	1	NA	9/16/13 13:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/21/13 11:49

Sample Name: Method Blank
Lab Code: RQ1311426-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0414.D\

Analysis Lot: 359518
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/21/13 11:49

Sample Name: Method Blank
Lab Code: RQ1311426-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0414.D\

Analysis Lot: 359518
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/21/13 11:49

Sample Name: Method Blank
Lab Code: RQ1311426-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092113\C0414.D\

Analysis Lot: 359518
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	9/21/13 11:49	
Dibromofluoromethane	98	70-130	9/21/13 11:49	
Toluene-d8	94	70-130	9/21/13 11:49	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/23/13 10:56

Sample Name: Method Blank
Lab Code: RQ1311458-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092313\C0441.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U	2.0	
71-55-6	1,1,1-Trichloroethane (TCA)	2.0 U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U	2.0	
79-00-5	1,1,2-Trichloroethane	2.0 U	2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	2.0 U	2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	2.0 U	2.0	
563-58-6	1,1-Dichloropropene	2.0 U	2.0	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	2.0	
96-18-4	1,2,3-Trichloropropane	2.0 U	2.0	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	2.0	
95-63-6	1,2,4-Trimethylbenzene	2.0 U	2.0	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	2.0 U	2.0	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	
95-50-1	1,2-Dichlorobenzene	2.0 U	2.0	
107-06-2	1,2-Dichloroethane	2.0 U	2.0	
78-87-5	1,2-Dichloropropane	2.0 U	2.0	
108-67-8	1,3,5-Trimethylbenzene	2.0 U	2.0	
541-73-1	1,3-Dichlorobenzene	2.0 U	2.0	
142-28-9	1,3-Dichloropropane	2.0 U	2.0	
106-46-7	1,4-Dichlorobenzene	2.0 U	2.0	
123-91-1	1,4-Dioxane	40 U	40	
594-20-7	2,2-Dichloropropane	2.0 U	2.0	
78-93-3	2-Butanone (MEK)	10 U	10	
95-49-8	2-Chlorotoluene	2.0 U	2.0	
591-78-6	2-Hexanone	10 U	10	
106-43-4	4-Chlorotoluene	2.0 U	2.0	
99-87-6	p-Isopropyltoluene	2.0 U	2.0	
108-10-1	4-Methyl-2-pentanone	10 U	10	
67-64-1	Acetone	10 U	10	
71-43-2	Benzene	2.0 U	2.0	
108-86-1	Bromobenzene	2.0 U	2.0	
74-97-5	Bromochloromethane	2.0 U	2.0	
75-27-4	Bromodichloromethane	2.0 U	2.0	
75-25-2	Bromoform	2.0 U	2.0	
74-83-9	Bromomethane	2.0 U	2.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/23/13 10:56

Sample Name: Method Blank
Lab Code: RQ1311458-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\MSVOA8\DATA\092313\C0441.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	2.0	U	2.0	
56-23-5	Carbon Tetrachloride	2.0	U	2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	2.0	U	2.0	
74-87-3	Chloromethane	2.0	U	2.0	
124-48-1	Dibromochloromethane	2.0	U	2.0	
74-95-3	Dibromomethane	2.0	U	2.0	
75-71-8	Dichlorodifluoromethane (CFC 12)	2.0	U	2.0	
75-09-2	Dichloromethane	2.0	U	2.0	
60-29-7	Diethyl Ether	2.0	U	2.0	
108-20-3	Diisopropyl Ether	2.0	U	2.0	
637-92-3	Ethyl tert-Butyl Ether	2.0	U	2.0	
100-41-4	Ethylbenzene	2.0	U	2.0	
87-68-3	Hexachlorobutadiene	2.0	U	2.0	
98-82-8	Isopropylbenzene (Cumene)	2.0	U	2.0	
1634-04-4	Methyl tert-Butyl Ether	2.0	U	2.0	
91-20-3	Naphthalene	2.0	U	2.0	
100-42-5	Styrene	2.0	U	2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	2.0	
109-99-9	Tetrahydrofuran (THF)	2.0	U	2.0	
108-88-3	Toluene	2.0	U	2.0	
79-01-6	Trichloroethene (TCE)	2.0	U	2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.0	U	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
179601-23-1	m,p-Xylenes	2.0	U	2.0	
104-51-8	n-Butylbenzene	2.0	U	2.0	
103-65-1	n-Propylbenzene	2.0	U	2.0	
95-47-6	o-Xylene	2.0	U	2.0	
135-98-8	sec-Butylbenzene	2.0	U	2.0	
994-05-8	tert-Amyl Methyl Ether	2.0	U	2.0	
98-06-6	tert-Butylbenzene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	2.0	U	2.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/23/13 10:56

Sample Name: Method Blank
Lab Code: RQ1311458-03

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQU\DATA\MSVOA8\DATA\092313\C0441.D\

Analysis Lot: 359634
Instrument Name: R-MS-08
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	2.0 U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	70-130	9/23/13 10:56	
Dibromofluoromethane	96	70-130	9/23/13 10:56	
Toluene-d8	91	70-130	9/23/13 10:56	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/23/13 23:08

Sample Name: Method Blank
Lab Code: RQ1311628-01

Units: µg/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092313\F2283.D\

Analysis Lot: 359703
Instrument Name: R-MS-10
Dilution Factor: 50

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	250 U	250	
71-55-6	1,1,1-Trichloroethane (TCA)	250 U	250	
79-34-5	1,1,2,2-Tetrachloroethane	250 U	250	
79-00-5	1,1,2-Trichloroethane	250 U	250	
75-34-3	1,1-Dichloroethane (1,1-DCA)	250 U	250	
75-35-4	1,1-Dichloroethene (1,1-DCE)	250 U	250	
563-58-6	1,1-Dichloropropene	250 U	250	
87-61-6	1,2,3-Trichlorobenzene	250 U	250	
96-18-4	1,2,3-Trichloropropane	250 U	250	
120-82-1	1,2,4-Trichlorobenzene	250 U	250	
95-63-6	1,2,4-Trimethylbenzene	250 U	250	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	250 U	250	
106-93-4	1,2-Dibromoethane	250 U	250	
95-50-1	1,2-Dichlorobenzene	250 U	250	
107-06-2	1,2-Dichloroethane	250 U	250	
78-87-5	1,2-Dichloropropane	250 U	250	
108-67-8	1,3,5-Trimethylbenzene	250 U	250	
541-73-1	1,3-Dichlorobenzene	250 U	250	
142-28-9	1,3-Dichloropropane	250 U	250	
106-46-7	1,4-Dichlorobenzene	250 U	250	
123-91-1	1,4-Dioxane	5000 U	5000	
594-20-7	2,2-Dichloropropane	250 U	250	
78-93-3	2-Butanone (MEK)	250 U	250	
95-49-8	2-Chlorotoluene	250 U	250	
591-78-6	2-Hexanone	250 U	250	
106-43-4	4-Chlorotoluene	250 U	250	
99-87-6	p-Isopropyltoluene	250 U	250	
108-10-1	4-Methyl-2-pentanone	250 U	250	
67-64-1	Acetone	250 U	250	
71-43-2	Benzene	250 U	250	
108-86-1	Bromobenzene	250 U	250	
74-97-5	Bromochloromethane	250 U	250	
75-27-4	Bromodichloromethane	250 U	250	
75-25-2	Bromoform	250 U	250	
74-83-9	Bromomethane	250 U	250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/23/13 23:08

Sample Name: Method Blank
Lab Code: RQ1311628-01

Units: µg/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoo10\data\092313\F2283.D\

Analysis Lot: 359703
Instrument Name: R-MS-10
Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	250	U	250	
56-23-5	Carbon Tetrachloride	250	U	250	
108-90-7	Chlorobenzene	250	U	250	
75-00-3	Chloroethane	250	U	250	
67-66-3	Chloroform	250	U	250	
74-87-3	Chloromethane	250	U	250	
124-48-1	Dibromochloromethane	250	U	250	
74-95-3	Dibromomethane	250	U	250	
75-71-8	Dichlorodifluoromethane (CFC 12)	250	U	250	
75-09-2	Dichloromethane	250	U	250	
60-29-7	Diethyl Ether	250	U	250	
108-20-3	Diisopropyl Ether	250	U	250	
637-92-3	Ethyl tert-Butyl Ether	250	U	250	
100-41-4	Ethylbenzene	250	U	250	
87-68-3	Hexachlorobutadiene	250	U	250	
98-82-8	Isopropylbenzene (Cumene)	250	U	250	
1634-04-4	Methyl tert-Butyl Ether	250	U	250	
91-20-3	Naphthalene	250	U	250	
100-42-5	Styrene	250	U	250	
127-18-4	Tetrachloroethene (PCE)	250	U	250	
109-99-9	Tetrahydrofuran (THF)	250	U	250	
108-88-3	Toluene	250	U	250	
79-01-6	Trichloroethene (TCE)	250	U	250	
75-69-4	Trichlorofluoromethane (CFC 11)	250	U	250	
75-01-4	Vinyl Chloride	250	U	250	
156-59-2	cis-1,2-Dichloroethene	250	U	250	
10061-01-5	cis-1,3-Dichloropropene	250	U	250	
179601-23-1	m,p-Xylenes	500	U	500	
104-51-8	n-Butylbenzene	250	U	250	
103-65-1	n-Propylbenzene	250	U	250	
95-47-6	o-Xylene	250	U	250	
135-98-8	sec-Butylbenzene	250	U	250	
994-05-8	tert-Amyl Methyl Ether	250	U	250	
98-06-6	tert-Butylbenzene	250	U	250	
156-60-5	trans-1,2-Dichloroethene	250	U	250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/23/13 23:08

Sample Name: Method Blank
Lab Code: RQ1311628-01

Units: µg/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092313\F2283.D\

Analysis Lot: 359703
Instrument Name: R-MS-10
Dilution Factor: 50

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	250 U	250	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	70-130	9/23/13 23:08	
Dibromofluoromethane	108	70-130	9/23/13 23:08	
Toluene-d8	95	70-130	9/23/13 23:08	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Soil

Service Request: R1306722
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 9/24/13 11:57

Sample Name: Method Blank
 Lab Code: RQ1311704-01

Units: µg/Kg
 Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2306.D\

Analysis Lot: 359862
 Instrument Name: R-MS-10
 Dilution Factor: 50

CAS No.	Analyte Name	Result Q	MRL	Note
630-20-6	1,1,1,2-Tetrachloroethane	250 U	250	
71-55-6	1,1,1-Trichloroethane (TCA)	250 U	250	
79-34-5	1,1,2,2-Tetrachloroethane	250 U	250	
79-00-5	1,1,2-Trichloroethane	250 U	250	
75-34-3	1,1-Dichloroethane (1,1-DCA)	250 U	250	
75-35-4	1,1-Dichloroethene (1,1-DCE)	250 U	250	
563-58-6	1,1-Dichloropropene	250 U	250	
87-61-6	1,2,3-Trichlorobenzene	250 U	250	
96-18-4	1,2,3-Trichloropropane	250 U	250	
120-82-1	1,2,4-Trichlorobenzene	250 U	250	
95-63-6	1,2,4-Trimethylbenzene	250 U	250	
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	250 U	250	
106-93-4	1,2-Dibromoethane	250 U	250	
95-50-1	1,2-Dichlorobenzene	250 U	250	
107-06-2	1,2-Dichloroethane	250 U	250	
78-87-5	1,2-Dichloropropane	250 U	250	
108-67-8	1,3,5-Trimethylbenzene	250 U	250	
541-73-1	1,3-Dichlorobenzene	250 U	250	
142-28-9	1,3-Dichloropropane	250 U	250	
106-46-7	1,4-Dichlorobenzene	250 U	250	
123-91-1	1,4-Dioxane	5000 U	5000	
594-20-7	2,2-Dichloropropane	250 U	250	
78-93-3	2-Butanone (MEK)	250 U	250	
95-49-8	2-Chlorotoluene	250 U	250	
591-78-6	2-Hexanone	250 U	250	
106-43-4	4-Chlorotoluene	250 U	250	
99-87-6	p-Isopropyltoluene	250 U	250	
108-10-1	4-Methyl-2-pentanone	250 U	250	
67-64-1	Acetone	250 U	250	
71-43-2	Benzene	250 U	250	
108-86-1	Bromobenzene	250 U	250	
74-97-5	Bromochloromethane	250 U	250	
75-27-4	Bromodichloromethane	250 U	250	
75-25-2	Bromoform	250 U	250	
74-83-9	Bromomethane	250 U	250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/24/13 11:57

Sample Name: Method Blank
Lab Code: RQ1311704-01

Units: µg/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2306.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
75-15-0	Carbon Disulfide	250	U	250	
56-23-5	Carbon Tetrachloride	250	U	250	
108-90-7	Chlorobenzene	250	U	250	
75-00-3	Chloroethane	250	U	250	
67-66-3	Chloroform	250	U	250	
74-87-3	Chloromethane	250	U	250	
124-48-1	Dibromochloromethane	250	U	250	
74-95-3	Dibromomethane	250	U	250	
75-71-8	Dichlorodifluoromethane (CFC 12)	250	U	250	
75-09-2	Dichloromethane	250	U	250	
60-29-7	Diethyl Ether	250	U	250	
108-20-3	Diisopropyl Ether	250	U	250	
637-92-3	Ethyl tert-Butyl Ether	250	U	250	
100-41-4	Ethylbenzene	250	U	250	
87-68-3	Hexachlorobutadiene	250	U	250	
98-82-8	Isopropylbenzene (Cumene)	250	U	250	
1634-04-4	Methyl tert-Butyl Ether	250	U	250	
91-20-3	Naphthalene	250	U	250	
100-42-5	Styrene	250	U	250	
127-18-4	Tetrachloroethene (PCE)	250	U	250	
109-99-9	Tetrahydrofuran (THF)	250	U	250	
108-88-3	Toluene	250	U	250	
79-01-6	Trichloroethene (TCE)	250	U	250	
75-69-4	Trichlorofluoromethane (CFC 11)	250	U	250	
75-01-4	Vinyl Chloride	250	U	250	
156-59-2	cis-1,2-Dichloroethene	250	U	250	
10061-01-5	cis-1,3-Dichloropropene	250	U	250	
179601-23-1	m,p-Xylenes	500	U	500	
104-51-8	n-Butylbenzene	250	U	250	
103-65-1	n-Propylbenzene	250	U	250	
95-47-6	o-Xylene	250	U	250	
135-98-8	sec-Butylbenzene	250	U	250	
994-05-8	tert-Amyl Methyl Ether	250	U	250	
98-06-6	tert-Butylbenzene	250	U	250	
156-60-5	trans-1,2-Dichloroethene	250	U	250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Collected: NA
Date Received: NA
Date Analyzed: 9/24/13 11:57

Sample Name: Method Blank
Lab Code: RQ1311704-01

Units: µg/Kg
Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
Data File Name: I:\ACQUDATA\msvoa10\data\092413\F2306.D\

Analysis Lot: 359862
Instrument Name: R-MS-10
Dilution Factor: 50

CAS No.	Analyte Name	Result Q	MRL	Note
10061-02-6	trans-1,3-Dichloropropene	250 U	250	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	88	70-130	9/24/13 11:57	
Dibromofluoromethane	106	70-130	9/24/13 11:57	
Toluene-d8	92	70-130	9/24/13 11:57	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722

Date Analyzed: 9/21/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 359518

Analyte Name	Lab Control Sample RQ1311426-04			Duplicate Lab Control Sample RQ1311426-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	18.3	20.0	92	17.8	20.0	89	70 - 130	3	20
1,1,1-Trichloroethane (TCA)	18.1	20.0	90	18.8	20.0	94	70 - 130	4	20
1,1,2,2-Tetrachloroethane	18.1	20.0	90	16.9	20.0	84	70 - 130	7	20
1,1,2-Trichloroethane	17.6	20.0	88	16.4	20.0	82	70 - 130	7	20
1,1-Dichloroethane (1,1-DCA)	18.6	20.0	93	20.1	20.0	100	70 - 130	8	20
1,1-Dichloroethene (1,1-DCE)	19.7	20.0	99	22.1	20.0	111	70 - 130	11	20
1,1-Dichloropropene	19.9	20.0	100	21.5	20.0	107	70 - 130	7	20
1,2,3-Trichlorobenzene	20.1	20.0	101	19.7	20.0	99	70 - 130	2	20
1,2,3-Trichloropropane	17.4	20.0	87	16.5	20.0	82	70 - 130	5	20
1,2,4-Trichlorobenzene	20.2	20.0	101	19.7	20.0	98	70 - 130	2	20
1,2,4-Trimethylbenzene	18.0	20.0	90	19.1	20.0	95	70 - 130	6	20
1,2-Dibromo-3-chloropropane (DBCP)	22.7	20.0	113	20.0	20.0	100	70 - 130	13	20
1,2-Dibromoethane	18.6	20.0	93	17.6	20.0	88	70 - 130	5	20
1,2-Dichlorobenzene	18.6	20.0	93	18.3	20.0	92	70 - 130	2	20
1,2-Dichloroethane	17.5	20.0	87	17.2	20.0	86	70 - 130	2	20
1,2-Dichloropropane	18.8	20.0	94	19.2	20.0	96	70 - 130	3	20
1,3,5-Trimethylbenzene	17.6	20.0	88	19.3	20.0	96	70 - 130	9	20
1,3-Dichlorobenzene	19.0	20.0	95	19.5	20.0	98	70 - 130	3	20
1,3-Dichloropropane	17.8	20.0	89	16.7	20.0	83	70 - 130	7	20
1,4-Dichlorobenzene	18.5	20.0	92	19.3	20.0	97	70 - 130	4	20
1,4-Dioxane	419	400	105	341	400	85	40 - 160	20	20
2,2-Dichloropropane	18.1	20.0	90	19.6	20.0	98	70 - 130	8	20
2-Butanone (MEK)	18.5	20.0	92	18.6	20.0	93	40 - 160	<1	20
2-Chlorotoluene	17.4	20.0	87	18.4	20.0	92	70 - 130	5	20
2-Hexanone	19.0	20.0	95	16.6	20.0	83	40 - 160	14	20
4-Chlorotoluene	18.0	20.0	90	17.7	20.0	89	70 - 130	1	20
p-Isopropyltoluene	18.6	20.0	93	20.8	20.0	104	70 - 130	11	20
4-Methyl-2-pentanone	18.4	20.0	92	16.7	20.0	84	40 - 160	9	20
Acetone	19.1	20.0	96	19.0	20.0	95	40 - 160	<1	20
Benzene	18.5	20.0	92	19.7	20.0	98	70 - 130	6	20
Bromobenzene	18.6	20.0	93	18.3	20.0	91	70 - 130	2	20
Bromochloromethane	19.8	20.0	99	19.8	20.0	99	70 - 130	<1	20
Bromodichloromethane	18.5	20.0	92	18.4	20.0	92	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Analyzed: 9/21/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 359518

Analyte Name	Lab Control Sample RQ1311426-04			Duplicate Lab Control Sample RQ1311426-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromoform	18.4	20.0	92	17.2	20.0	86	70 - 130	7	20
Bromomethane	14.3	20.0	71	15.0	20.0	75	40 - 160	5	20
Carbon Disulfide	19.7	20.0	99	20.2	20.0	101	70 - 130	2	20
Carbon Tetrachloride	17.7	20.0	89	19.5	20.0	98	70 - 130	10	20
Chlorobenzene	18.5	20.0	92	19.1	20.0	96	70 - 130	3	20
Chloroethane	18.1	20.0	90	19.7	20.0	99	70 - 130	9	20
Chloroform	18.0	20.0	90	18.3	20.0	92	70 - 130	2	20
Chloromethane	22.2	20.0	111	24.0	20.0	120	40 - 160	8	20
Dibromochloromethane	18.6	20.0	93	17.7	20.0	89	70 - 130	5	20
Dibromomethane	18.1	20.0	90	16.8	20.0	84	70 - 130	7	20
Dichlorodifluoromethane (CFC 12)	19.1	20.0	95	21.1	20.0	106	40 - 160	10	20
Dichloromethane	18.3	20.0	92	18.9	20.0	94	70 - 130	3	20
Diethyl Ether	20.1	20.0	101	18.8	20.0	94	70 - 130	7	20
Diisopropyl Ether	21.8	20.0	109	18.9	20.0	95	70 - 130	14	20
Ethyl tert-Butyl Ether	22.0	20.0	110	18.9	20.0	94	70 - 130	15	20
Ethylbenzene	18.1	20.0	90	19.3	20.0	97	70 - 130	6	20
Hexachlorobutadiene	17.4	20.0	87	20.3	20.0	102	70 - 130	16	20
Isopropylbenzene (Cumene)	17.7	20.0	89	19.2	20.0	96	70 - 130	8	20
Methyl tert-Butyl Ether	19.4	20.0	97	18.9	20.0	94	70 - 130	3	20
Naphthalene	21.8	20.0	109	20.6	20.0	103	70 - 130	5	20
Styrene	19.0	20.0	95	19.2	20.0	96	70 - 130	1	20
Tetrachloroethene (PCE)	17.8	20.0	89	19.2	20.0	96	70 - 130	8	20
Tetrahydrofuran (THF)	18.3	20.0	91	17.9	20.0	89	70 - 130	2	20
Toluene	18.1	20.0	90	18.8	20.0	94	70 - 130	4	20
Trichloroethene (TCE)	18.1	20.0	90	18.8	20.0	94	70 - 130	4	20
Trichlorofluoromethane (CFC 11)	19.0	20.0	95	20.7	20.0	104	70 - 130	8	20
Vinyl Chloride	19.7	20.0	99	21.5	20.0	108	70 - 130	9	20
cis-1,2-Dichloroethene	19.1	20.0	95	19.4	20.0	97	70 - 130	2	20
cis-1,3-Dichloropropene	17.8	20.0	89	17.8	20.0	89	70 - 130	<1	20
m,p-Xylenes	37.8	40.0	95	39.6	40.0	99	70 - 130	5	20
n-Butylbenzene	18.0	20.0	90	20.5	20.0	102	70 - 130	13	20
n-Propylbenzene	17.5	20.0	87	19.5	20.0	97	70 - 130	11	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722

Date Analyzed: 9/21/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 359518

Analyte Name	Lab Control Sample RQ1311426-04			Duplicate Lab Control Sample RQ1311426-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
o-Xylene	18.8	20.0	94	19.5	20.0	97	70 - 130	4	20
sec-Butylbenzene	18.2	20.0	91	20.8	20.0	104	70 - 130	13	20
tert-Amyl Methyl Ether	21.5	20.0	107	18.2	20.0	91	70 - 130	16	20
tert-Butylbenzene	17.7	20.0	89	20.3	20.0	101	70 - 130	13	20
trans-1,2-Dichloroethene	18.8	20.0	94	20.0	20.0	100	70 - 130	6	20
trans-1,3-Dichloropropene	17.4	20.0	87	16.3	20.0	82	70 - 130	6	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Analyzed: 9/23/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 359634

Analyte Name	Lab Control Sample RQ1311458-04			Duplicate Lab Control Sample RQ1311458-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	19.5	20.0	98	19.0	20.0	95	70 - 130	3	20
1,1,1-Trichloroethane (TCA)	20.2	20.0	101	19.7	20.0	99	70 - 130	2	20
1,1,2,2-Tetrachloroethane	18.0	20.0	90	18.1	20.0	90	70 - 130	<1	20
1,1,2-Trichloroethane	18.2	20.0	91	17.9	20.0	89	70 - 130	2	20
1,1-Dichloroethane (1,1-DCA)	21.1	20.0	105	20.7	20.0	104	70 - 130	2	20
1,1-Dichloroethene (1,1-DCE)	23.1	20.0	115	22.3	20.0	112	70 - 130	3	20
1,1-Dichloropropene	22.1	20.0	110	21.9	20.0	109	70 - 130	1	20
1,2,3-Trichlorobenzene	21.7	20.0	108	20.7	20.0	104	70 - 130	4	20
1,2,3-Trichloropropane	17.7	20.0	88	18.0	20.0	90	70 - 130	2	20
1,2,4-Trichlorobenzene	21.7	20.0	109	20.6	20.0	103	70 - 130	5	20
1,2,4-Trimethylbenzene	20.0	20.0	100	19.8	20.0	99	70 - 130	<1	20
1,2-Dibromo-3-chloropropane (DBCP)	23.1	20.0	115	22.1	20.0	110	70 - 130	4	20
1,2-Dibromoethane	19.3	20.0	97	19.0	20.0	95	70 - 130	2	20
1,2-Dichlorobenzene	19.6	20.0	98	19.3	20.0	96	70 - 130	1	20
1,2-Dichloroethane	18.1	20.0	91	17.6	20.0	88	70 - 130	3	20
1,2-Dichloropropane	20.7	20.0	104	19.9	20.0	100	70 - 130	4	20
1,3,5-Trimethylbenzene	20.0	20.0	100	19.4	20.0	97	70 - 130	3	20
1,3-Dichlorobenzene	20.5	20.0	102	20.2	20.0	101	70 - 130	2	20
1,3-Dichloropropane	18.1	20.0	91	17.6	20.0	88	70 - 130	3	20
1,4-Dichlorobenzene	20.0	20.0	100	19.4	20.0	97	70 - 130	3	20
1,4-Dioxane	366	400	92	349	400	87	40 - 160	5	20
2,2-Dichloropropane	20.7	20.0	104	19.3	20.0	96	70 - 130	7	20
2-Butanone (MEK)	19.4	20.0	97	19.8	20.0	99	40 - 160	2	20
2-Chlorotoluene	20.1	20.0	101	18.5	20.0	93	70 - 130	8	20
2-Hexanone	19.2	20.0	96	19.5	20.0	98	40 - 160	2	20
4-Chlorotoluene	19.4	20.0	97	18.9	20.0	95	70 - 130	2	20
p-Isopropyltoluene	21.4	20.0	107	20.8	20.0	104	70 - 130	3	20
4-Methyl-2-pentanone	18.4	20.0	92	19.1	20.0	96	40 - 160	4	20
Acetone	21.0	20.0	105	22.0	20.0	110	40 - 160	5	20
Benzene	20.6	20.0	103	20.0	20.0	100	70 - 130	3	20
Bromobenzene	19.4	20.0	97	19.1	20.0	95	70 - 130	1	20
Bromochloromethane	21.8	20.0	109	21.2	20.0	106	70 - 130	3	20
Bromodichloromethane	19.7	20.0	98	19.1	20.0	95	70 - 130	3	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722
Date Analyzed: 9/23/13

**Lab Control Sample Summary
Volatile Organic Compounds by GC/MS**

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 359634

Analyte Name	Lab Control Sample RQ1311458-04			Duplicate Lab Control Sample RQ1311458-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromoform	18.9	20.0	94	18.2	20.0	91	70 - 130	4	20
Bromomethane	17.1	20.0	85	16.3	20.0	81	40 - 160	5	20
Carbon Disulfide	23.1	20.0	115	21.4	20.0	107	70 - 130	7	20
Carbon Tetrachloride	19.3	20.0	96	18.7	20.0	94	70 - 130	3	20
Chlorobenzene	19.2	20.0	96	19.6	20.0	98	70 - 130	2	20
Chloroethane	20.8	20.0	104	19.8	20.0	99	70 - 130	5	20
Chloroform	20.1	20.0	101	19.6	20.0	98	70 - 130	3	20
Chloromethane	25.9	20.0	130	24.8	20.0	124	40 - 160	4	20
Dibromochloromethane	19.3	20.0	97	18.8	20.0	94	70 - 130	3	20
Dibromomethane	18.6	20.0	93	18.5	20.0	93	70 - 130	<1	20
Dichlorodifluoromethane (CFC 12)	19.5	20.0	98	18.8	20.0	94	40 - 160	4	20
Dichloromethane	20.2	20.0	101	19.3	20.0	96	70 - 130	4	20
Diethyl Ether	21.8	20.0	109	20.7	20.0	104	70 - 130	5	20
Diisopropyl Ether	23.2	20.0	116	22.6	20.0	113	70 - 130	3	20
Ethyl tert-Butyl Ether	22.7	20.0	113	22.5	20.0	112	70 - 130	<1	20
Ethylbenzene	20.3	20.0	102	19.6	20.0	98	70 - 130	4	20
Hexachlorobutadiene	20.6	20.0	103	19.5	20.0	98	70 - 130	5	20
Isopropylbenzene (Cumene)	20.3	20.0	101	19.9	20.0	99	70 - 130	2	20
Methyl tert-Butyl Ether	20.9	20.0	104	20.1	20.0	100	70 - 130	4	20
Naphthalene	22.2	20.0	111	21.6	20.0	108	70 - 130	3	20
Styrene	20.5	20.0	102	19.9	20.0	99	70 - 130	3	20
Tetrachloroethene (PCE)	20.1	20.0	101	19.4	20.0	97	70 - 130	4	20
Tetrahydrofuran (THF)	19.5	20.0	97	19.1	20.0	95	70 - 130	2	20
Toluene	20.0	20.0	100	19.3	20.0	96	70 - 130	4	20
Trichloroethene (TCE)	20.0	20.0	100	19.6	20.0	98	70 - 130	2	20
Trichlorofluoromethane (CFC 11)	20.7	20.0	103	19.8	20.0	99	70 - 130	4	20
Vinyl Chloride	22.6	20.0	113	21.1	20.0	106	70 - 130	7	20
cis-1,2-Dichloroethene	21.0	20.0	105	21.0	20.0	105	70 - 130	<1	20
cis-1,3-Dichloropropene	19.3	20.0	97	18.6	20.0	93	70 - 130	4	20
m,p-Xylenes	42.3	40.0	106	41.5	40.0	104	70 - 130	2	20
n-Butylbenzene	21.1	20.0	105	20.5	20.0	103	70 - 130	3	20
n-Propylbenzene	20.3	20.0	101	19.8	20.0	99	70 - 130	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Water

Service Request: R1306722

Date Analyzed: 9/23/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L

Basis: NA

Analysis Lot: 359634

Analyte Name	Lab Control Sample RQ1311458-04			Duplicate Lab Control Sample RQ1311458-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
o-Xylene	21.3	20.0	107	20.5	20.0	102	70 - 130	4	20
sec-Butylbenzene	21.0	20.0	105	20.5	20.0	103	70 - 130	2	20
tert-Amyl Methyl Ether	22.2	20.0	111	21.4	20.0	107	70 - 130	4	20
tert-Butylbenzene	20.7	20.0	104	20.1	20.0	100	70 - 130	3	20
trans-1,2-Dichloroethene	21.2	20.0	106	20.7	20.0	103	70 - 130	3	20
trans-1,3-Dichloropropene	18.3	20.0	91	17.7	20.0	88	70 - 130	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Analyzed: 9/23/13 -
9/24/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/Kg
Basis: Dry

Analysis Lot: 359703

Analyte Name	Lab Control Sample RQ1311628-02			Duplicate Lab Control Sample RQ1311628-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	18.2	20.0	91	18.8	20.0	94	70 - 130	3	20
1,1,1-Trichloroethane (TCA)	16.1	20.0	80	18.1	20.0	90	70 - 130	12	20
1,1,2,2-Tetrachloroethane	18.6	20.0	93	17.4	20.0	87	70 - 130	7	20
1,1,2-Trichloroethane	17.8	20.0	89	17.9	20.0	90	70 - 130	<1	20
1,1-Dichloroethane (1,1-DCA)	16.1	20.0	80	18.6	20.0	93	70 - 130	14	20
1,1-Dichloroethene (1,1-DCE)	18.7	20.0	93	23.1	20.0	116	70 - 130	21 *	20
1,1-Dichloropropene	17.6	20.0	88	20.3	20.0	101	70 - 130	14	20
1,2,3-Trichlorobenzene	19.5	20.0	98	17.0	20.0	85	70 - 130	14	20
1,2,3-Trichloropropane	19.5	20.0	98	17.7	20.0	88	70 - 130	10	20
1,2,4-Trichlorobenzene	19.3	20.0	96	17.4	20.0	87	70 - 130	10	20
1,2,4-Trimethylbenzene	17.4	20.0	87	17.0	20.0	85	70 - 130	2	20
1,2-Dibromo-3-chloropropane (DBCP)	19.4	20.0	97	17.1	20.0	86	70 - 130	12	20
1,2-Dibromoethane	20.3	20.0	102	19.8	20.0	99	70 - 130	3	20
1,2-Dichlorobenzene	18.6	20.0	93	17.5	20.0	87	70 - 130	6	20
1,2-Dichloroethane	17.9	20.0	90	18.6	20.0	93	70 - 130	4	20
1,2-Dichloropropane	16.2	20.0	81	17.8	20.0	89	70 - 130	10	20
1,3,5-Trimethylbenzene	17.2	20.0	86	17.1	20.0	85	70 - 130	<1	20
1,3-Dichlorobenzene	18.2	20.0	91	17.7	20.0	89	70 - 130	3	20
1,3-Dichloropropane	18.4	20.0	92	18.8	20.0	94	70 - 130	2	20
1,4-Dichlorobenzene	18.5	20.0	92	17.2	20.0	86	70 - 130	7	20
1,4-Dioxane	596	400	149	485	400	121	40 - 160	21 *	20
2,2-Dichloropropane	13.4	20.0	67 *	16.7	20.0	83	70 - 130	22 *	20
2-Butanone (MEK)	19.6	20.0	98	20.5	20.0	103	40 - 160	4	20
2-Chlorotoluene	17.2	20.0	86	16.8	20.0	84	70 - 130	2	20
2-Hexanone	20.5	20.0	102	17.8	20.0	89	40 - 160	14	20
4-Chlorotoluene	17.3	20.0	86	17.8	20.0	89	70 - 130	3	20
p-Isopropyltoluene	17.2	20.0	86	17.2	20.0	86	70 - 130	<1	20
4-Methyl-2-pentanone	21.1	20.0	105	17.9	20.0	89	40 - 160	16	20
Acetone	21.7	20.0	108	19.9	20.0	100	40 - 160	8	20
Benzene	16.5	20.0	82	18.4	20.0	92	70 - 130	11	20
Bromobenzene	19.3	20.0	96	18.4	20.0	92	70 - 130	5	20
Bromochloromethane	20.8	20.0	104	22.9	20.0	115	70 - 130	10	20
Bromodichloromethane	18.4	20.0	92	19.3	20.0	96	70 - 130	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Analyzed: 9/23/13 -
9/24/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/Kg
Basis: Dry

Analysis Lot: 359703

Analyte Name	Lab Control Sample RQ1311628-02			Duplicate Lab Control Sample RQ1311628-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromoform	21.6	20.0	108	20.5	20.0	102	70 - 130	5	20
Bromomethane	18.4	20.0	92	20.7	20.0	104	40 - 160	12	20
Carbon Disulfide	17.4	20.0	87	22.2	20.0	111	70 - 130	24 *	20
Carbon Tetrachloride	17.6	20.0	88	19.6	20.0	98	70 - 130	11	20
Chlorobenzene	17.8	20.0	89	19.5	20.0	98	70 - 130	10	20
Chloroethane	16.6	20.0	83	18.7	20.0	93	70 - 130	12	20
Chloroform	17.1	20.0	85	19.7	20.0	99	70 - 130	15	20
Chloromethane	17.0	20.0	85	20.2	20.0	101	40 - 160	17	20
Dibromochloromethane	20.4	20.0	102	20.2	20.0	101	70 - 130	<1	20
Dibromomethane	19.8	20.0	99	20.2	20.0	101	70 - 130	2	20
Dichlorodifluoromethane (CFC 12)	17.8	20.0	89	20.9	20.0	105	40 - 160	16	20
Dichloromethane	17.5	20.0	88	20.3	20.0	102	70 - 130	15	20
Diethyl Ether	16.8	20.0	84	17.4	20.0	87	70 - 130	3	20
Diisopropyl Ether	20.6	20.0	103	20.1	20.0	100	70 - 130	2	20
Ethyl tert-Butyl Ether	18.1	20.0	90	16.9	20.0	85	70 - 130	6	20
Ethylbenzene	16.7	20.0	83	18.6	20.0	93	70 - 130	11	20
Hexachlorobutadiene	17.8	20.0	89	18.4	20.0	92	70 - 130	3	20
Isopropylbenzene (Cumene)	16.7	20.0	83	17.9	20.0	89	70 - 130	7	20
Methyl tert-Butyl Ether	17.1	20.0	86	16.5	20.0	82	70 - 130	4	20
Naphthalene	20.3	20.0	102	16.2	20.0	81	70 - 130	22 *	20
Styrene	16.8	20.0	84	18.2	20.0	91	70 - 130	8	20
Tetrachloroethene (PCE)	17.2	20.0	86	19.3	20.0	96	70 - 130	11	20
Tetrahydrofuran (THF)	18.4	20.0	92	16.7	20.0	84	70 - 130	9	20
Toluene	16.2	20.0	81	17.8	20.0	89	70 - 130	9	20
Trichloroethene (TCE)	19.0	20.0	95	19.9	20.0	100	70 - 130	5	20
Trichlorofluoromethane (CFC 11)	17.9	20.0	89	20.8	20.0	104	70 - 130	15	20
Vinyl Chloride	16.9	20.0	84	19.5	20.0	98	70 - 130	15	20
cis-1,2-Dichloroethene	17.0	20.0	85	20.0	20.0	100	70 - 130	16	20
cis-1,3-Dichloropropene	16.1	20.0	81	17.1	20.0	86	70 - 130	6	20
m,p-Xylenes	33.4	40.0	84	37.5	40.0	94	70 - 130	12	20
n-Butylbenzene	17.3	20.0	86	17.0	20.0	85	70 - 130	2	20
n-Propylbenzene	17.5	20.0	87	17.7	20.0	89	70 - 130	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Analyzed: 9/23/13 -
9/24/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/Kg

Basis: Dry

Analysis Lot: 359703

Analyte Name	Lab Control Sample RQ1311628-02			Duplicate Lab Control Sample RQ1311628-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
o-Xylene	16.5	20.0	82	18.1	20.0	90	70 - 130	9	20
sec-Butylbenzene	17.5	20.0	87	17.1	20.0	85	70 - 130	2	20
tert-Amyl Methyl Ether	18.4	20.0	92	17.0	20.0	85	70 - 130	8	20
tert-Butylbenzene	17.0	20.0	85	16.6	20.0	83	70 - 130	2	20
trans-1,2-Dichloroethene	16.5	20.0	83	19.7	20.0	99	70 - 130	18	20
trans-1,3-Dichloropropene	16.3	20.0	81	16.6	20.0	83	70 - 130	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722

Date Analyzed: 9/24/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/Kg

Basis: Dry

Analysis Lot: 359862

Analyte Name	Lab Control Sample RQ1311704-02			Duplicate Lab Control Sample RQ1311704-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1,2-Tetrachloroethane	19.1	20.0	96	18.5	20.0	93	70 - 130	3	20
1,1,1-Trichloroethane (TCA)	17.2	20.0	86	17.5	20.0	87	70 - 130	2	20
1,1,2,2-Tetrachloroethane	18.8	20.0	94	19.6	20.0	98	70 - 130	4	20
1,1,2-Trichloroethane	18.2	20.0	91	18.6	20.0	93	70 - 130	3	20
1,1-Dichloroethane (1,1-DCA)	17.1	20.0	86	17.6	20.0	88	70 - 130	3	20
1,1-Dichloroethene (1,1-DCE)	19.7	20.0	98	20.7	20.0	104	70 - 130	5	20
1,1-Dichloropropene	19.4	20.0	97	18.9	20.0	95	70 - 130	2	20
1,2,3-Trichlorobenzene	19.9	20.0	99	19.7	20.0	98	70 - 130	<1	20
1,2,3-Trichloropropane	18.8	20.0	94	18.6	20.0	93	70 - 130	1	20
1,2,4-Trichlorobenzene	20.4	20.0	102	19.2	20.0	96	70 - 130	6	20
1,2,4-Trimethylbenzene	17.7	20.0	88	17.6	20.0	88	70 - 130	<1	20
1,2-Dibromo-3-chloropropane (DBCP)	19.7	20.0	98	18.0	20.0	90	70 - 130	9	20
1,2-Dibromoethane	19.0	20.0	95	19.8	20.0	99	70 - 130	4	20
1,2-Dichlorobenzene	18.8	20.0	94	18.7	20.0	93	70 - 130	<1	20
1,2-Dichloroethane	17.6	20.0	88	17.9	20.0	90	70 - 130	2	20
1,2-Dichloropropane	16.7	20.0	83	17.0	20.0	85	70 - 130	2	20
1,3,5-Trimethylbenzene	17.7	20.0	88	17.4	20.0	87	70 - 130	1	20
1,3-Dichlorobenzene	18.5	20.0	93	18.9	20.0	94	70 - 130	2	20
1,3-Dichloropropane	17.8	20.0	89	18.2	20.0	91	70 - 130	2	20
1,4-Dichlorobenzene	18.4	20.0	92	18.5	20.0	92	70 - 130	<1	20
1,4-Dioxane	620	400	155	513	400	128	40 - 160	19	20
2,2-Dichloropropane	15.6	20.0	78	16.1	20.0	80	70 - 130	3	20
2-Butanone (MEK)	19.5	20.0	97	18.7	20.0	94	40 - 160	4	20
2-Chlorotoluene	17.8	20.0	89	17.7	20.0	88	70 - 130	<1	20
2-Hexanone	17.5	20.0	88	16.9	20.0	84	40 - 160	4	20
4-Chlorotoluene	17.8	20.0	89	17.7	20.0	88	70 - 130	<1	20
p-Isopropyltoluene	18.0	20.0	90	18.0	20.0	90	70 - 130	<1	20
4-Methyl-2-pentanone	18.7	20.0	94	17.7	20.0	89	40 - 160	5	20
Acetone	19.4	20.0	97	19.8	20.0	99	40 - 160	2	20
Benzene	17.5	20.0	88	17.4	20.0	87	70 - 130	1	20
Bromobenzene	19.0	20.0	95	19.0	20.0	95	70 - 130	<1	20
Bromochloromethane	21.8	20.0	109	22.5	20.0	112	70 - 130	3	20
Bromodichloromethane	19.3	20.0	96	19.2	20.0	96	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722

Date Analyzed: 9/24/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/Kg

Basis: Dry

Analysis Lot: 359862

Analyte Name	Lab Control Sample RQ1311704-02			Duplicate Lab Control Sample RQ1311704-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Bromoform	20.4	20.0	102	19.4	20.0	97	70 - 130	5	20
Bromomethane	20.1	20.0	100	22.0	20.0	110	40 - 160	9	20
Carbon Disulfide	15.5	20.0	78	20.3	20.0	102	70 - 130	27 *	20
Carbon Tetrachloride	18.2	20.0	91	18.5	20.0	92	70 - 130	1	20
Chlorobenzene	18.5	20.0	93	18.3	20.0	91	70 - 130	1	20
Chloroethane	17.9	20.0	89	17.7	20.0	88	70 - 130	1	20
Chloroform	18.1	20.0	90	18.3	20.0	92	70 - 130	1	20
Chloromethane	19.1	20.0	96	19.3	20.0	96	40 - 160	<1	20
Dibromochloromethane	20.3	20.0	101	20.0	20.0	100	70 - 130	2	20
Dibromomethane	20.1	20.0	101	19.0	20.0	95	70 - 130	6	20
Dichlorodifluoromethane (CFC 12)	19.8	20.0	99	19.3	20.0	97	40 - 160	2	20
Dichloromethane	18.6	20.0	93	19.9	20.0	100	70 - 130	7	20
Diethyl Ether	17.5	20.0	88	17.0	20.0	85	70 - 130	3	20
Diisopropyl Ether	21.9	20.0	110	18.9	20.0	95	70 - 130	15	20
Ethyl tert-Butyl Ether	19.1	20.0	95	16.4	20.0	82	70 - 130	15	20
Ethylbenzene	17.9	20.0	89	17.2	20.0	86	70 - 130	4	20
Hexachlorobutadiene	19.9	20.0	100	21.6	20.0	108	70 - 130	8	20
Isopropylbenzene (Cumene)	17.5	20.0	88	17.2	20.0	86	70 - 130	2	20
Methyl tert-Butyl Ether	16.9	20.0	84	16.8	20.0	84	70 - 130	<1	20
Naphthalene	19.6	20.0	98	18.4	20.0	92	70 - 130	6	20
Styrene	17.1	20.0	85	16.9	20.0	85	70 - 130	1	20
Tetrachloroethene (PCE)	18.1	20.0	90	18.1	20.0	91	70 - 130	<1	20
Tetrahydrofuran (THF)	15.9	20.0	79	16.2	20.0	81	70 - 130	2	20
Toluene	16.7	20.0	84	16.8	20.0	84	70 - 130	<1	20
Trichloroethene (TCE)	19.6	20.0	98	19.3	20.0	96	70 - 130	2	20
Trichlorofluoromethane (CFC 11)	20.1	20.0	100	19.6	20.0	98	70 - 130	3	20
Vinyl Chloride	18.3	20.0	92	18.5	20.0	92	70 - 130	<1	20
cis-1,2-Dichloroethene	18.1	20.0	91	18.5	20.0	93	70 - 130	2	20
cis-1,3-Dichloropropene	16.8	20.0	84	16.8	20.0	84	70 - 130	<1	20
m,p-Xylenes	35.0	40.0	88	35.1	40.0	88	70 - 130	<1	20
n-Butylbenzene	17.3	20.0	87	17.9	20.0	89	70 - 130	3	20
n-Propylbenzene	18.2	20.0	91	18.1	20.0	90	70 - 130	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly/150151
Sample Matrix: Soil

Service Request: R1306722
Date Analyzed: 9/24/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C


Units: µg/Kg
Basis: Dry

Analysis Lot: 359862

Analyte Name	Lab Control Sample RQ1311704-02			Duplicate Lab Control Sample RQ1311704-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
o-Xylene	17.3	20.0	86	17.1	20.0	85	70 - 130	1	20
sec-Butylbenzene	17.8	20.0	89	17.9	20.0	89	70 - 130	<1	20
tert-Amyl Methyl Ether	19.2	20.0	96	16.4	20.0	82	70 - 130	15	20
tert-Butylbenzene	17.8	20.0	89	17.3	20.0	87	70 - 130	3	20
trans-1,2-Dichloroethene	17.8	20.0	89	18.6	20.0	93	70 - 130	4	20
trans-1,3-Dichloropropene	16.0	20.0	80	16.3	20.0	81	70 - 130	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Project Name Varian		Project Number 150151		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																	
Project Manager Kay Cadorette		Report CC		PRESERVATIVE																	
Company/Address 150 Royall Pr. Canton, MA 02021				NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 824 • CLP GC/MS SVOAs • 8270 • 825 GC VOAs • 8021 • 801/802 PESTICIDES • 8081 • 808 PCBs • 8082 • 808 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) 9260 Vol. FP 8260 Vol. FP 160.3 Met. TS	Preservative Key 0. NONE 1. HCL 2. HNO ₃ 3. H ₂ SO ₄ 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO ₄ 8. Other _____															
						REMARKS/ ALTERNATE DESCRIPTION															
Phone # 617-589-6102		Email Kay.Cadorette@CBIE.com																			
Sampler's Signature <i>[Signature]</i>		Sampler's Printed Name Dale Danley																			
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE		TIME	MATRIX																
091033-01		9/10/13	11:03	S	4																
091033-02		9/10/13	11:45	S	4																
091133-03		9/11/13	8:00	GW	3																
091134-01		9/11/13	11:45	S	4																
091134-02		9/11/13	12:00	S	4																
091134-03		9/11/13	14:30	GW	3																
091235-01		9/12/13	10:00	S	4																
0912-Drum-01		9/12/13	10:30	S	4																
091235-02		9/12/13	12:30	GW	3																
TRIP BLANK		9/04/13	14:20	W	3																
SPECIAL INSTRUCTIONS/COMMENTS All non-preserve sample frozen within 24 hours of collection.						TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 1 day ____ 2 day ____ 3 day ____ 4 day ____ 5 day ____ Standard REQUESTED REPORT DATE _____						REPORT REQUIREMENTS I. Results Only II. Results + QC Summaries (LCS, DUP, MS/MSD as required) III. Results + QC and Calibration Summaries IV. Data Validation Report with Raw Data MADEP CAM						INVOICE INFORMATION PO # 870637 BILL TO: Shaw E/I			
STATE WHERE SAMPLES WERE COLLECTED																					
RELINQUISHED BY Dale Danley		RECEIVED BY UPS		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		R1306722 7 Y CB&I Environmental & Infrastructure Varian Beverly 					
Signature		Signature		Signature		Signature		Signature		Signature		Signature		Signature							
Printed Name		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name							
Firm		Firm		Firm		Firm		Firm		Firm		Firm		Firm							
Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time							



Cooler Receipt and Preservation Check Form

Project/Client Varian Folder Number B13-6722

Cooler received on 9/13 by: JS COURIER: ALS UPS FEDEX VELOCITY CLIENT

1. Were custody seals on outside of cooler? YES NO
2. Were custody papers properly filled out (ink, signed, etc.)? YES NO
3. Did all bottles arrive in good condition (unbroken)? YES NO
4. Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
5. Were Ice or Ice packs present? YES NO
6. Where did the bottles originate? ALS/ROC, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: 4.5

Is the temperature within 0° - 6° C?: Y N DN Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 9/13/13 1035

Thermometer ID: IR GUN#3 / IR GUN#4 Reading From: Temp Blank / Sample Bottle

If out of Temperature, note packing/ice condition & Client Approval to Run Samples:

All Samples held in storage location 11012 by JS on 9/13 at 1035
5035 samples placed in storage location by on at

PC Secondary Review: [Signature]

Cooler Breakdown: Date: 9/14/13 Time: 1109 by: JS

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
2. Did all bottle labels and tags agree with custody papers? YES NO
3. Were correct containers used for the tests indicated? YES NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
≥12	NaOH							<u>1</u>		
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)						No = Samples were preserved at lab as listed PM OK to Adjust:
	Na ₂ S ₂ O ₃	-	-							
	Zn Aceta	-	-							
	HCl	*	*	<u>4/12/00</u>						

*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: Client covered, 3-122-002, 081913-3

Other Comments:

MeOH Lot # 051313-3

PC Secondary Review: MKP 9/13/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Reduced Deliverable Package

Prepared for:

Varian Beverly

Lab ID

SDG Batch: VARBEV130412SEI

Project Number: 146898

Samples Received

12-Apr-13

Report

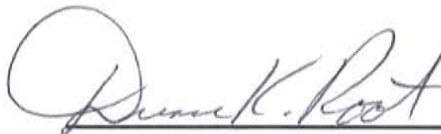
21-May-13

**Shaw Environmental, Inc. (A CB&I Company)
Technology Development Laboratory**

**304 Directors Dr
Knoxville, TN 37923**

Tel: 865/690-3211

Fax: 865/694-9573

 5-21-13

**Duane K. Root, PhD Date
Laboratory Analytical Manager**

Table of Contents	1.0 General Information	SDG Batch: VARBEV130412SEI
--------------------------	--------------------------------	----------------------------

1.0 General Information

Sample ID Table

Chain of custody

Internal chains of custody

Methodology Review

Data Reporting Qualifiers

2.0 Sample Summary Results

3.0 QA/QC Report

Chain of Custody (s)	SDG Batch: VARBEV130412SEI
----------------------	----------------------------

Sample COC Summary

Batch No. Batch_041113_041113

Sample Site	Date	Time	Received	Field Sample ID	LAB SEK#	COC Doc #	Matrix	DHE				
Varian Beverly	04112013	8:30	04122013	OB95(23')	SEK_8972	VarBev041113_Pg1of2	WG	X				
Varian Beverly	04112013	9:30	04122013	Unnamed Stream	SEK_8973	VarBev041113_Pg1of2	WG	X				
Varian Beverly	04112013	10:30	04122013	BW-9(12.5')	SEK_8974	VarBev041113_Pg1of2	WG	X				
Varian Beverly	04112013	11:00	04122013	BW-6(13')	SEK_8975	VarBev041113_Pg1of2	WG	X				
Varian Beverly	04112013	11:15	04122013	BW-8(17.5')	SEK_8976	VarBev041113_Pg1of2	WG	X				
Varian Beverly	04112013	11:40	04122013	BW-5(9')	SEK_8977	VarBev041113_Pg1of2	WG	X				
Varian Beverly	04112013	12:00	04122013	MW-9(19')	SEK_8978	VarBev041113_Pg2of2	WG	X				
Varian Beverly	04112013	12:30	04122013	BW-4(13')	SEK_8979	VarBev041113_Pg2of2	WG	X				
Varian Beverly	04112013	13:00	04122013	0B15-5(19')	SEK_8980	VarBev041113_Pg2of2	WG	X				



ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

REFERENCE DOCUMENT NO.:

PAGE 1 OF 2

Project Name/No: Varian Beverly / 146898

Sample Team Member:

Profit Center:

Project Manager:

Purchase Order No.:

Required Report Date:

Sample Shipment Date:

Laboratory Destination: Shaw E&I, Knoxville TN

Laboratory Contact: Robert Mayer

Project Contact/Phone: 865-690-3211

Carrier Waybill No.:

Bill To: #146898-02000000

Report To: Raymond Cadorette

Shaw Environmental, Inc.

100 Technology Center Drive

Stoughton, MA 02072

Sample Number	Sample Type/Description	Date/Time Collected	Container Type	Sample Volume	Pre-servative	Requested Testing Program	Condition on Receipt	Disposal Record
OB 95(23) unpooled stream	Groundwater	4-11-13 0830	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8972	
BW-9(125)	Groundwater	4-11-13 0930	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8973	
BW-6(13)	Groundwater	4-11-13 1030	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8974	
BW-8(175)	Groundwater	4-11-13 1100	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8975	
BW-5(9)	Groundwater	4-11-13 1115	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8976	
	Groundwater	4-11-13 1140	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8977	

Special Instructions:

Possible Hazard Identification: Use caution when handling.

Flammable: _____

Poison B: _____

Unknown: _____

Sample Disposal:

Return to Client: _____

Disposal 1

Archive: _____

Tu round Time:

Normal per project

1. Relinquished by:

2. Relinquished by:

3. Relinquished by:

Comments:

I.

II.

III.

Date:

Time:

Date:

Time:

Date:

Time:

Received by:

Received by:

Received by:

Date:

Time:

Project Spec

Date:

Time:

Date:

Time:

Date:

Time:



ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

REFERENCE DOCUMENT NO.:

PAGE 2 OF 2

Bill To: #146898-020000000

Project Name/No: Varian Beverly / 146898

Sample Team Member: _____

Profit Center: _____

Project Manager: _____

Purchase Order No.: _____

Required Report Date: _____

Sample Shipment Date: _____

Laboratory Destination: Shaw E&I, Knoxville TN

Laboratory Contact: Robert Mayer

Project Contact/Phone: 865-690-3211

Carrier Waybill No.: _____

Report To: Raymond Cadorette

Shaw Environmental, Inc.

100 Technology Center Drive

Stoughton, MA 02072

Sample Number	Sample Type/Description	Date/Time Collected	Container Type	Sample Volume	Pre-servative	Requested Testing Program	Condition on Receipt	Disposal Record
MW-9 (19')	Groundwater	4-11-13 1200	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8978	
BW-4 (13')	Groundwater	4-11-13 1230	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8979	
OB 15-5 (19')	Groundwater	4-11-13 1300	Glass Amber	1 Liter	Ice	Dehalococcoides sp.	SEK 8980	
	Groundwater		Glass Amber	1 Liter	Ice	Dehalococcoides sp.		
	Groundwater		Glass Amber	1 Liter	Ice	Dehalococcoides sp.		
	Groundwater		Glass Amber	1 Liter	Ice	Dehalococcoides sp.		
	Groundwater		Glass Amber	1 Liter	Ice	Dehalococcoides sp.		

Special Instructions:

Possible Hazard Identification: Use caution when handling.

Flammable:

Poison B:

Unknown:

Sample Disposal:

Return to Client:

Disposal 1

Archive:

Tu round Time:

Normal per project

1. Relinquished by:

2. Relinquished by:

3. Relinquished by:

Comments:

Level of QC Required:

I. II. III.

Date: 4-11-13

Time: 1500

Date: _____

Time: _____

Date: _____

Time: _____

Received by:

Received by:

Received by:

Date: 4/12/13

Time: 1000

Date: _____

Time: _____

Project Spec

Methodology Review

SDG Batch: VARBEV130412SEI

Parameter	Method Code (s) and Description
<i>Dehalococcoides</i> sp. in groundwater	Shaw SOP TAG-BIO-027 The microbial communities from the groundwater samples are screened for the presence of and to quantify <i>Dehalococcoides</i> sp. in groundwater by PCR. DNA methodology using Roche Real-Time LightCycler PCR instrumentation

Description of methodology

A Roche Real-Time LightCycler PCR instrument is used to determine the presence of and quantify *Dehalococcoides* sp. in groundwater. All cells (animals, plants, fungi, and bacteria) contain DNA that allows for their identification. The polymerase chain reaction (PCR) is a method of copying a specific sequence of DNA into a quantity that can be detected. If the sequence in *Dehalococcoides* sp. is located, the reaction creates multiple copies. During this reaction a genetic fluorescent tag specific for the region attaches to each copied strand of DNA, which is then detected by the instrument.

Two (2) *Dehalococcoides* species DNA (positive control/positive control duplicate), and two (2) no template controls (negative control/negative control duplicate) are analyzed along with the samples to verify the test results. Results for the control samples are included in the report.

Reporting Qualifiers	SDG Batch: VARBEV130412SEI
----------------------	----------------------------

U- Less than the method detection limit: value may change due to sample matrix and volume filtered.

J- Detection of analyte above calculated MDL but below the PQL of the analytical method.

Reported value is an estimate.

D- Diluted sample

B- The analyte was observed in laboratory blank as well as the sample

Notes/Comments:

All QC requirements were met for the analysis.

Sample SEK 8978 was very milky colored and would not filter. A 3 ml aliquot was used for the analysis

2.0 Sample Results

SDG Batch: VARBEV130412SEI

Sample Information			
Lab ID	SEK_8972	Date Sampled	4/11/2013
Sample ID	OB95(23')	Time Sampled	8:30
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

Requested Analyses									
<i>Parameter</i>	<i>Date Analyzed</i>	<i>Time Analyzed</i>	<i>Results</i>	<i>Qual</i> <i>(see below)</i>	<i>Units</i>	<i>PQL</i>	<i>MDL</i>	<i>Dilution Factor</i>	<i>Method Code</i>
DHE	05162013	15:07	120	U	cells/ml	120	120	1	SEISOP_BIO_027

() no qualification - sample run undiluted
(U) Compound not detected above method practical quantitation limit.
(D) Sample analyzed at indicated dilution

Sample Information			
Lab ID	SEK_8973	Date Sampled	4/11/2013
Sample ID	Unnamed Stream	Time Sampled	9:30
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

[illegible]

() no qualification - sample run undiluted
(U) Compound not detected above method practical quantitation limit.
(D) Sample analyzed at indicated dilution

Sample Information			
Lab ID	SEK_8974	Date Sampled	4/11/2013
Sample ID	BW-9(12.5')	Time Sampled	10:30
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

[illegible]

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

Sample Information			
Lab ID	SEK_8975	Date Sampled	4/11/2013
Sample ID	BW-6(13')	Time Sampled	11:00
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

[illegible]

(D) Sample analyzed at indicated dilution

Sample Information			
Lab ID	SEK_8976	Date Sampled	4/11/2013
Sample ID	BW-8(17.5')	Time Sampled	11:15
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

[illegible]

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

Sample Information			
Lab ID	SEK_8977	Date Sampled	4/11/2013
Sample ID	BW-5(9')	Time Sampled	11:40
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

[illegible]

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

Sample Information			
Lab ID	SEK_8978	Date Sampled	4/11/2013
Sample ID	MW-9(19')	Time Sampled	12:00
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

[illegible]

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

Sample Information			
Lab ID	SEK_8979	Date Sampled	4/11/2013
Sample ID	BW-4(13')	Time Sampled	12:30
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

[illegible]

(D) Sample analyzed at indicated dilution

Sample Information			
Lab ID	SEK_8980	Date Sampled	4/11/2013
Sample ID	0B15-5(19')	Time Sampled	13:00
SDG Number	VARBEV130412SEI	Date Received	4/12/2013
Matrix	WG	Report Date	5/21/2013

[illegible]

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

3.0 QC Summary

SDG Batch: VARBEV130412SEI

Sample Batch: DHE

SDG Batch: VARBEV130412SEI

Lab ID	Analysis Date(s)
SEK_8972	05162013
SEK_8973	05162013
SEK_8974	05162013
SEK_8975	05162013
SEK_8976	05162013
SEK_8977	05162013
SEK_8978	05162013
SEK_8979	05162013
SEK_8980	05162013

QC Batch Summary: DHE

PCR_051613

QC Method Blank Summary: DHE

SDG Batch: VARBEV130412SEI

QC Batch Blk	Date	Time	Parameter	Result	Qualifier	Units	MDL	Blank
PCR_051613	05162013	15:07	DHE	10	U	cells/ml	10	QC_NEG1BLK
	05162013	15:07	DHE	10	U	cells/ml	10	QC_NEG2BLK

Spike / Duplicate Sample Analyses: DHE	SDG Batch: VARBEV130412SEI
-----------------------------------------------	-----------------------------------

Laboratory Control Sample		PCR_051613		LCS
QC_POS1LCS		Analyzed: 05162013	Units: cells/ml	
Parameter	Spike Lvl	LCS	%Recovery	
DHE	POS	5700000	NA	
QC Limits for %Recovery = Pos				

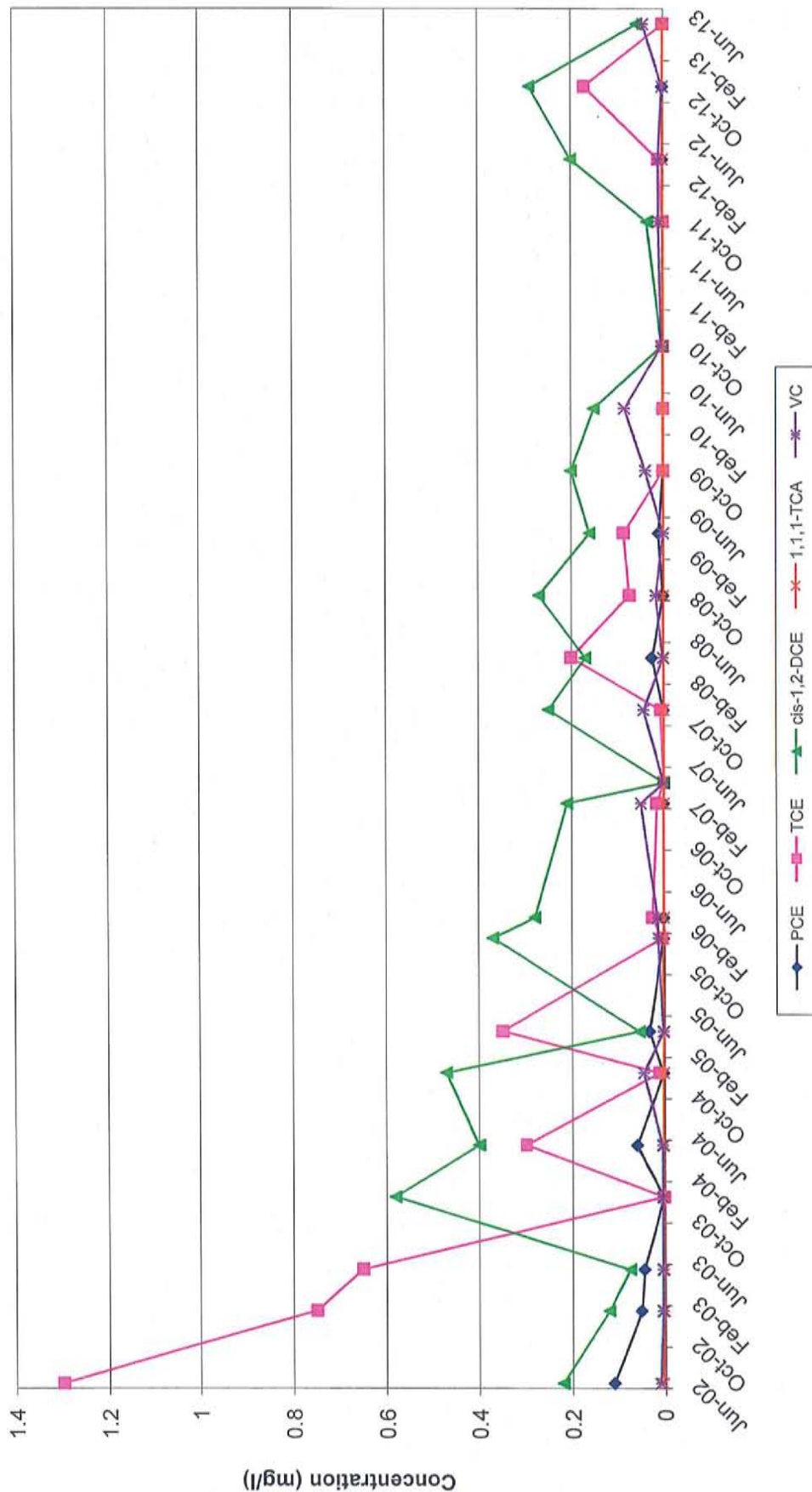
Laboratory Control Sample		PCR_051613		LCS
QC_POS2LCS		Analyzed: 05162013	Units: cells/ml	
Parameter	Spike Lvl	LCS	%Recovery	
DHE	POS	10000000	NA	
QC Limits for %Recovery = Pos				

APPENDIX D

GROUNDWATER VOC CONCENTRATION TREND GRAPHS

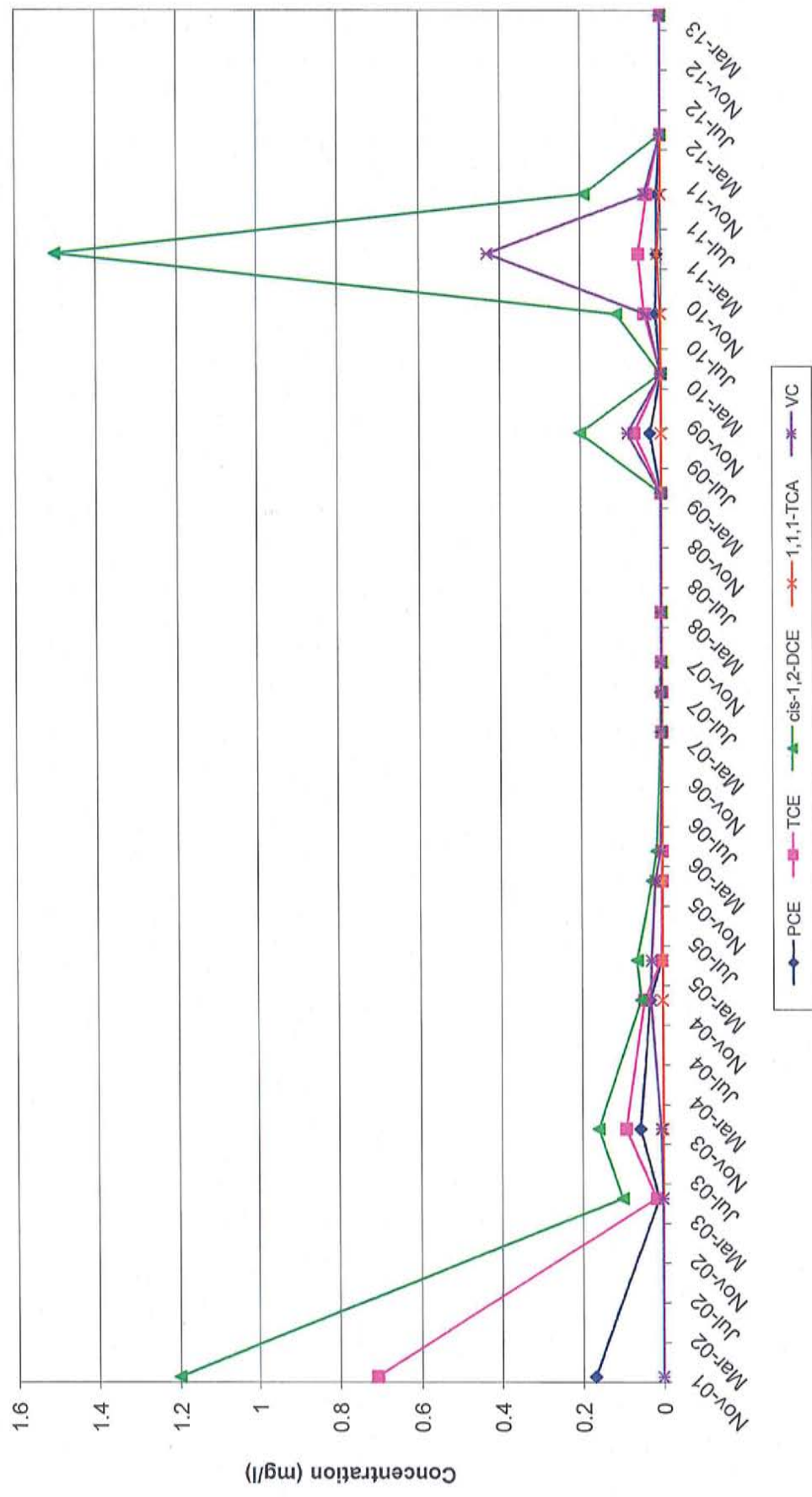
TOZER ROAD NORTH OF ROUTE 128

VOC Trends in Well CL02-BR Former Varian Facility Site Beverly, Massachusetts



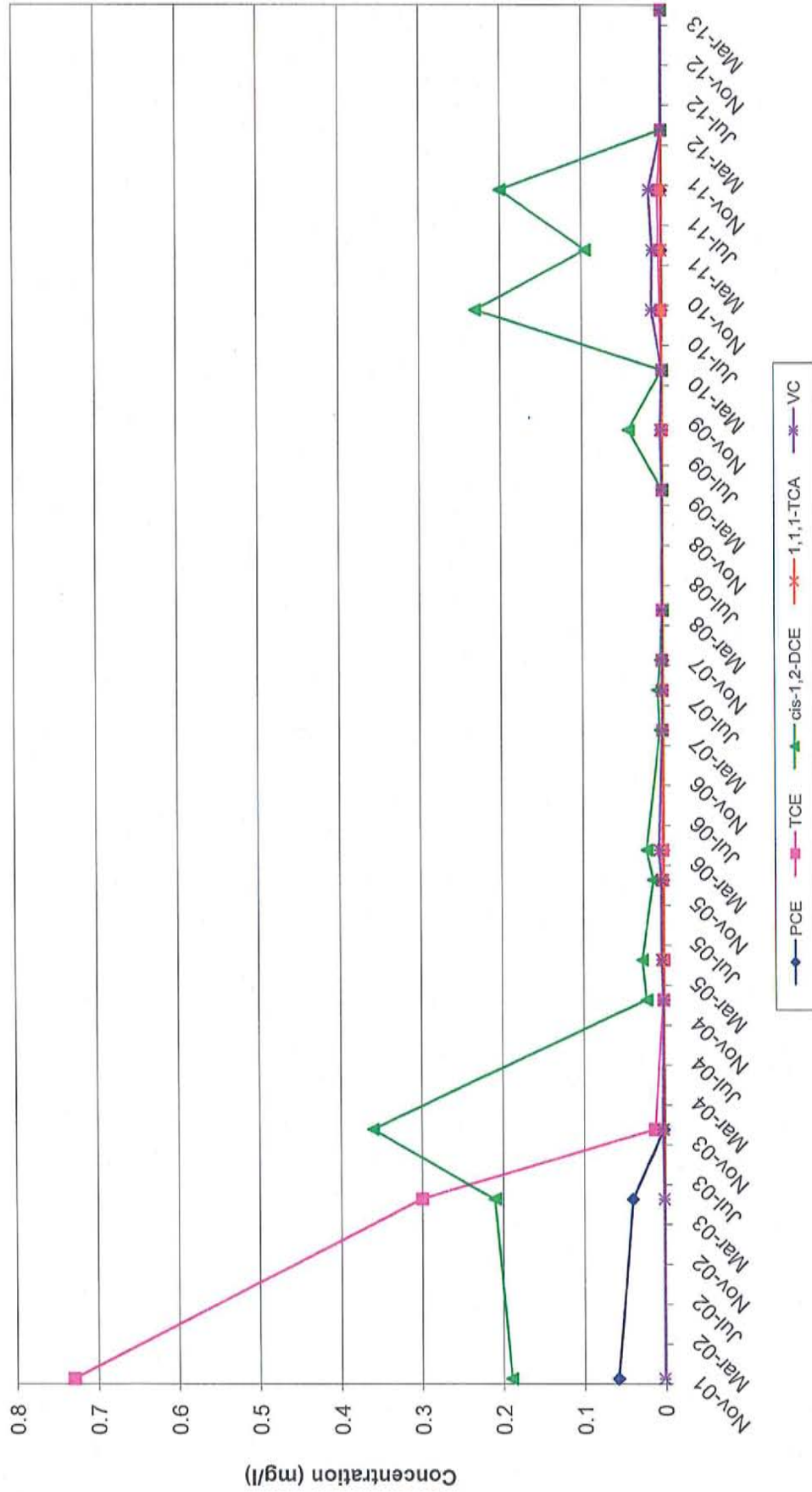
Notes: CL02-BR is a bedrock well north of Route 128 at 16 Tozer Road.
See end of appendix for additional notes.

VOC Trends in Well BR-1_ZONE1
Former Varian Facility Site
Beverly, Massachusetts



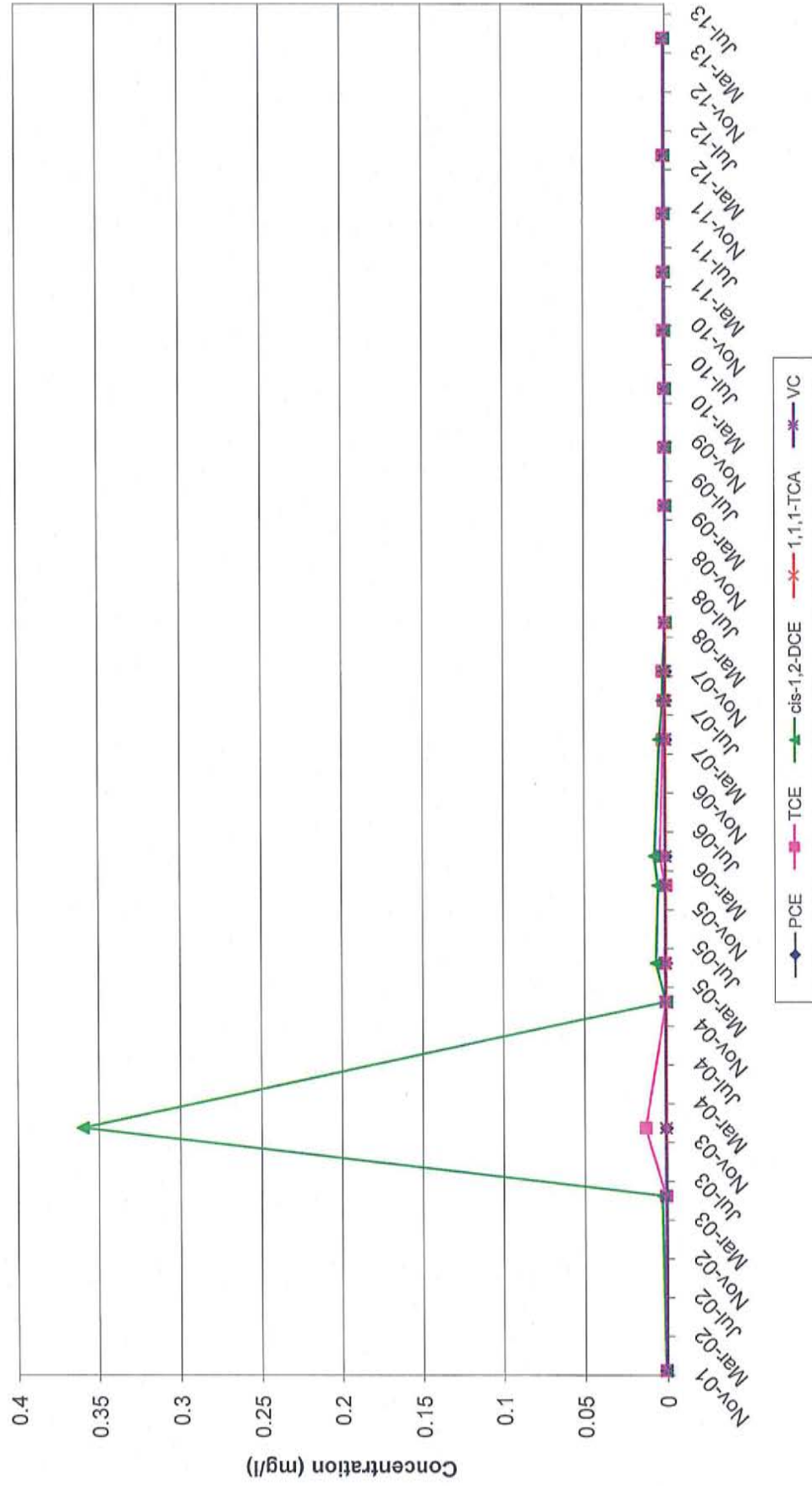
Notes: BR-1_ZONE1 is the deepest zone of a bedrock well on Walden Street.
See end of appendix for additional notes.

VOC Trends in Well BR-1_ZONE2 Former Varian Facility Site Beverly, Massachusetts



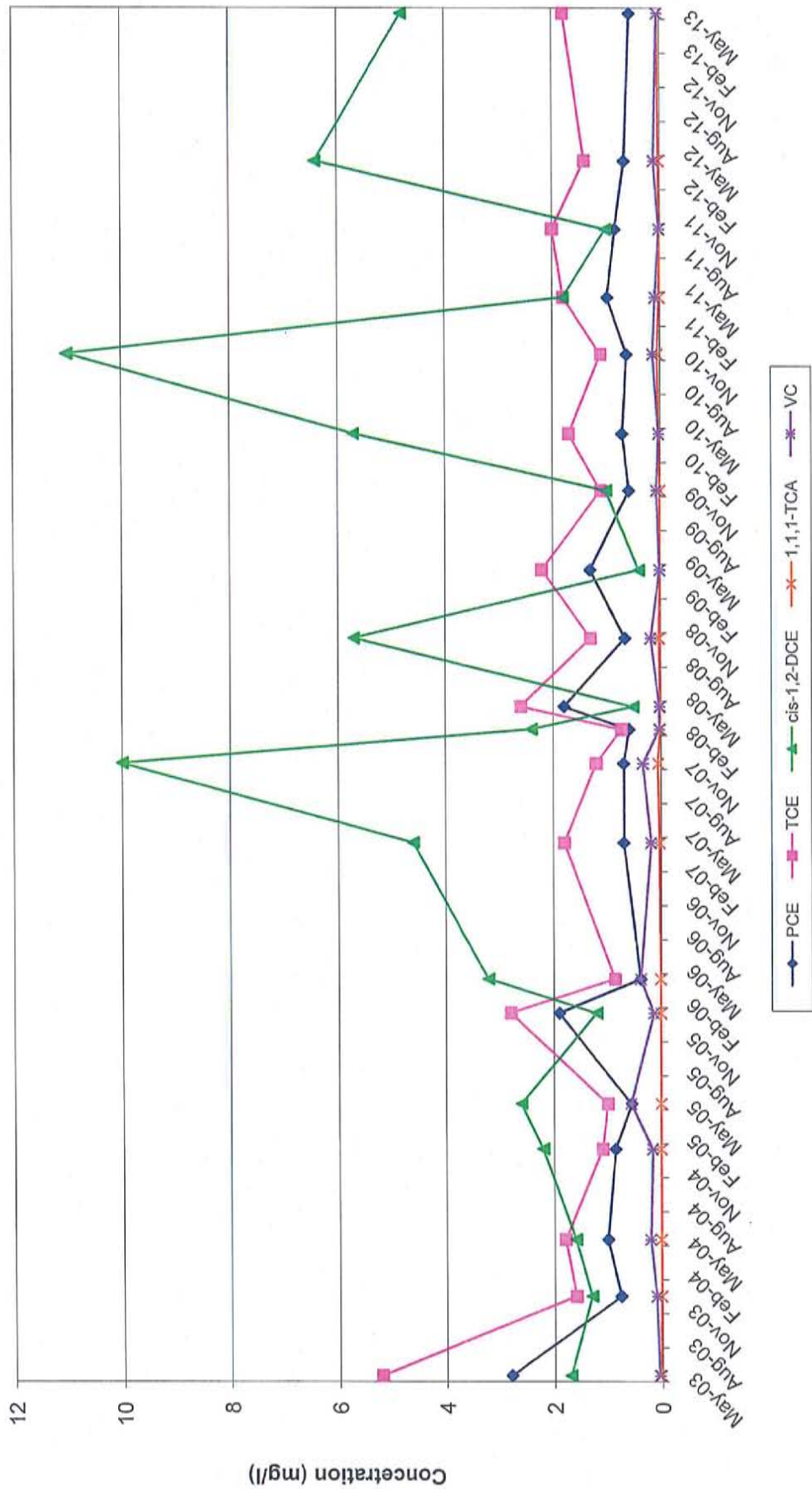
Notes: BR-1_ZONE2 is the middle depth zone of a bedrock well on Walden Street.
See end of appendix for additional notes.

VOC Trends in Well BR-1_ZONE3 Former Varian Facility Site Beverly, Massachusetts



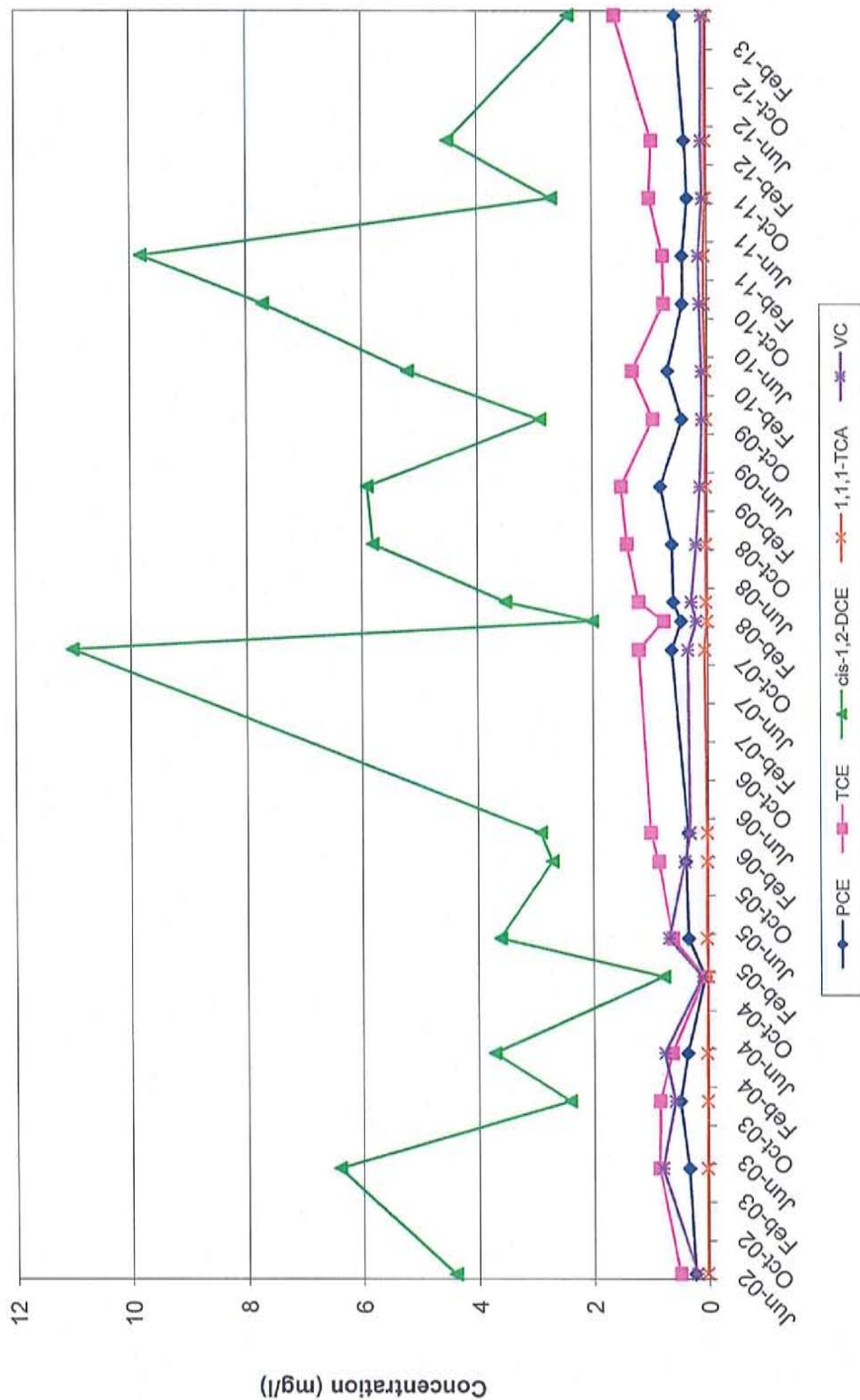
Notes: BR-1_ZONE3 is the shallowest zone of a bedrock well on Walden Street.
See end of appendix for additional notes.

VOCs in Well CL09-BR_ZONE1
Former Varian Facility Site
Beverly, Massachusetts



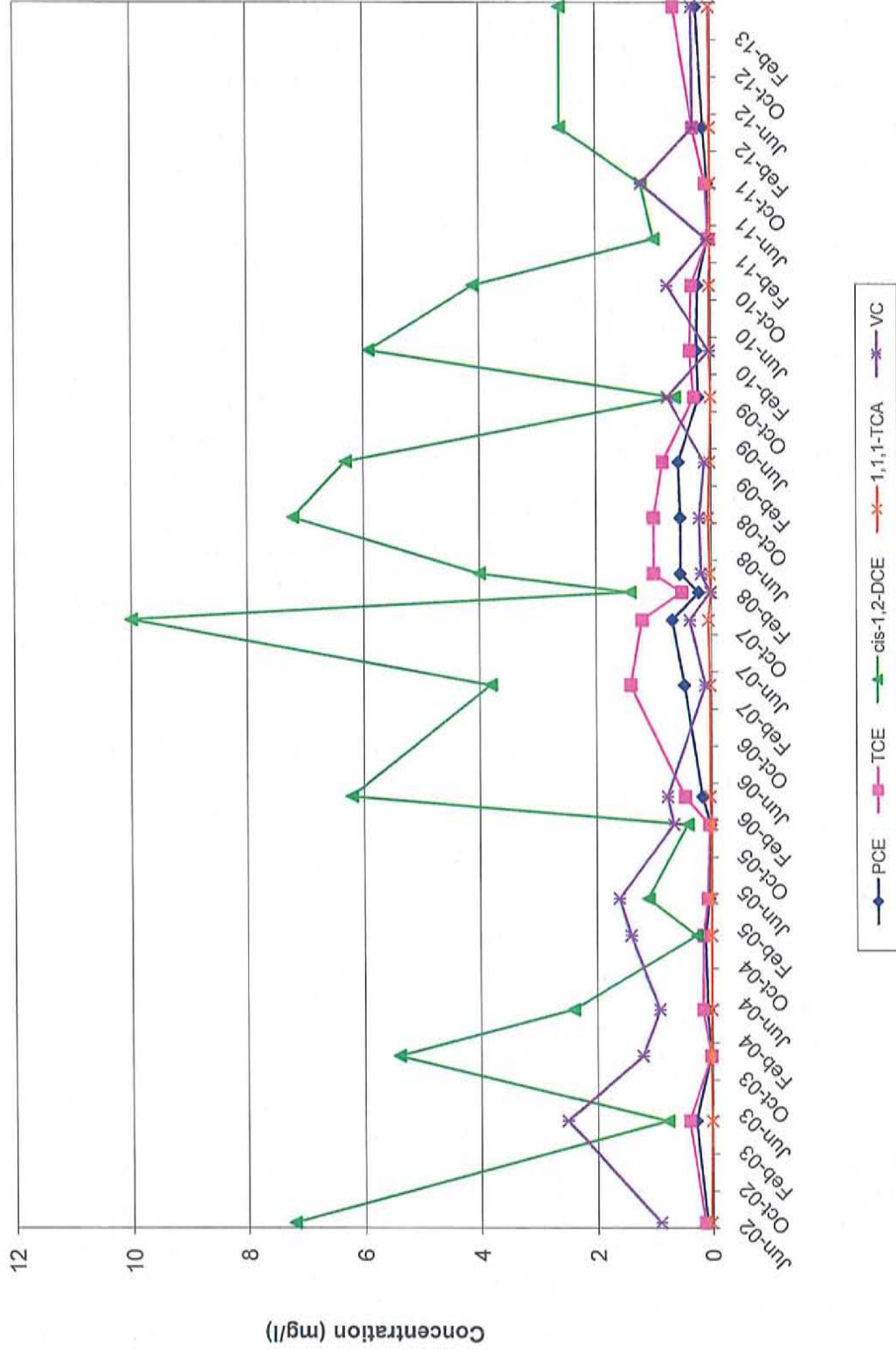
Notes: CL09-BR_ZONE1 is the deepest zone of a bedrock well north of Route 128, west of Tozer Road. See end of appendix for additional notes.

VOC Trends in Well CL09-BR_ZONE2 Former Varian Facility Site Beverly, Massachusetts



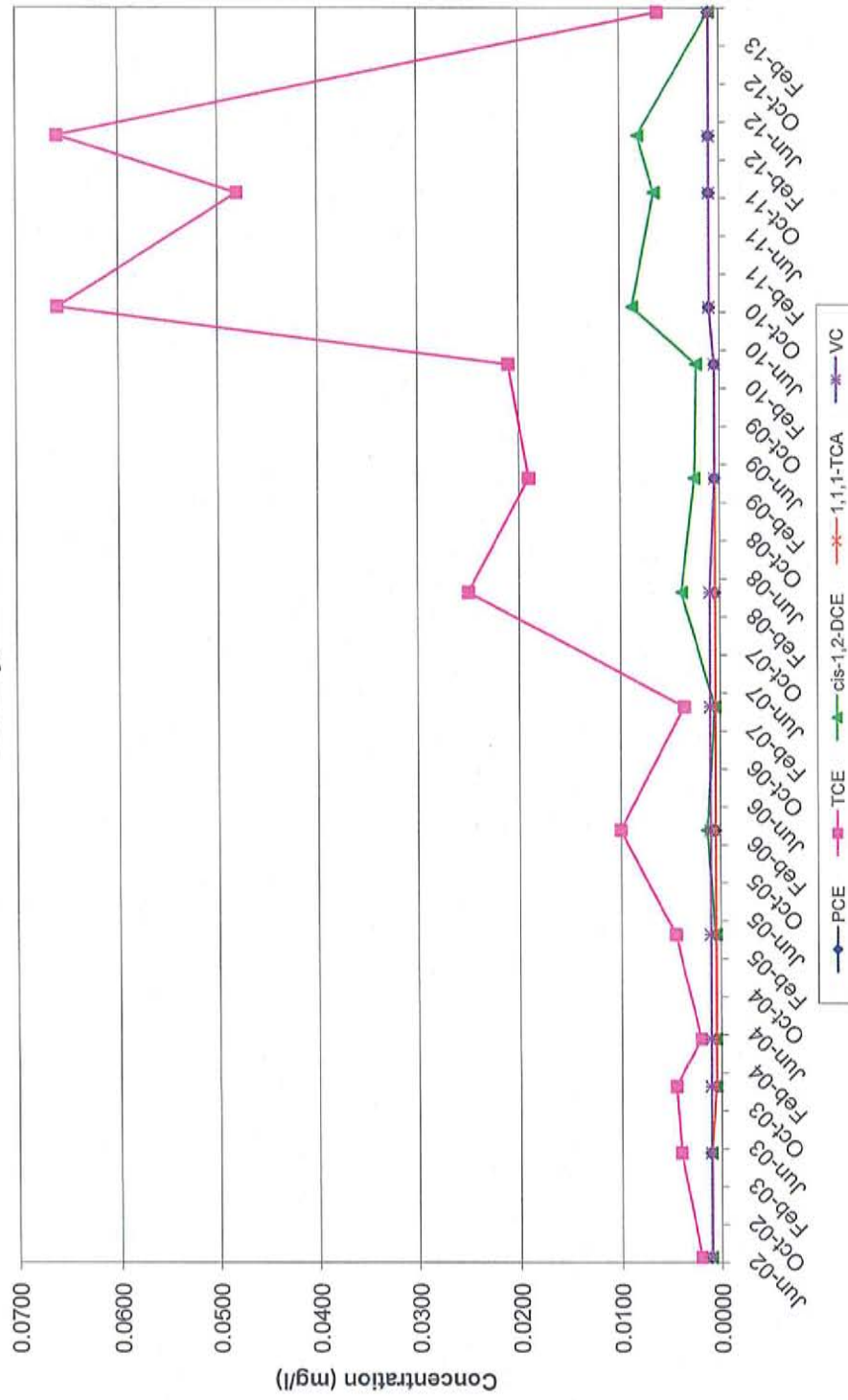
Notes: CL09-BR_ZONE2 is the middle depth zone of a bedrock well north of Route 128, west of Tozer Road. See end of appendix for additional notes.

VOC Trends in Well CL09-BR_ZONE3
Former Varian Facility Site
Beverly, Massachusetts



Notes: CL09-BR_ZONE3 is the shallowest zone of a bedrock well north of Route 128, west of Tozer Road. See end of appendix for additional notes.

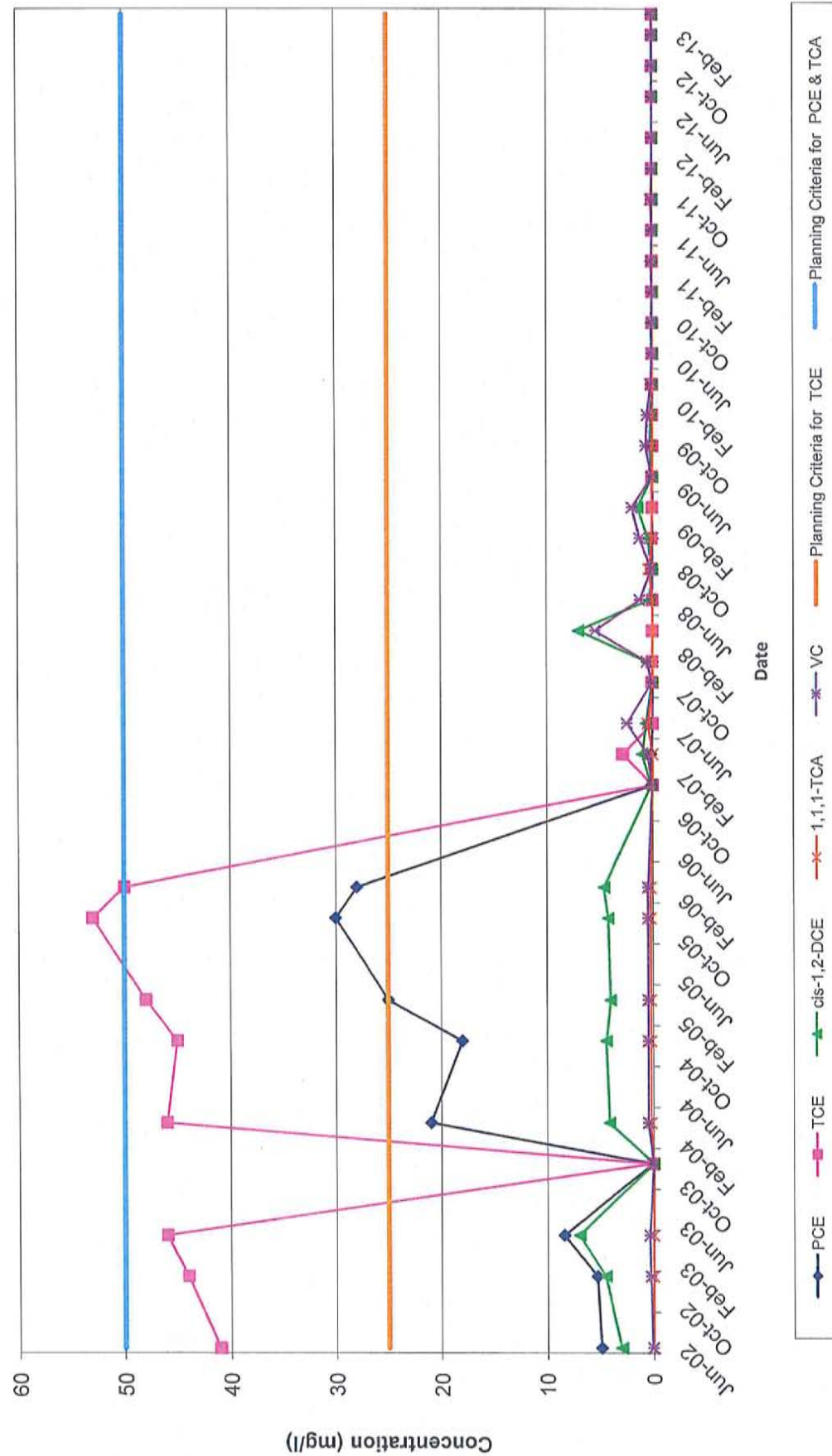
VOC Trends in Well MW-004R Former Varian Facility Site Beverly, Massachusetts



Notes: MW-4R is a deep overburden well north of Route 128 at 16 Tozer Road.
See end of Appendix E for additional notes.

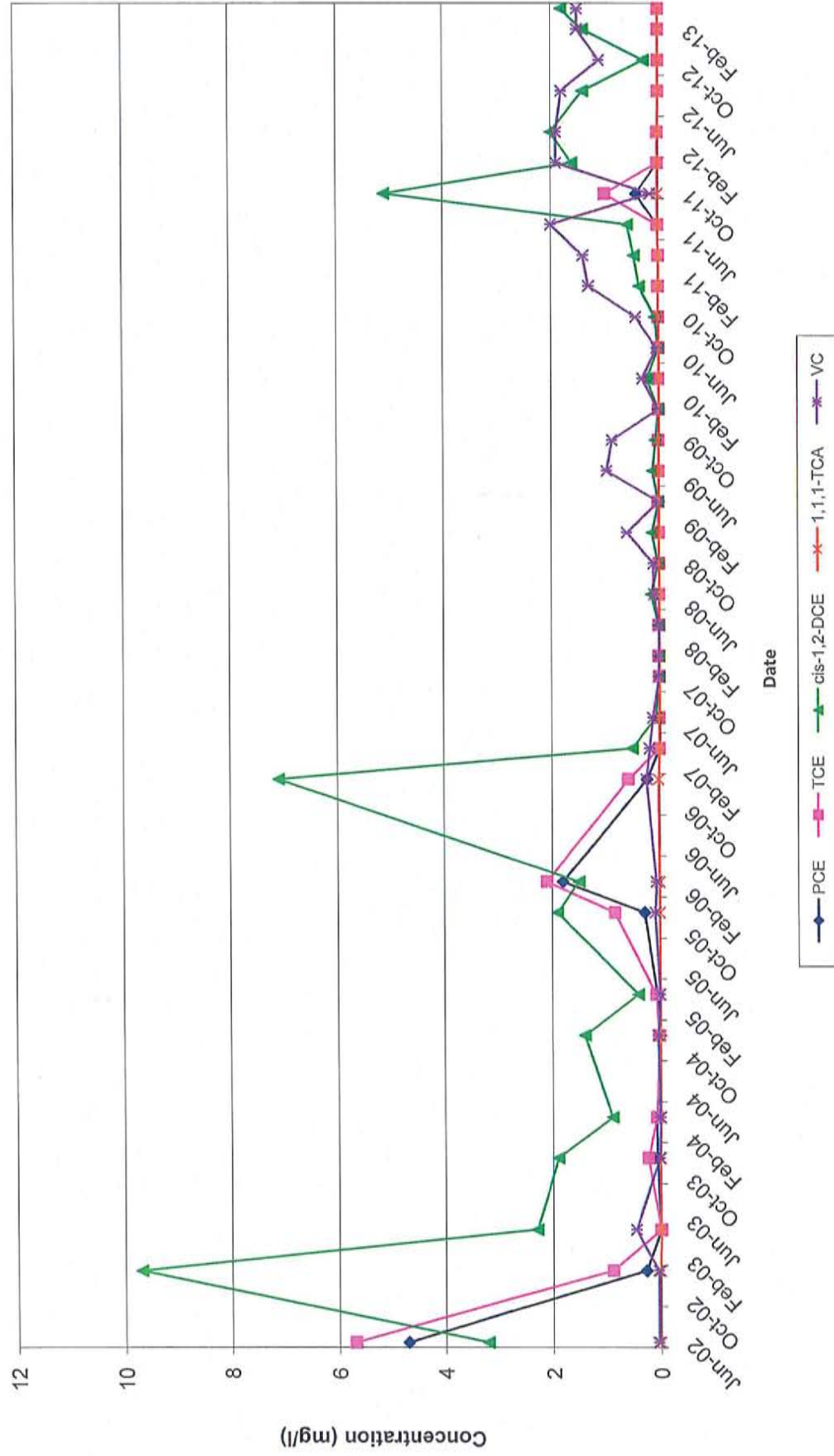
BUILDING 3/6 TREATMENT AREA

VOC Trends in Well OB-09-S Former Varian Facility Site Beverly, Massachusetts



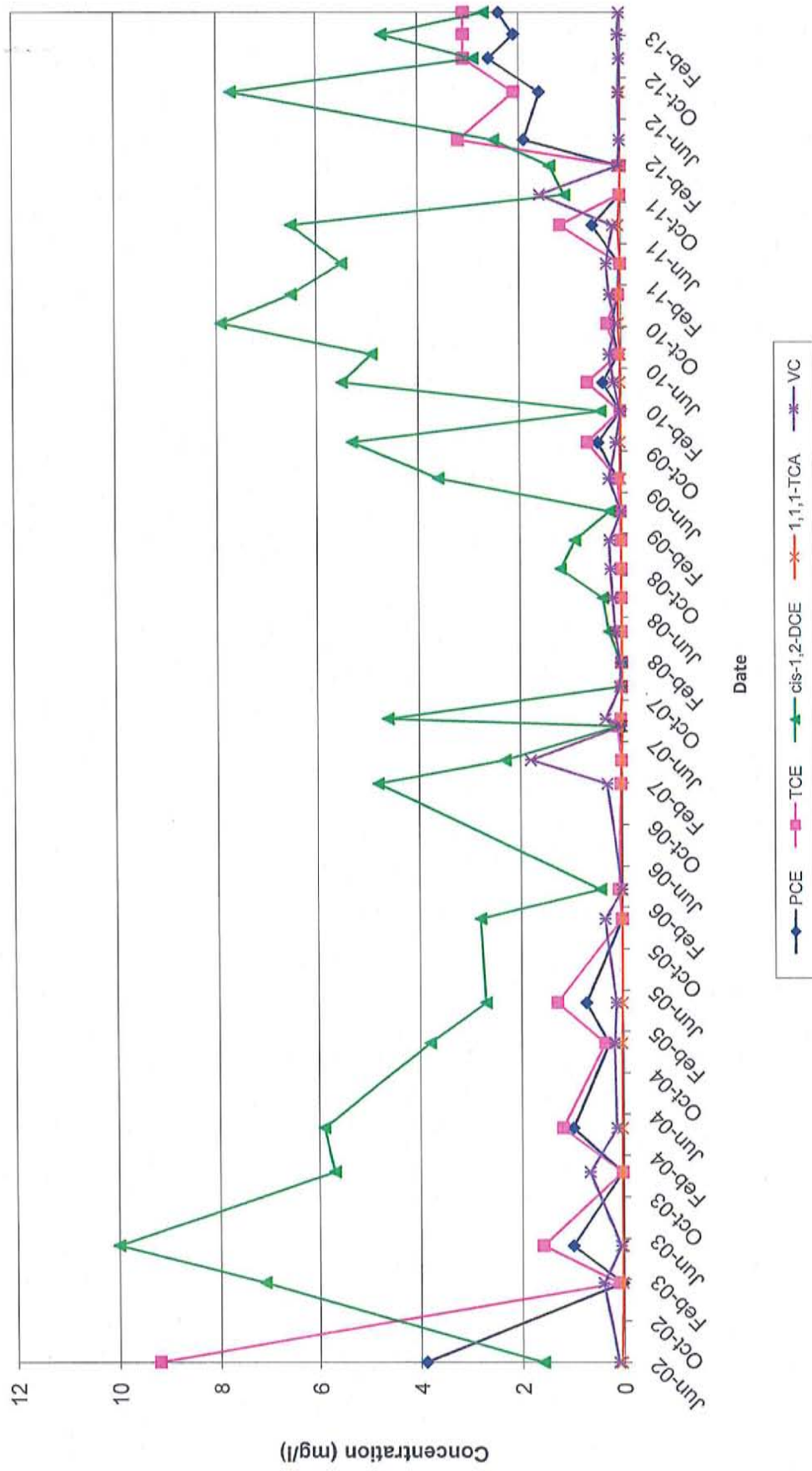
Note: OB-9-S is a shallow well east of Building 9. Bio-injection was completed from 2006 to 2012. See end of appendix for additional notes.

VOC Trends in Well OB-09-DO Former Varian Facility Site Beverly, Massachusetts



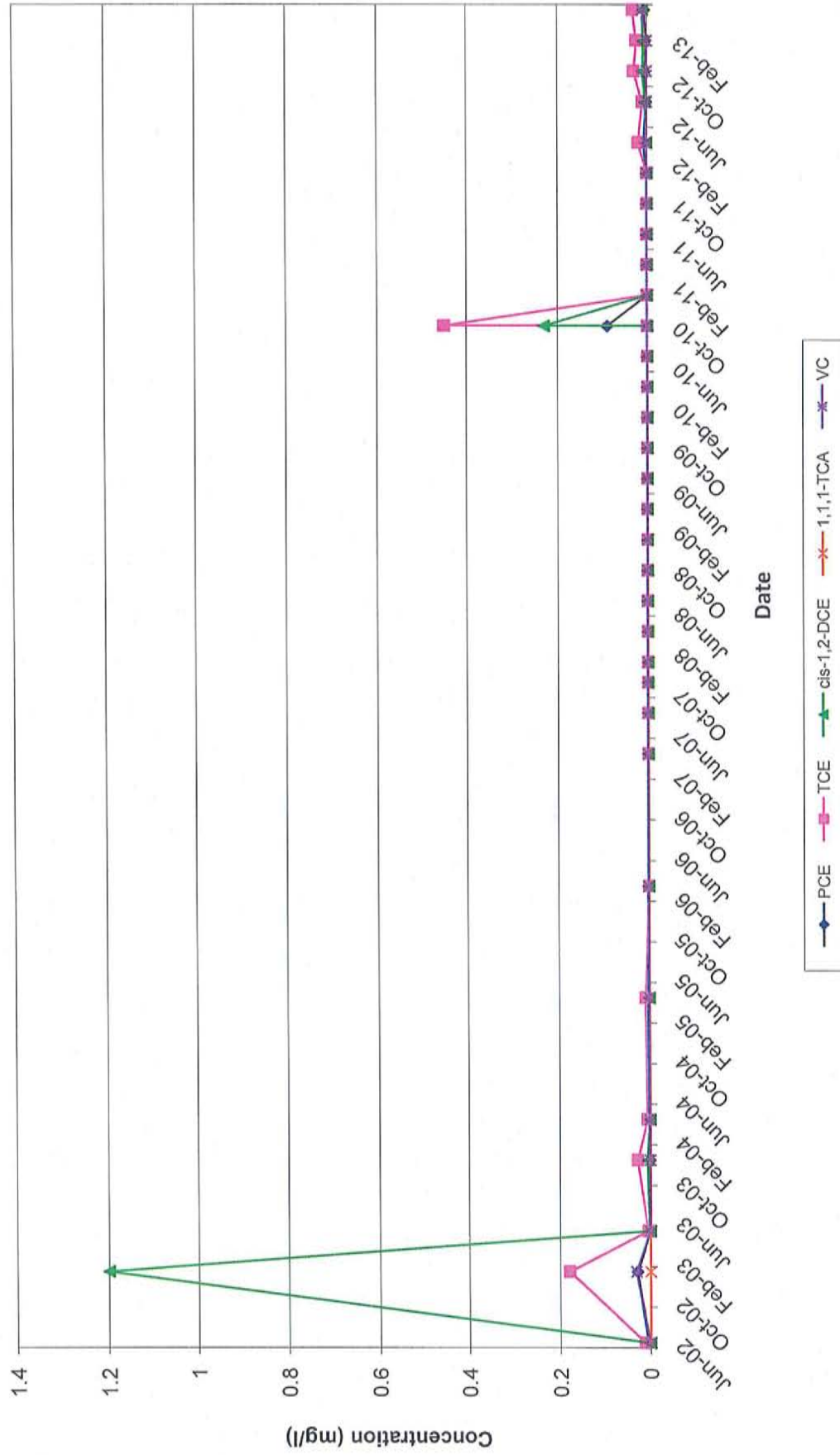
Note: OB-9-DO is a deep overburden well east of Building 9.
See end of appendix for additional notes.

VOC Trends in Well OB-09-BR Former Varian Facility Site Beverly, Massachusetts



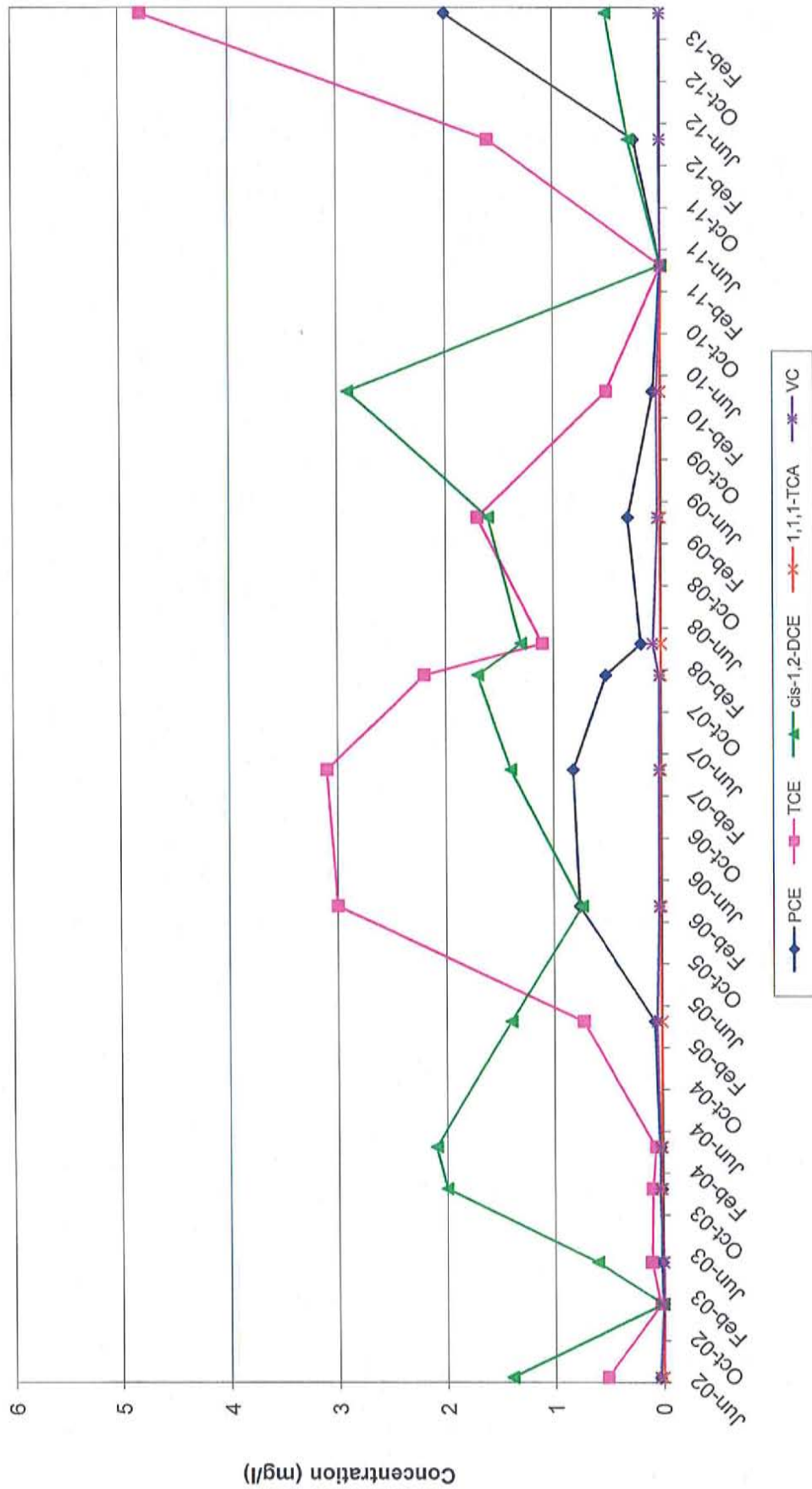
Note: OB-9-BR is a bedrock well east of Building 9.
See end of appendix for additional notes.

VOC Trends in Well OB-10-S Former Varian Facility Site Beverly, Massachusetts



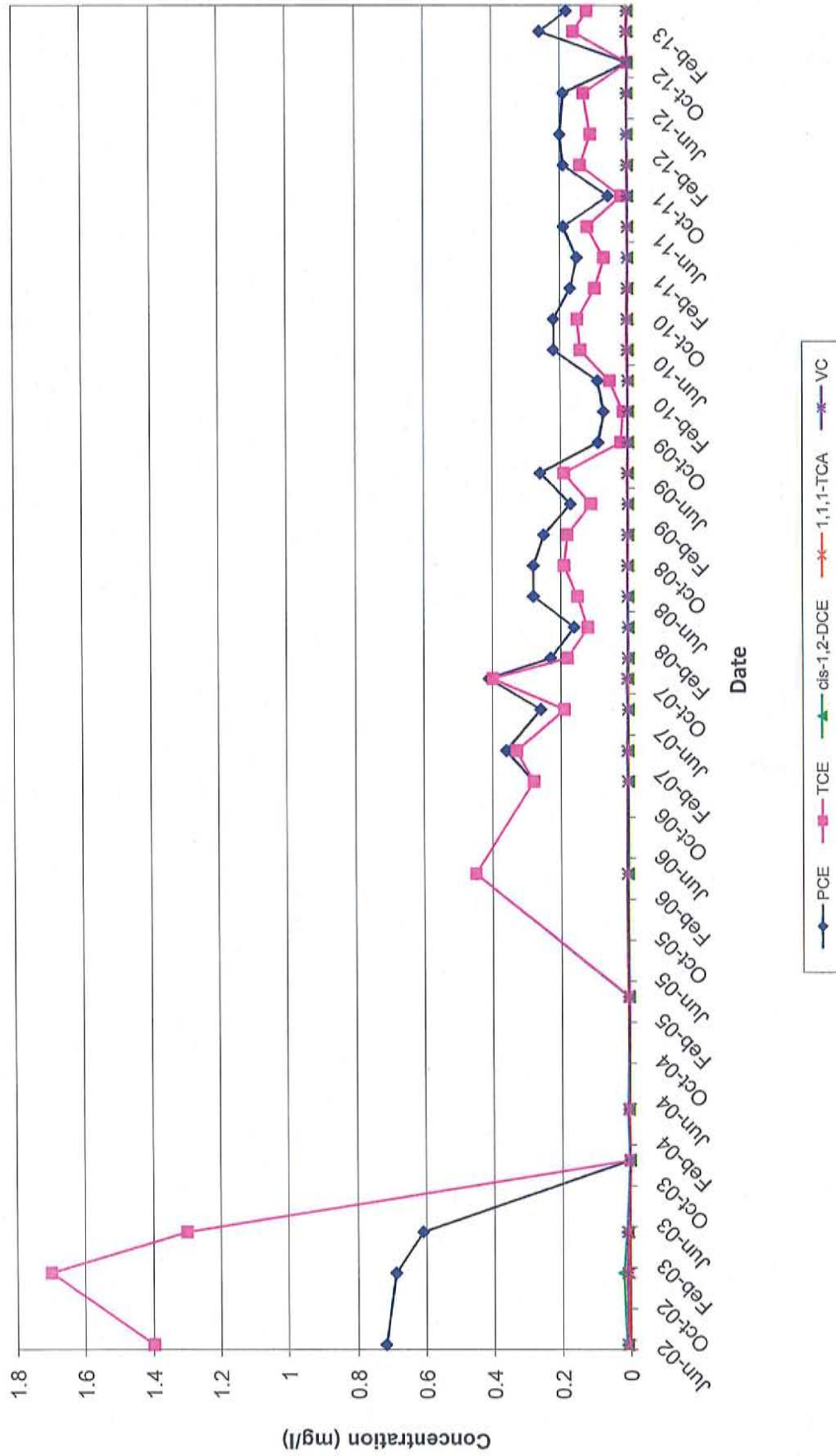
Note: OB-10-S is a shallow well adjacent to Building 4.
See end of appendix for additional notes.

VOC Trends in Well OB-10-BR
Former Varian Facility Site
Beverly, Massachusetts



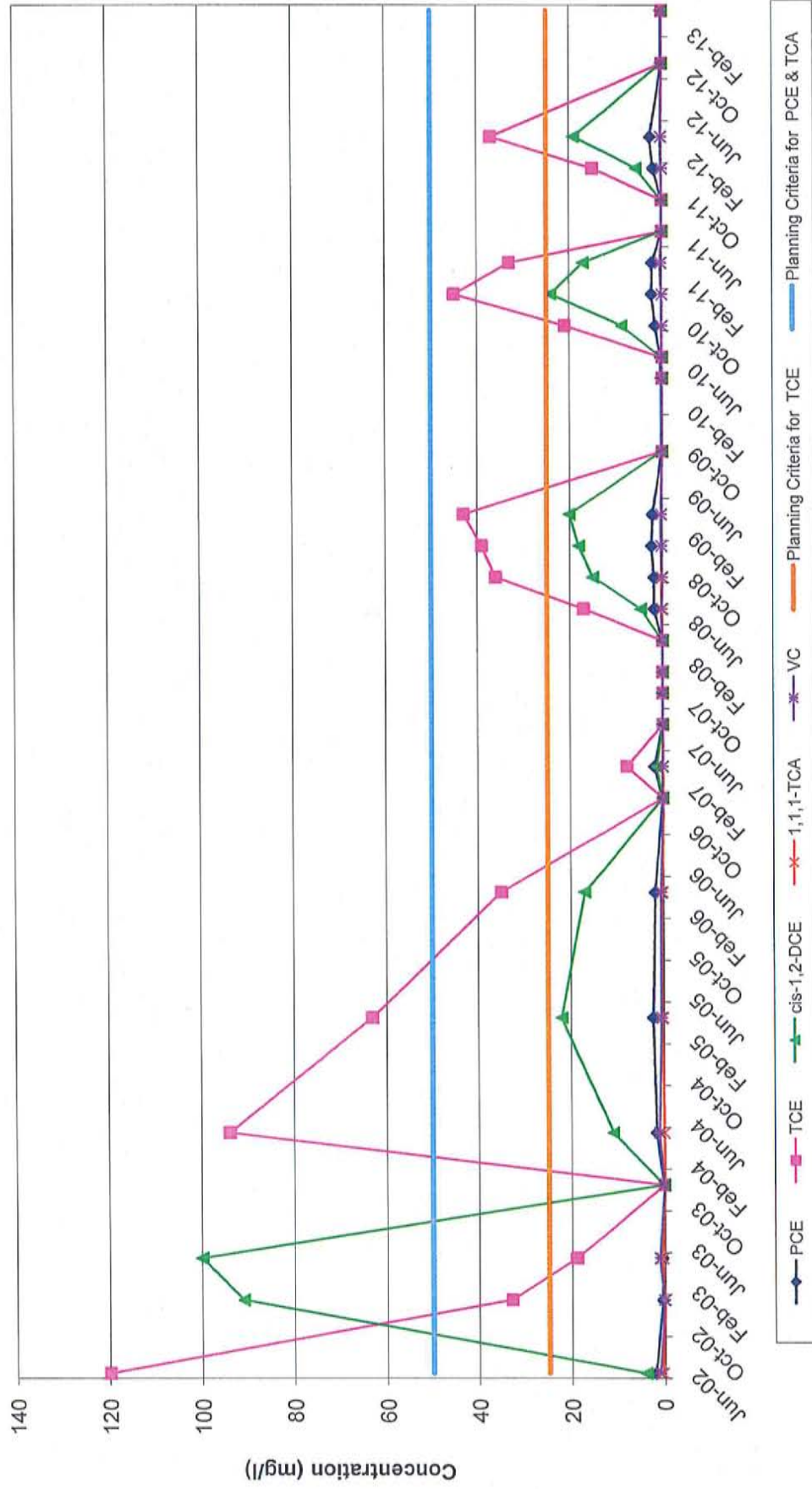
Note: OB-10-BR is a bedrock well adjacent to Building 4 where permanganate injection was completed in 2010. See end of appendix for additional notes.

VOC Trends in Well OB-12-S Former Varian Facility Site Beverly, Massachusetts



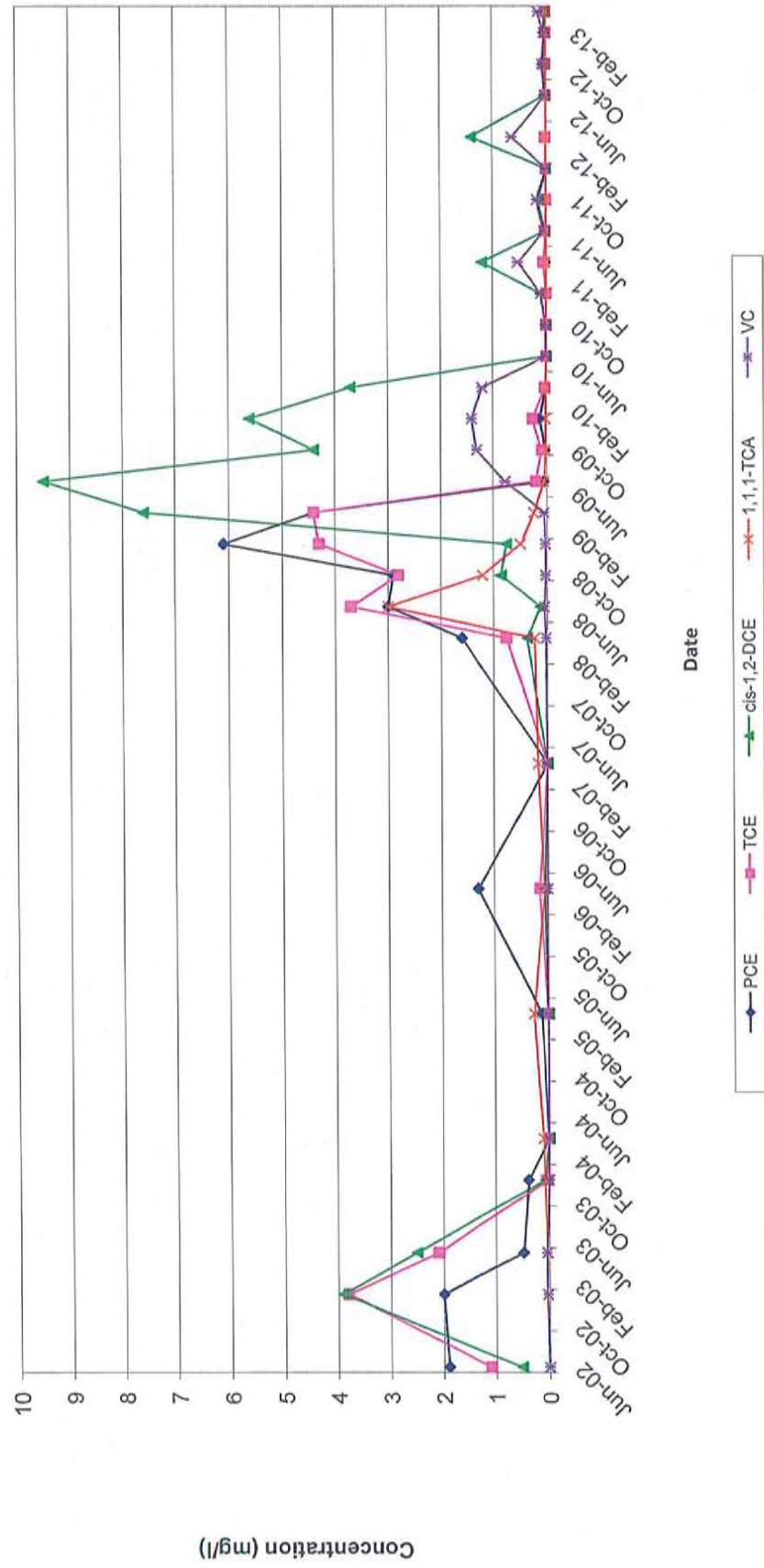
Note: OB-12-S is a shallow overburden well north of Building 3 where permanganate injection was completed in 2003. See end of appendix for additional notes.

VOC Trends in Well OB-12-DO Former Varian Facility Site Beverly, Massachusetts



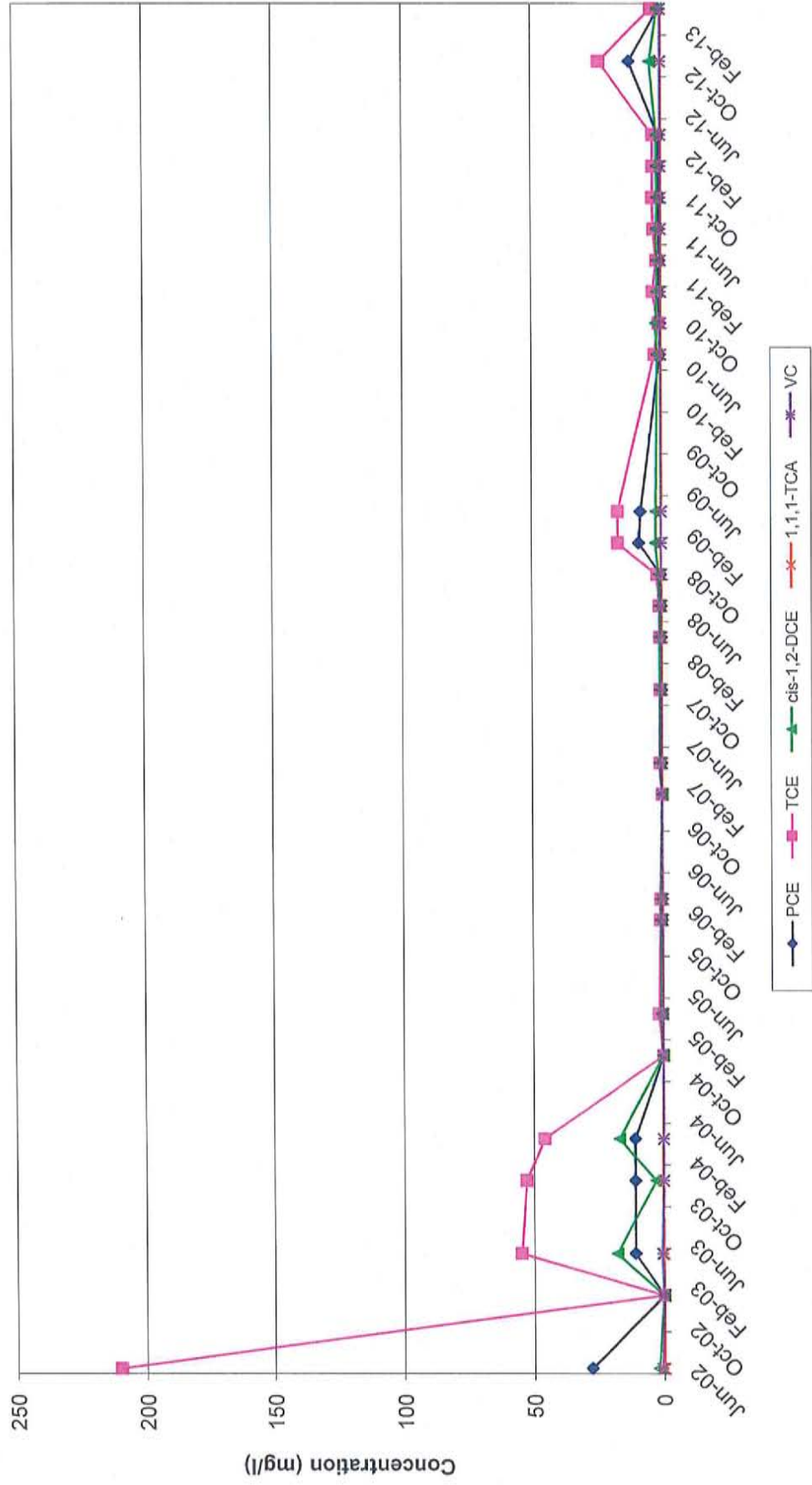
Note: OB-12-DO is a deep overburden well north of Building 3.
Permanganate injection completed 2003-2007, 2009, 2011 and 2012.
See end of appendix for additional notes.

VOC Trends in Well OB-15-S
Former Varian Facility Site
Beverly, Massachusetts



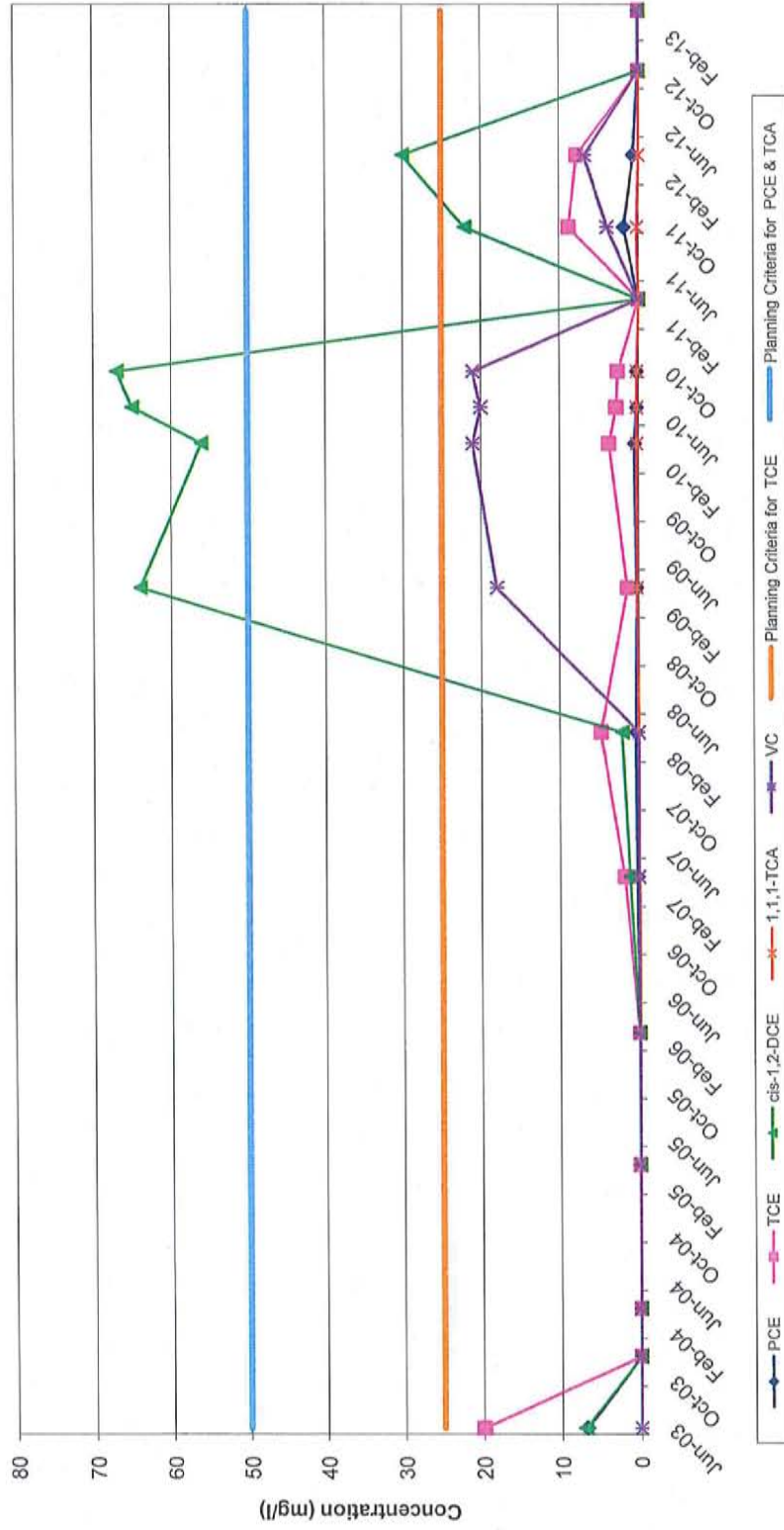
Notes: OB15-S is a shallow well northeast of Building 9.
Bio-injection was conducted from 2009 and 2012.
See end of appendix for additional notes.

VOC Trends in Well OB-19-DO Former Varian Facility Site Beverly, Massachusetts



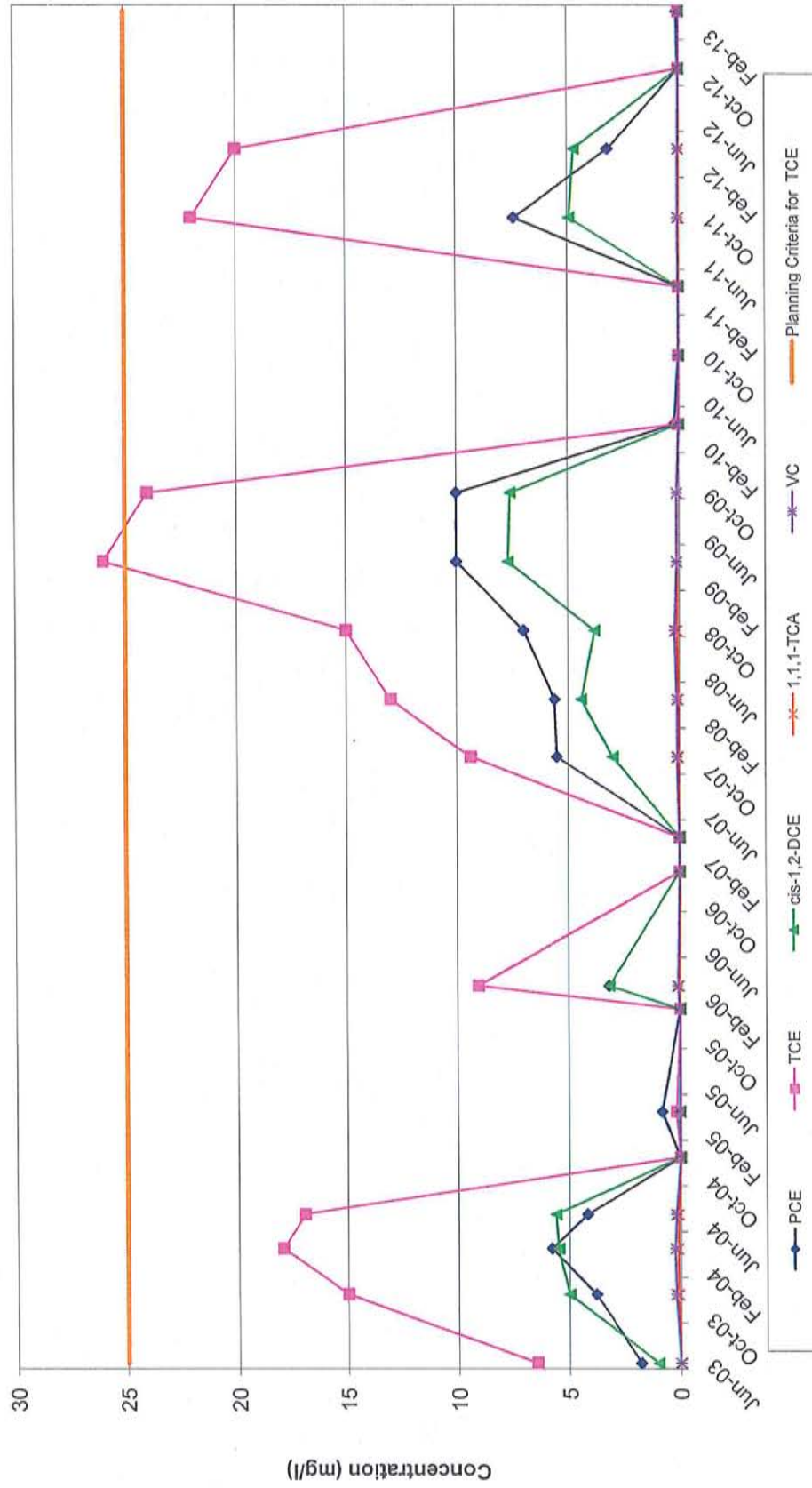
Note: OB-19-DO is a deep overburden well west of Building 2 where permanganate injection was conducted from 2002-2005. See end of appendix for additional notes.

VOC Trends in Well OB-25-BR
Former Varian Facility Site
Beverly, Massachusetts



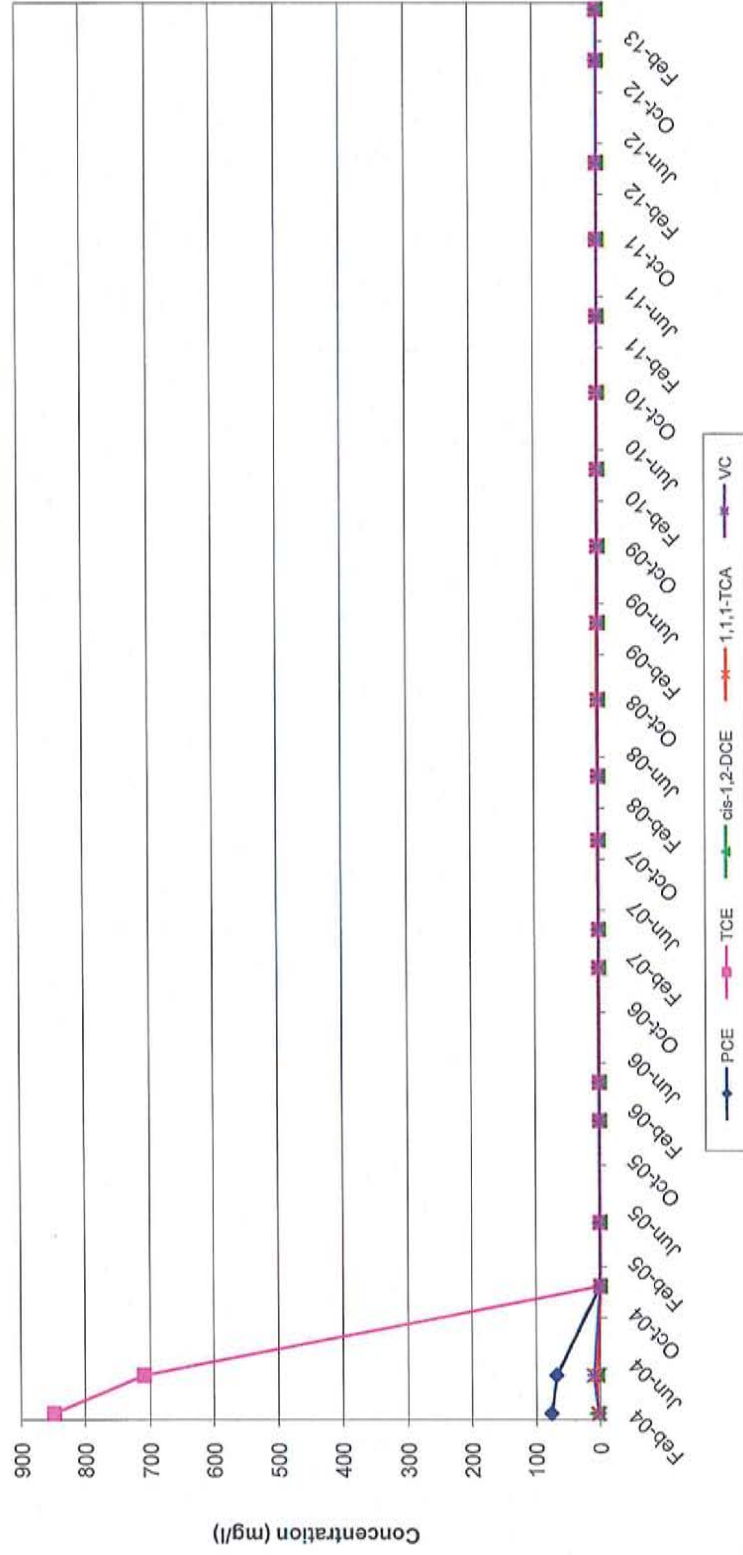
Notes: OB-25-BR is a bedrock well located just west of Building 1 where permanganate injection was conducted in 2003, 2010, and 2012. See end of appendix for additional notes.

VOC Trends in Well OB-27-BR Former Varian Facility Site Beverly, Massachusetts



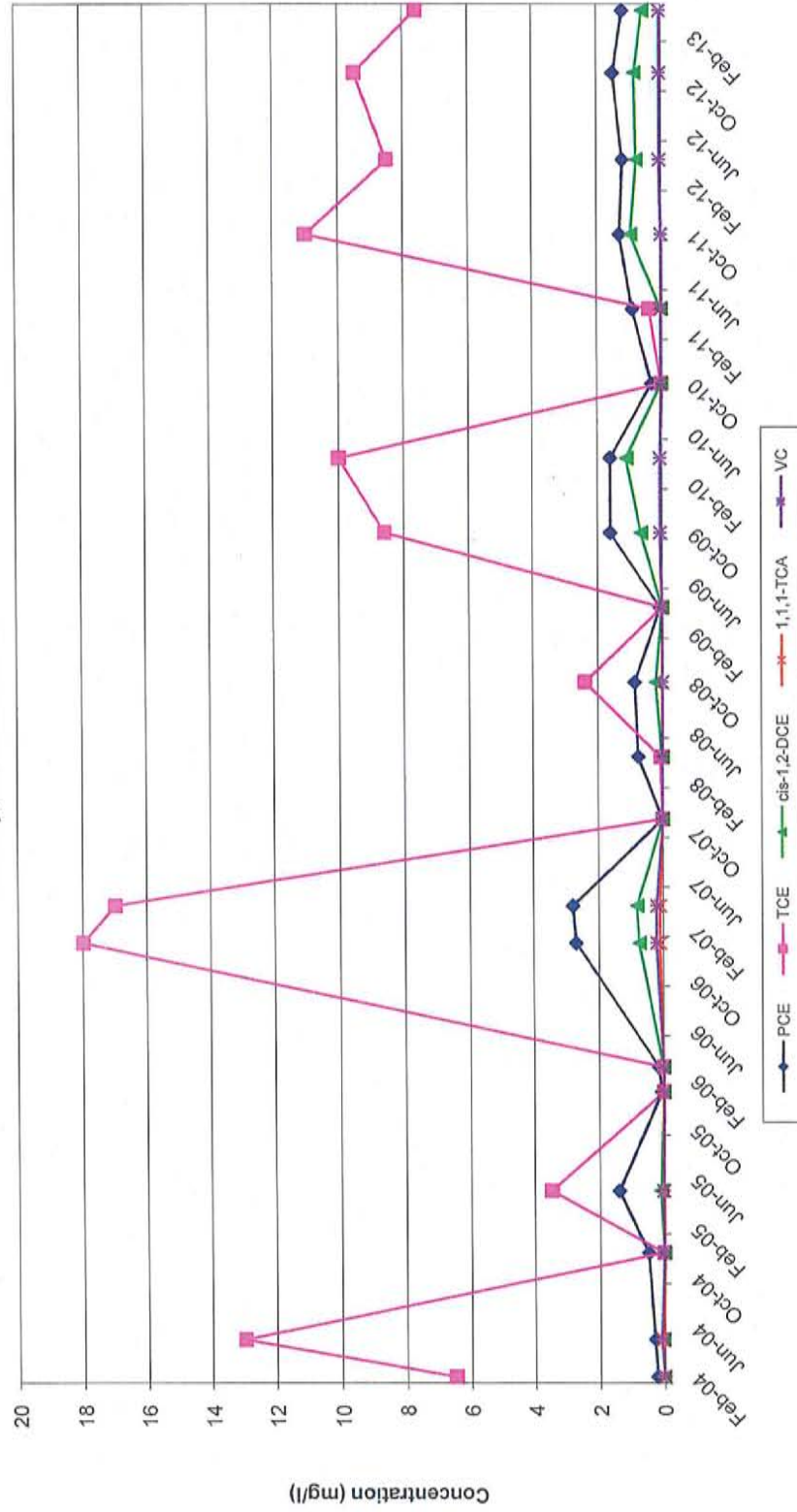
Notes: OB-27-BR is a bedrock well located west of Building 7.
Permanganate injection conducted in 2004-2007 and in 2010-2012.
See end of appendix for additional notes.

VOC Trends in Well OB-32-DO
Former Varian Facility Site
Beverly, Massachusetts



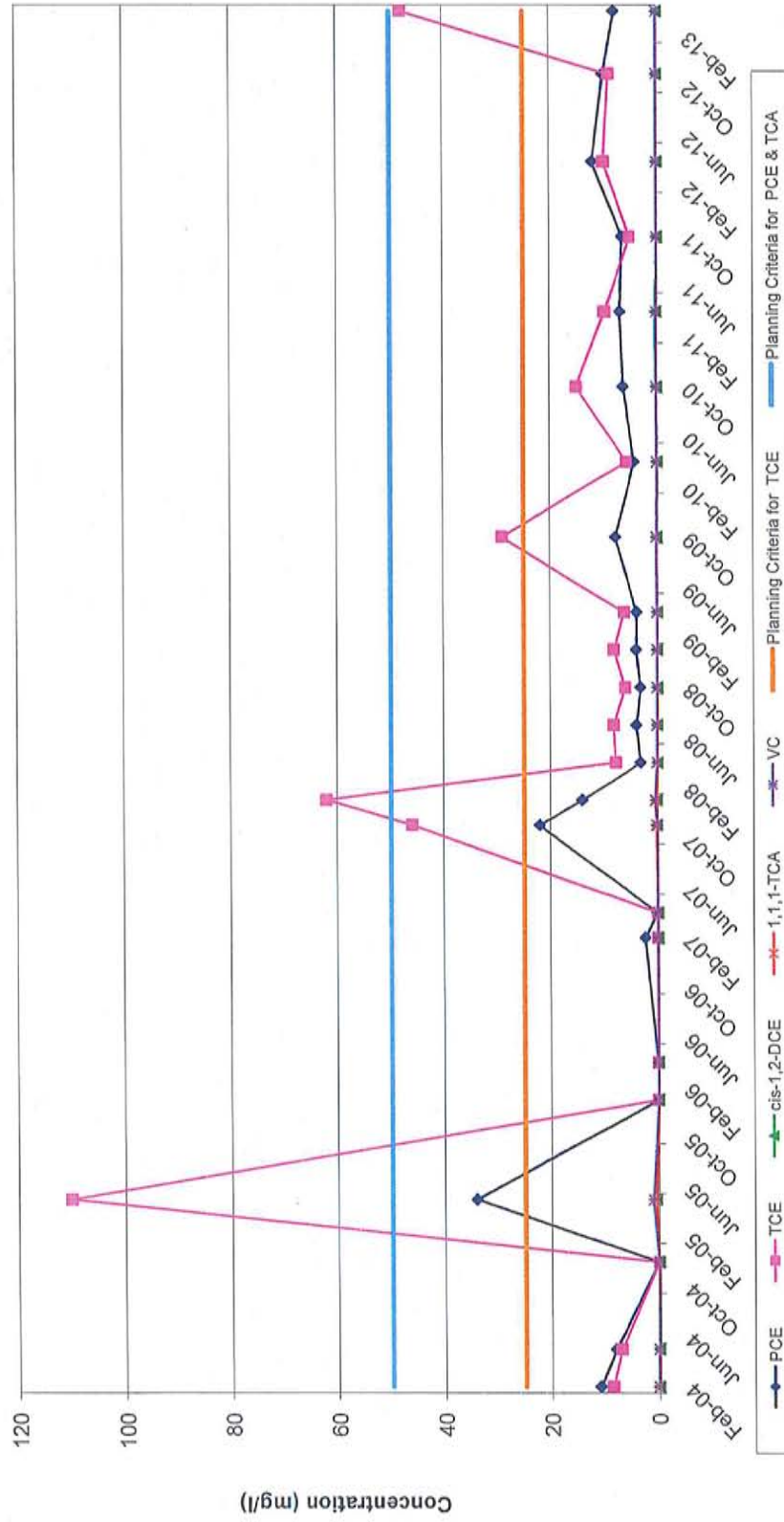
Notes: OB32-DO is a deep overburden well just north of Building 3 where injection was conducted in 2004.
See end of appendix for additional notes.

VOC Trends in Well OB-34-DO
Former Varian Facility Site
Beverly, Massachusetts



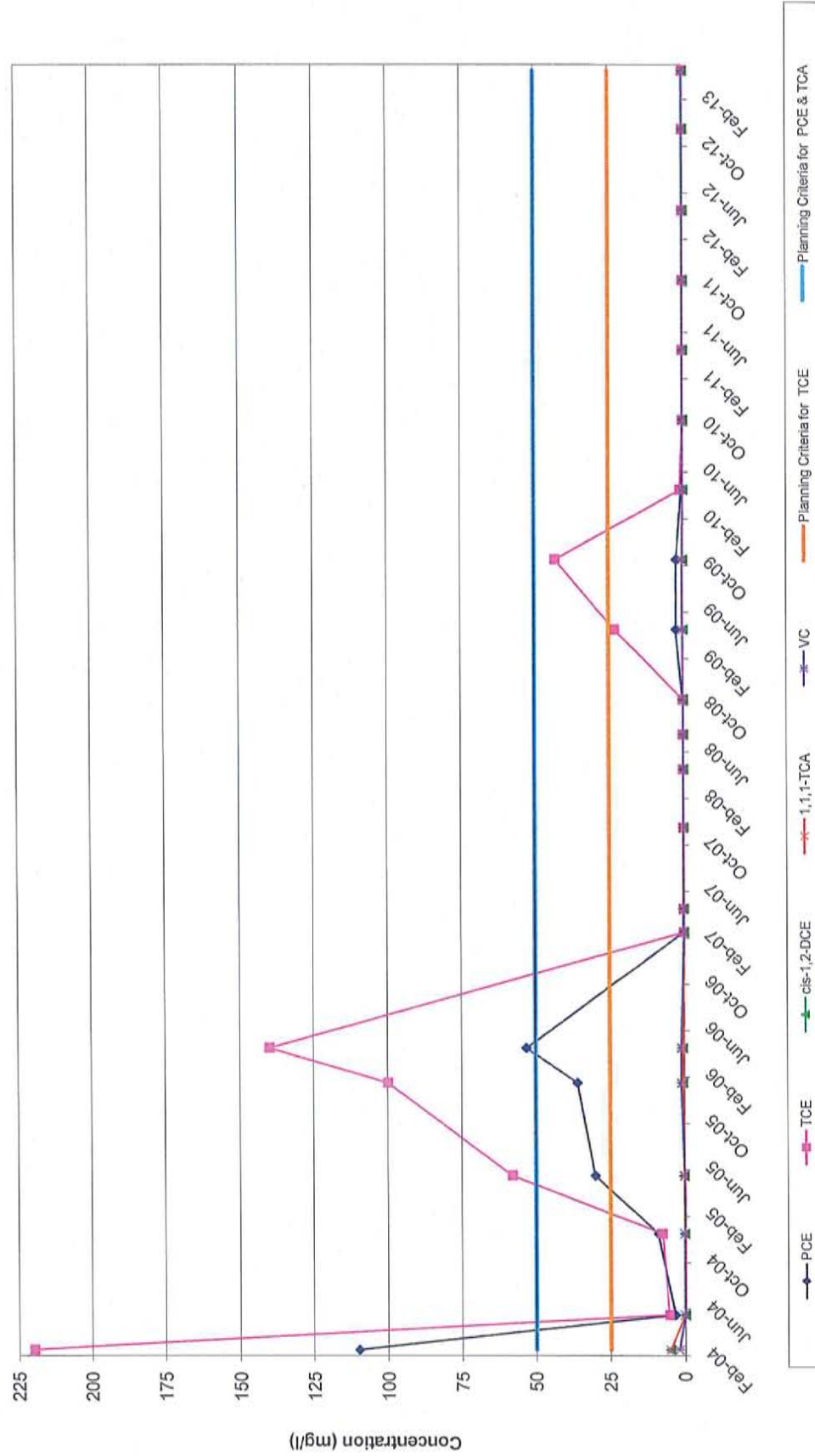
Notes: OB34-DO is a deep overburden well north of Building 3.
Permanganate injection was conducted in 2004, 2005, 2007 and 2009.
See end of appendix for additional notes.

VOC Trends in Well OB-36-DO Former Varian Facility Site Beverly, Massachusetts



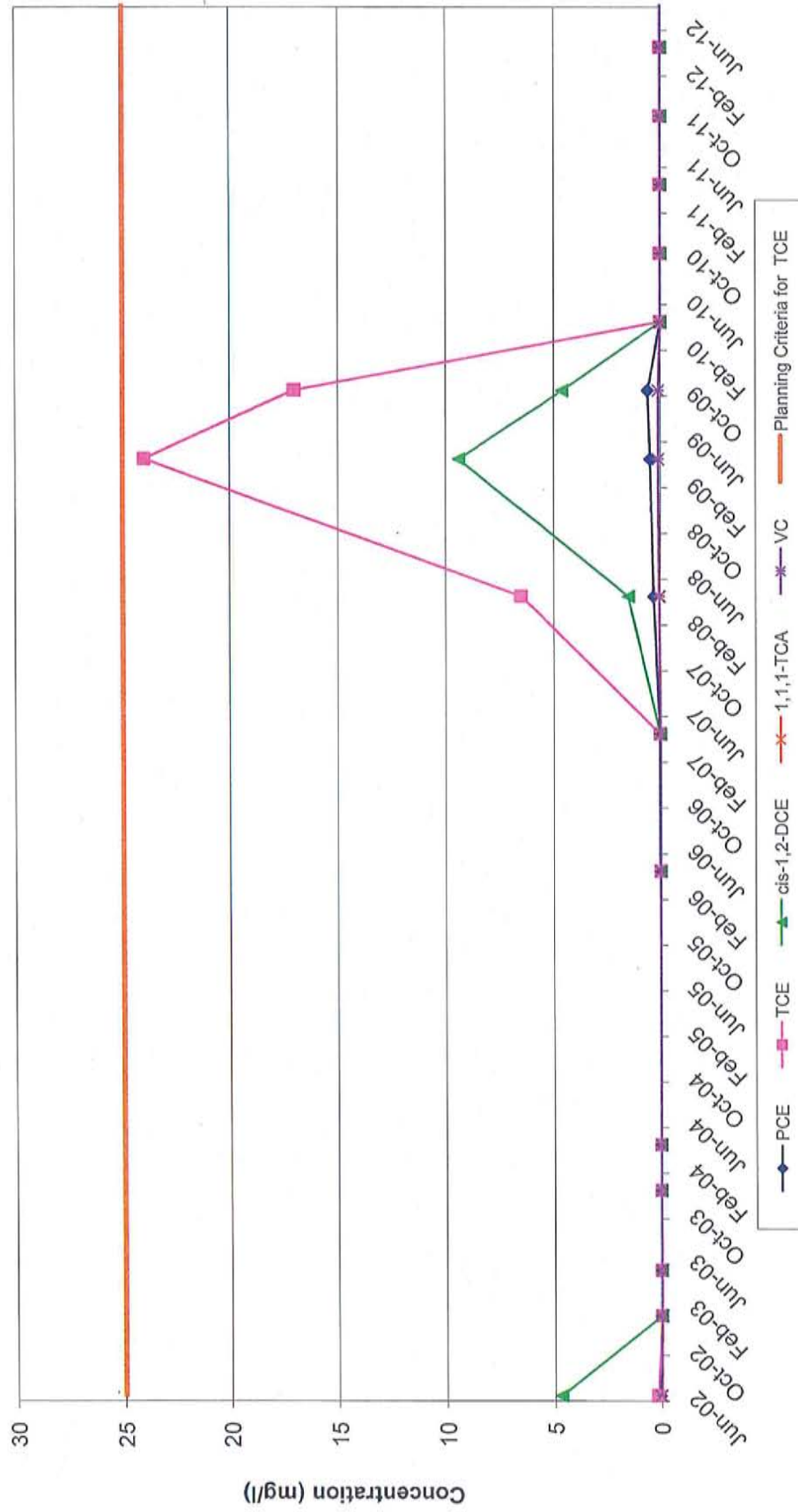
Note: OB-36-DO is a deep overburden well inside the Building 6 loading dock where permanganate injection was conducted in 2004-2005. See end of appendix for additional notes.

VOC Trends in Well OB-37-DO
Former Varian Facility Site
Beverly, Massachusetts



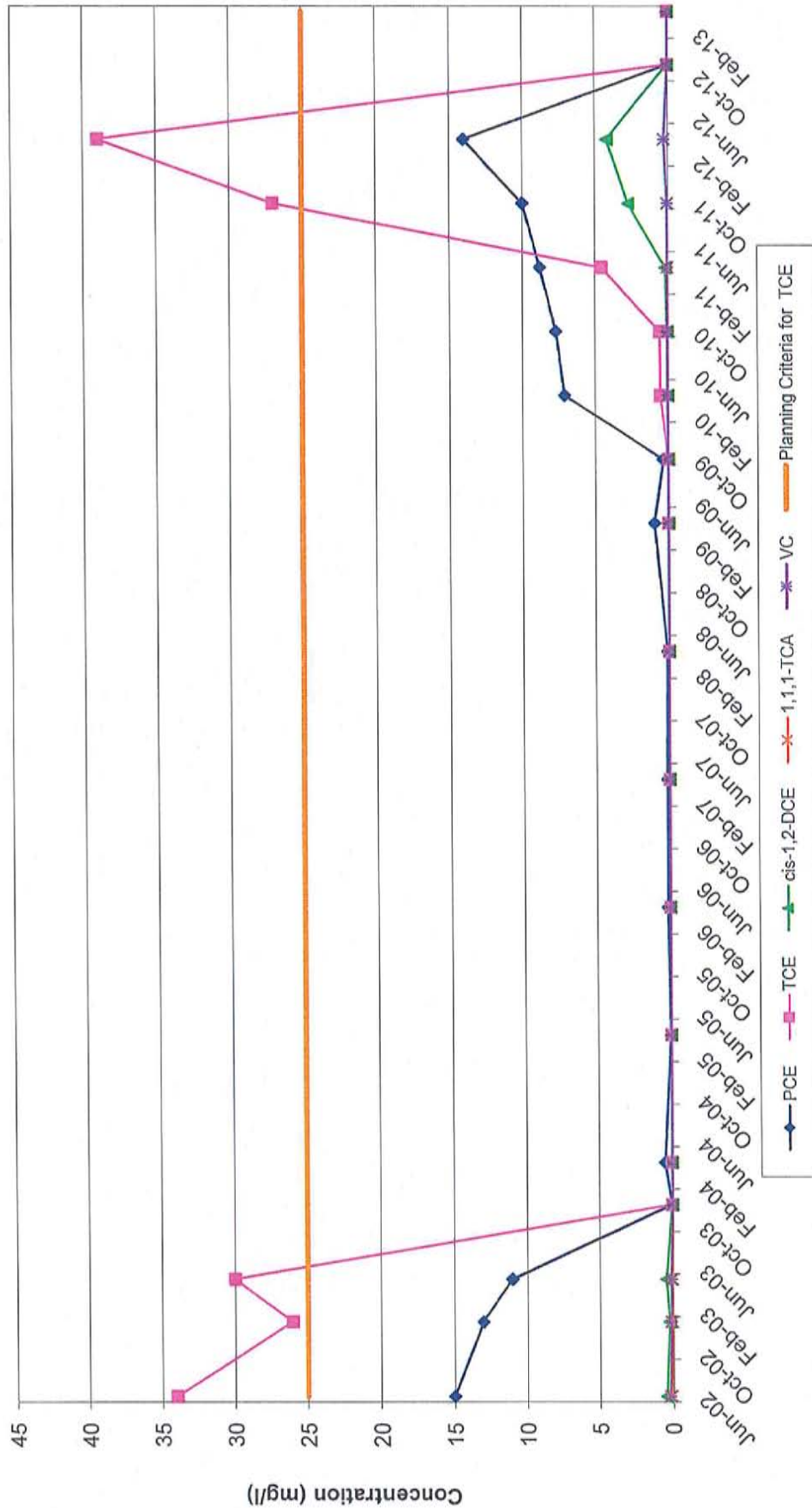
Notes: OB37-DO is a deep overburden well inside Building 6.
Permanganate injection conducted in 2006, 2007 and 2010-2011.
See end of appendix for additional notes.

VOC Trends in Well AP-12-BR Former Varian Facility Site Beverly, Massachusetts



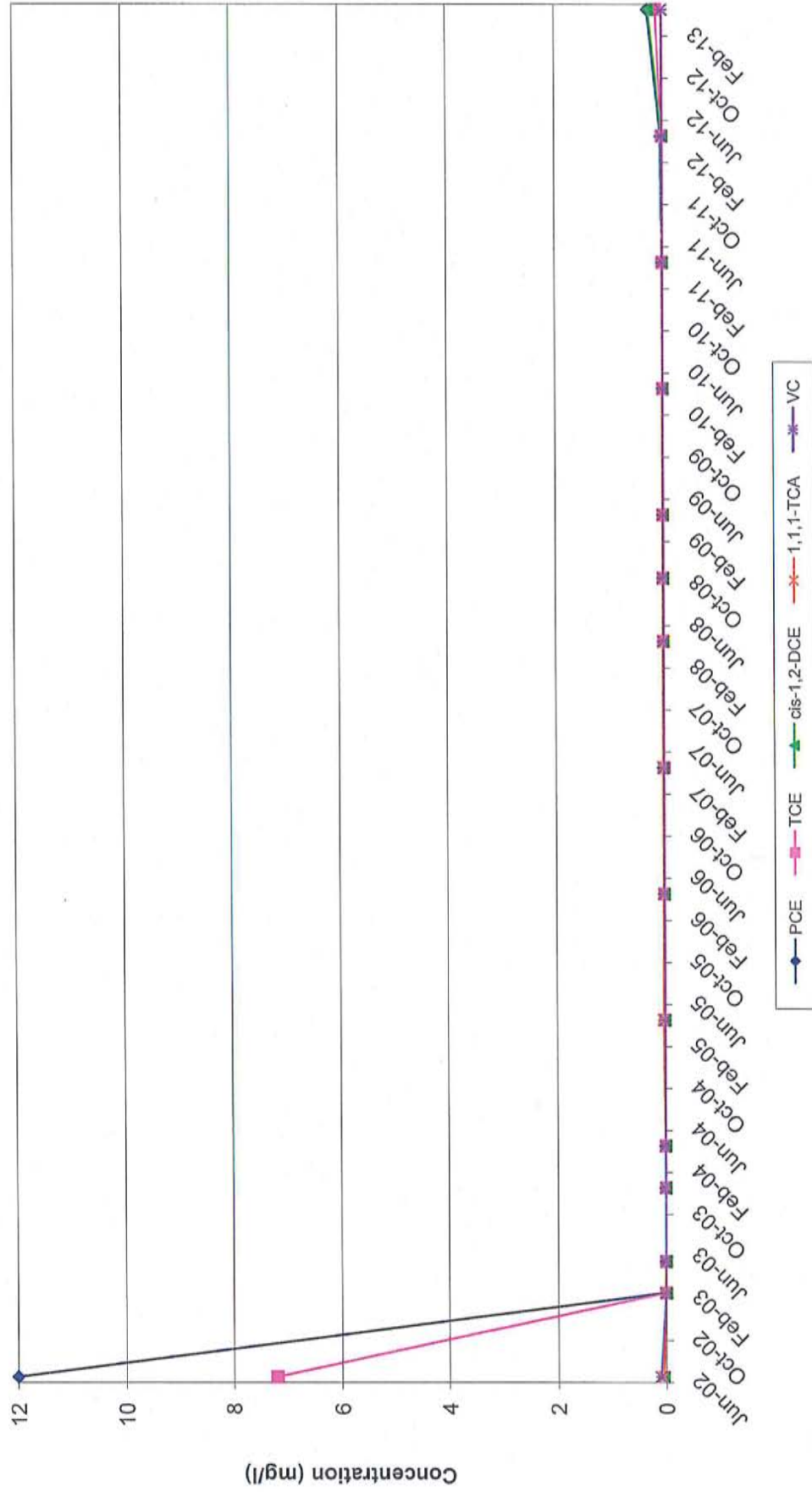
Notes: AP-12-DO is a deep overburden well adjacent to Building 6. Permanganate injection conducted in 2002, 2003, 2004 and 2010. See end of appendix for additional notes.

VOC Trends in Well AP-12-DO Former Varian Facility Site Beverly, Massachusetts



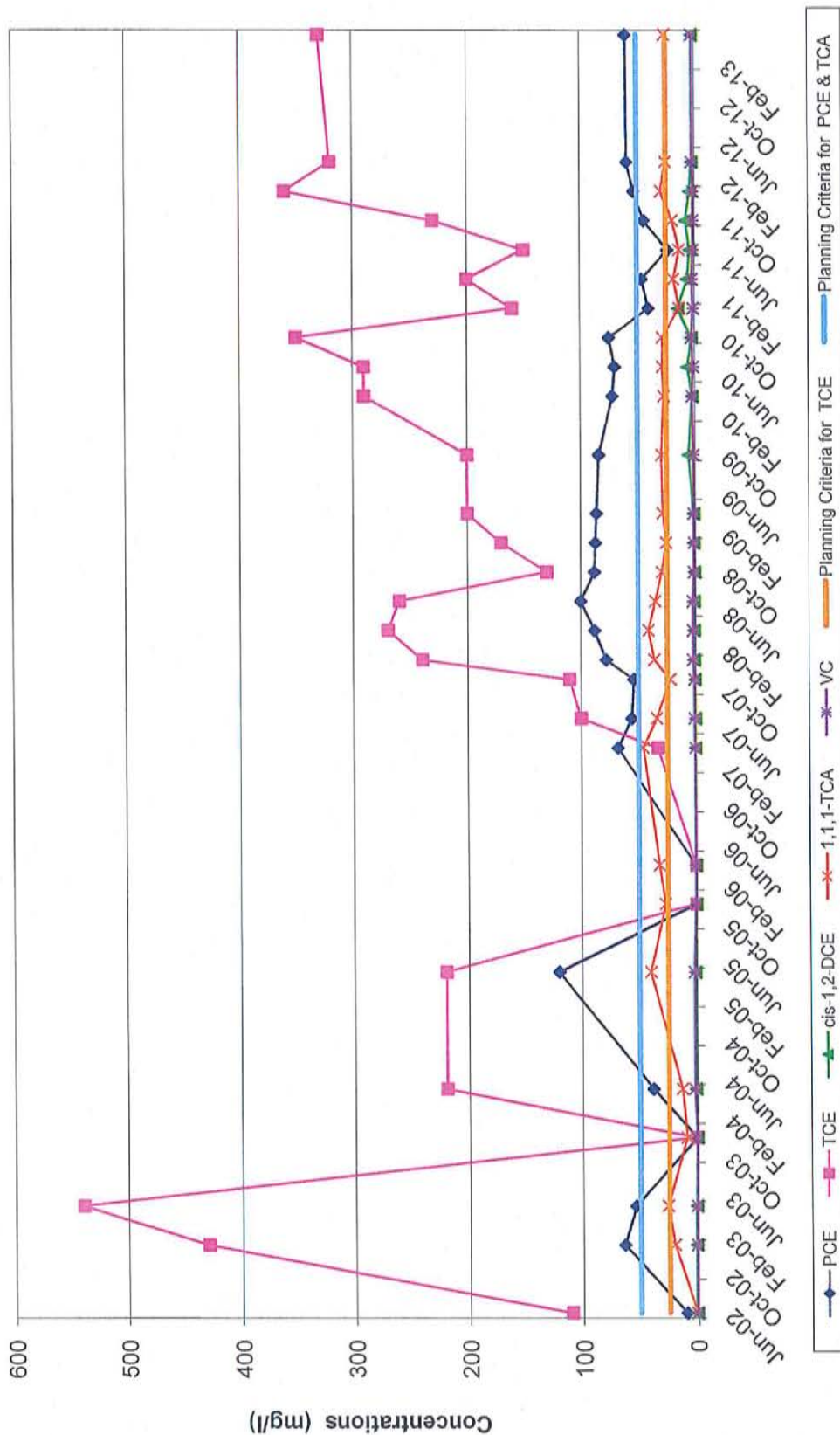
Notes: AP-12-DO is a deep overburden well adjacent to Building 6 where permanganate injection was conducted in 2002, 2003, 2004, and 2012. See end of appendix for additional notes.

VOC Trends in Well AP-12-S Former Varian Facility Site Beverly, Massachusetts



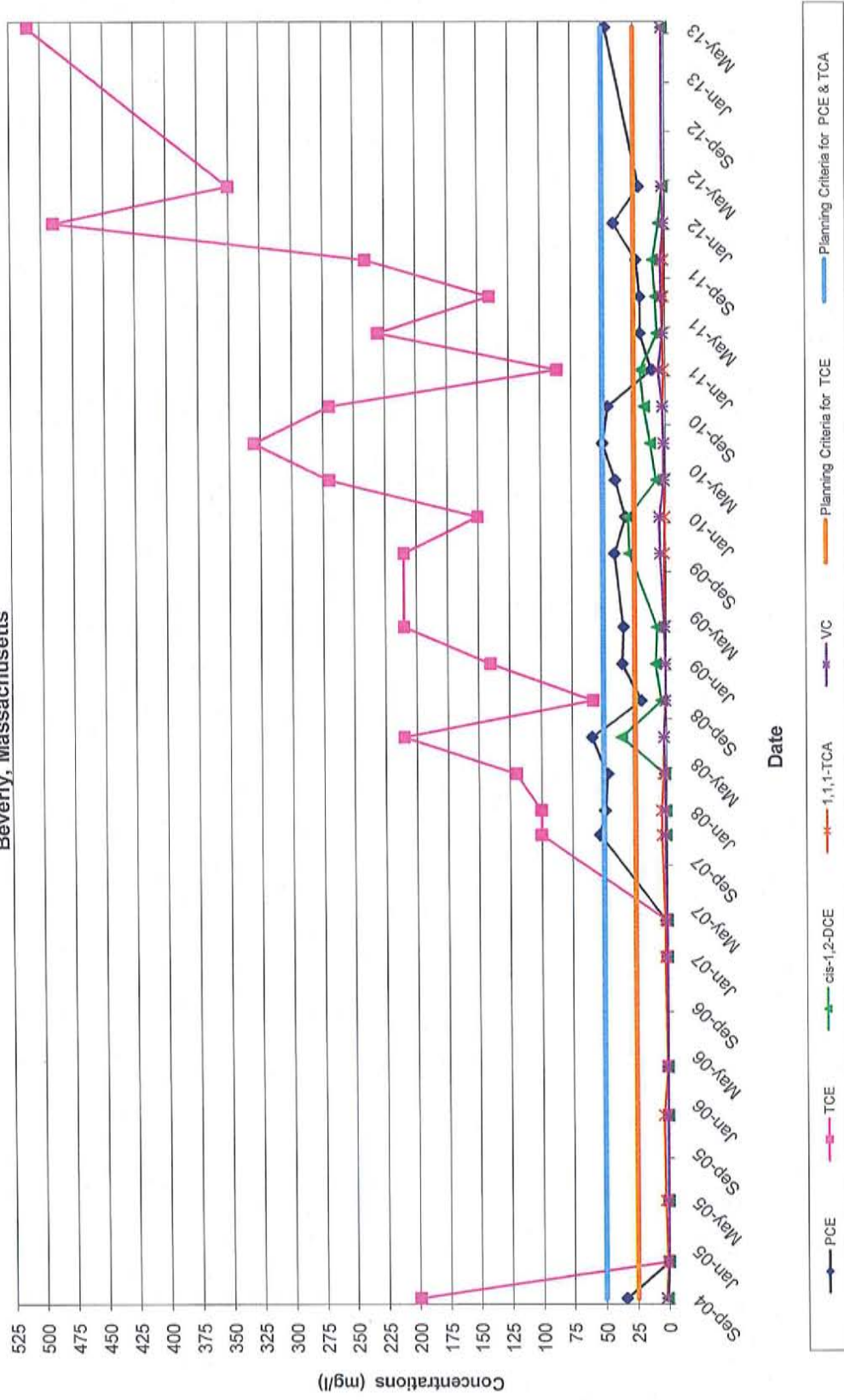
Notes: AP-12-S is a shallow well adjacent to Building 6 where permanganate injection has been completed in 2002 and 2003. See end of appendix for additional notes.

VOC Trends in Well AP-13-DO Former Varian Facility Site Beverly, Massachusetts



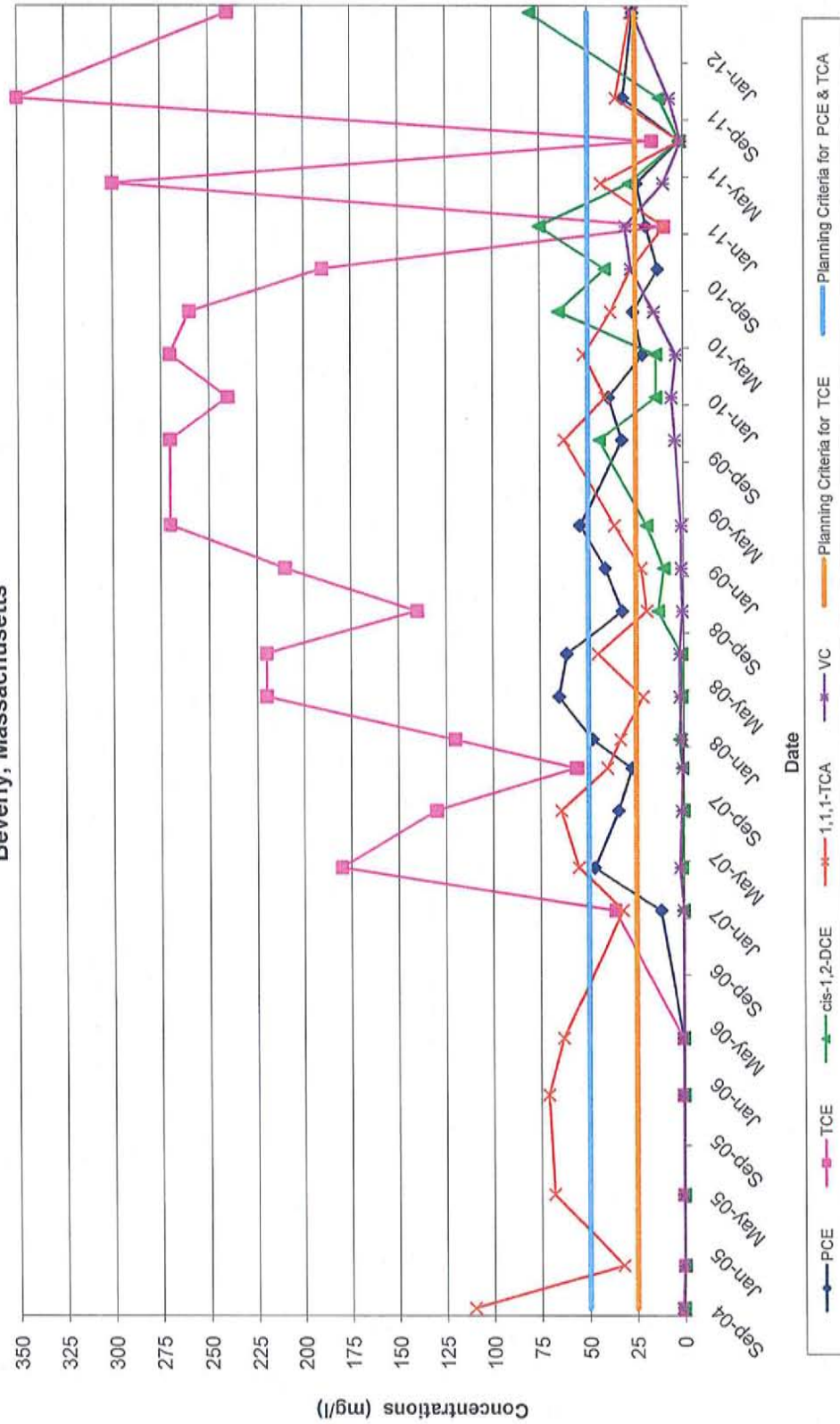
Notes: AP-13-DO is a deep overburden well adjacent to Building 3 where permanganate injection was conducted in 2002-2005 and bio-injection occurred in 2007-2008 and 2010-2011. See end of appendix for additional notes.

VOC Trends in Well AP-23-DO
Former Varian Facility Site
Beverly, Massachusetts



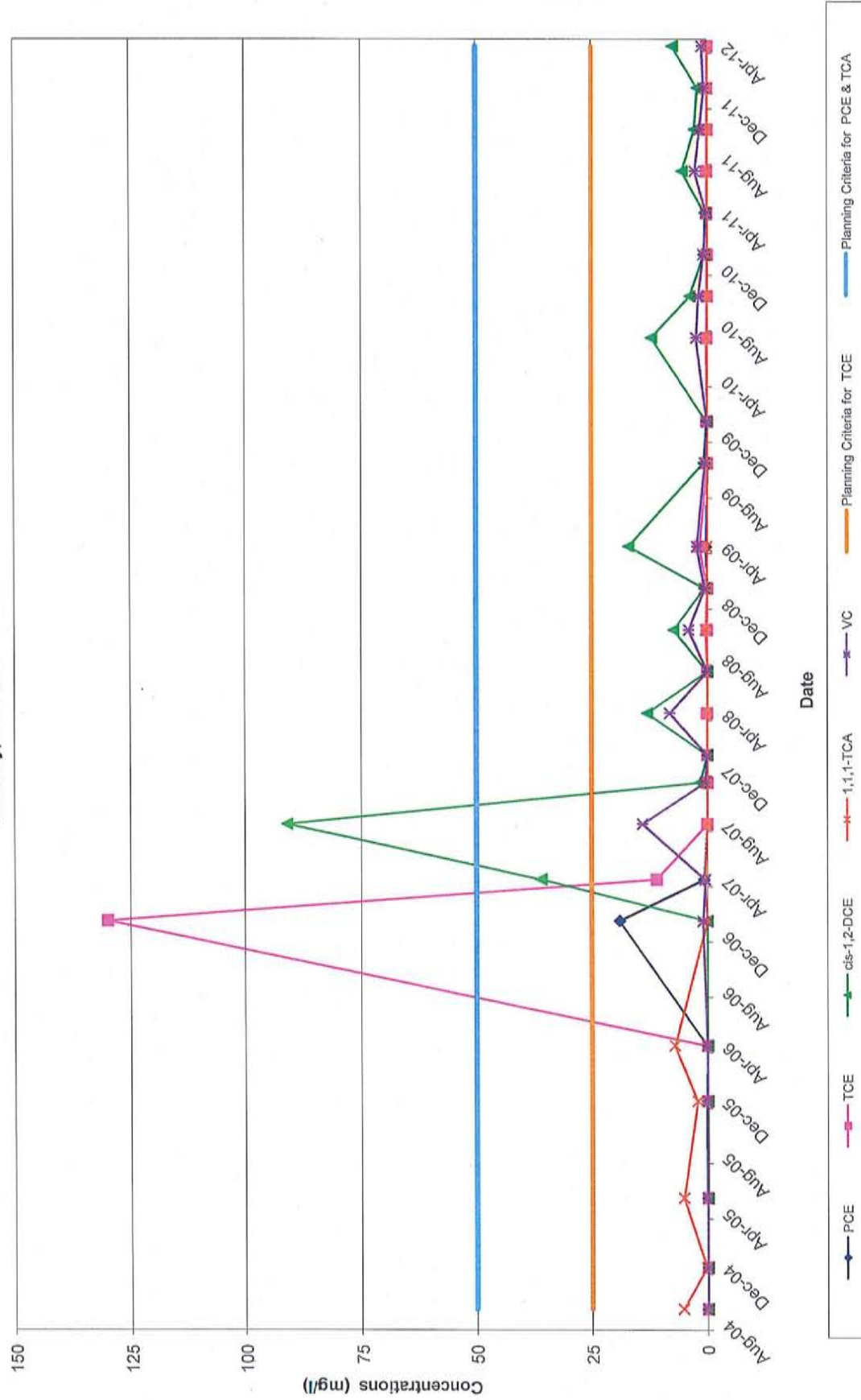
Notes: AP23-DO is a deep overburden well northeast of Building 3. Permanganate injection conducted in 2003-2004 and bio-injection performed in 2007-2008 and 2010-2011. See end of appendix for additional notes.

VOC Trends in Well AP-24-DO Former Varian Facility Site Beverly, Massachusetts



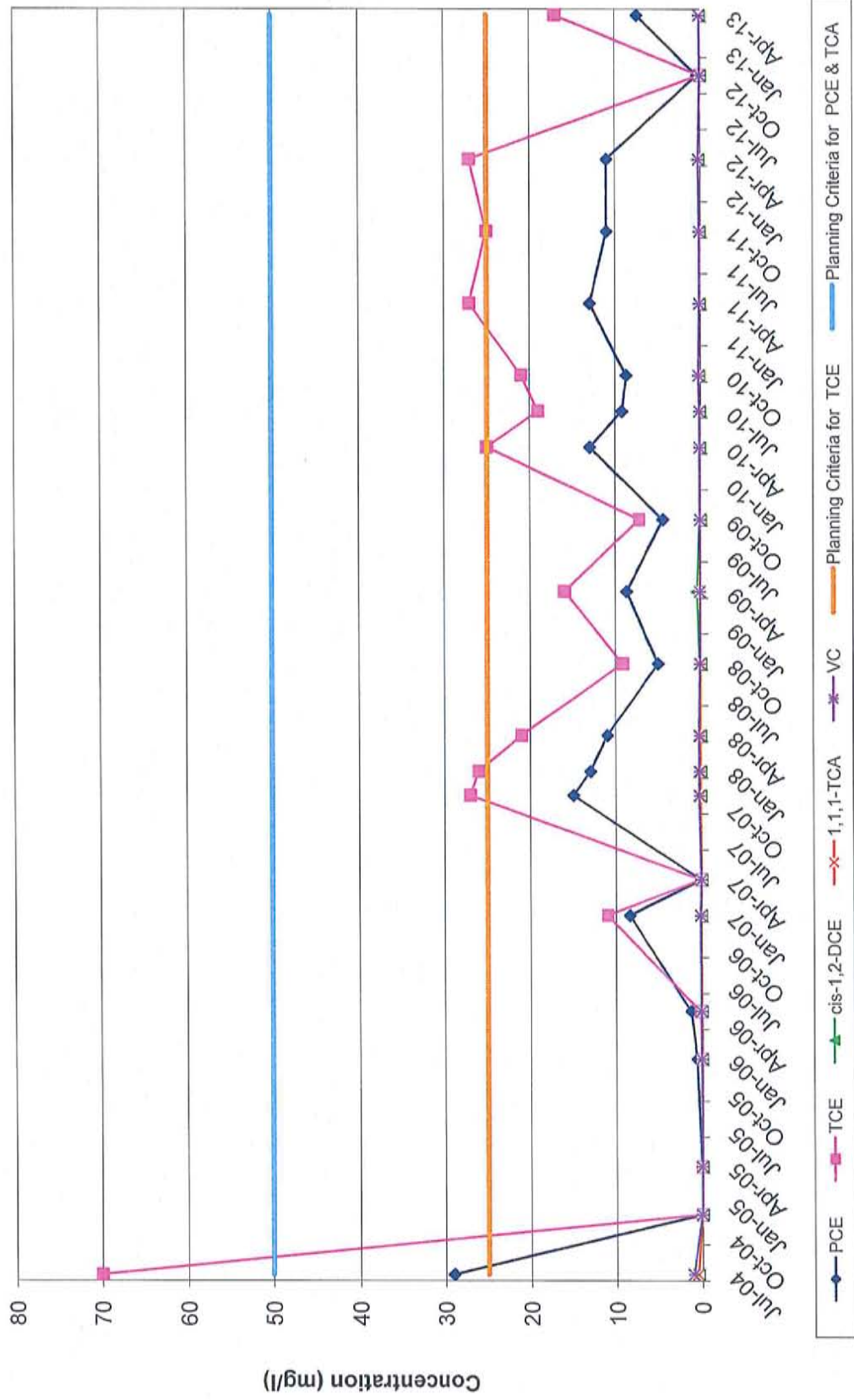
Notes: AP24-DO is a deep overburden well northeast of Building 3. Permanganate injection was conducted in 2003-2004 and bio-injection in 2006-2008 and 2010-2011. See end of appendix for additional notes.

VOC Trends in Well AP-25-DO Former Varian Facility Site Beverly, Massachusetts



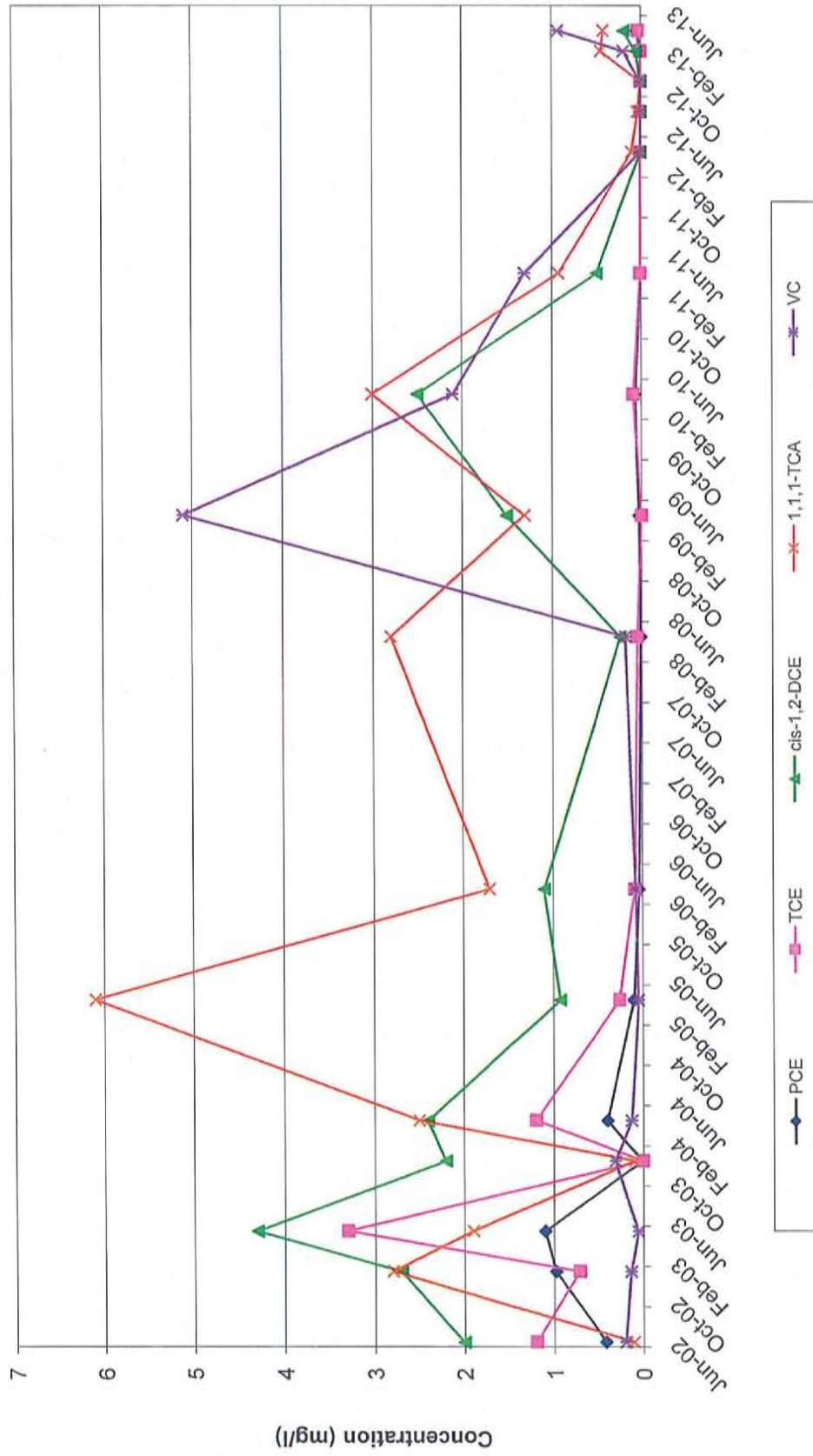
Notes: AP25-DO is a deep overburden well east of Building 3 where permanganate injection was conducted in 2004 and bio-injection in 2007. See end of appendix for additional notes.

VOC Trends in Well AP-26-DO Former Varian Facility Site Beverly, Massachusetts



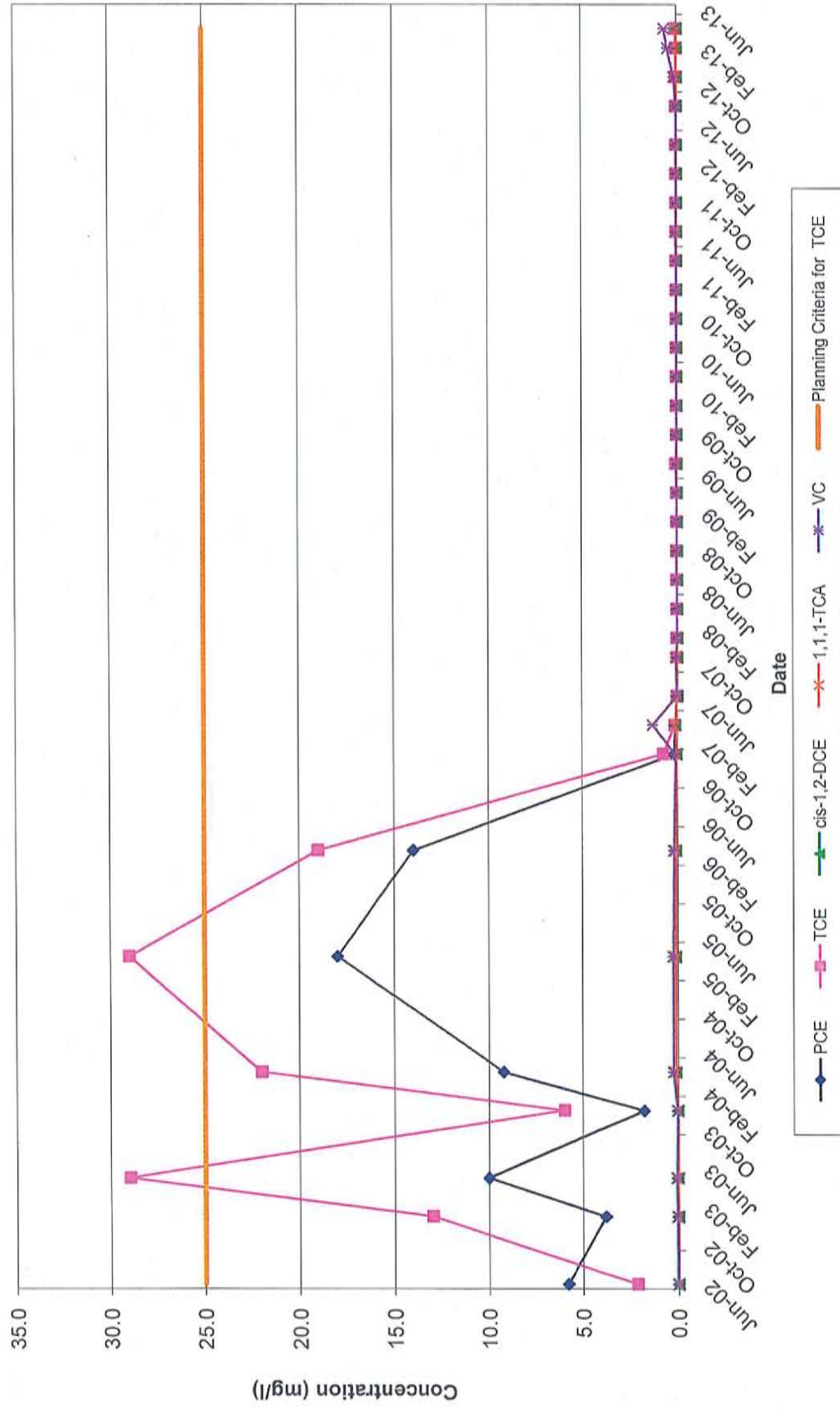
Notes: AP-26-DO is a deep overburden well just west of Building 1 where permanganate injection was conducted in 2004 and 2012. See end of appendix for additional notes.

VOC Trends in Well MW-008 Former Varian Facility Site Beverly, Massachusetts



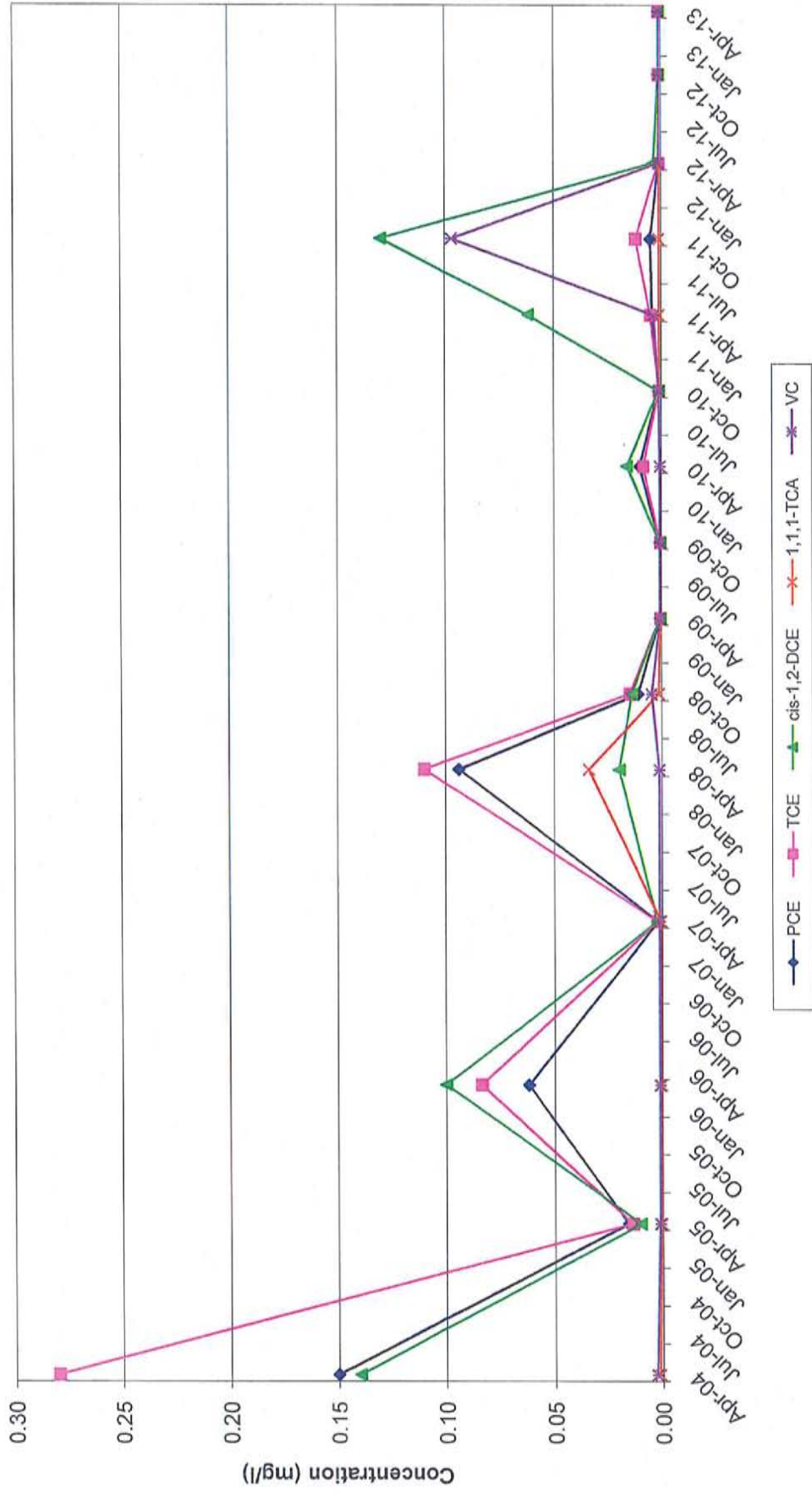
Notes: MW-8 is a shallow overburden well located in the parking lot east of Buildings 6 and 9.
See end of appendix for additional notes.

VOC Trends in Well MW-009 Former Varian Facility Site Beverly, Massachusetts



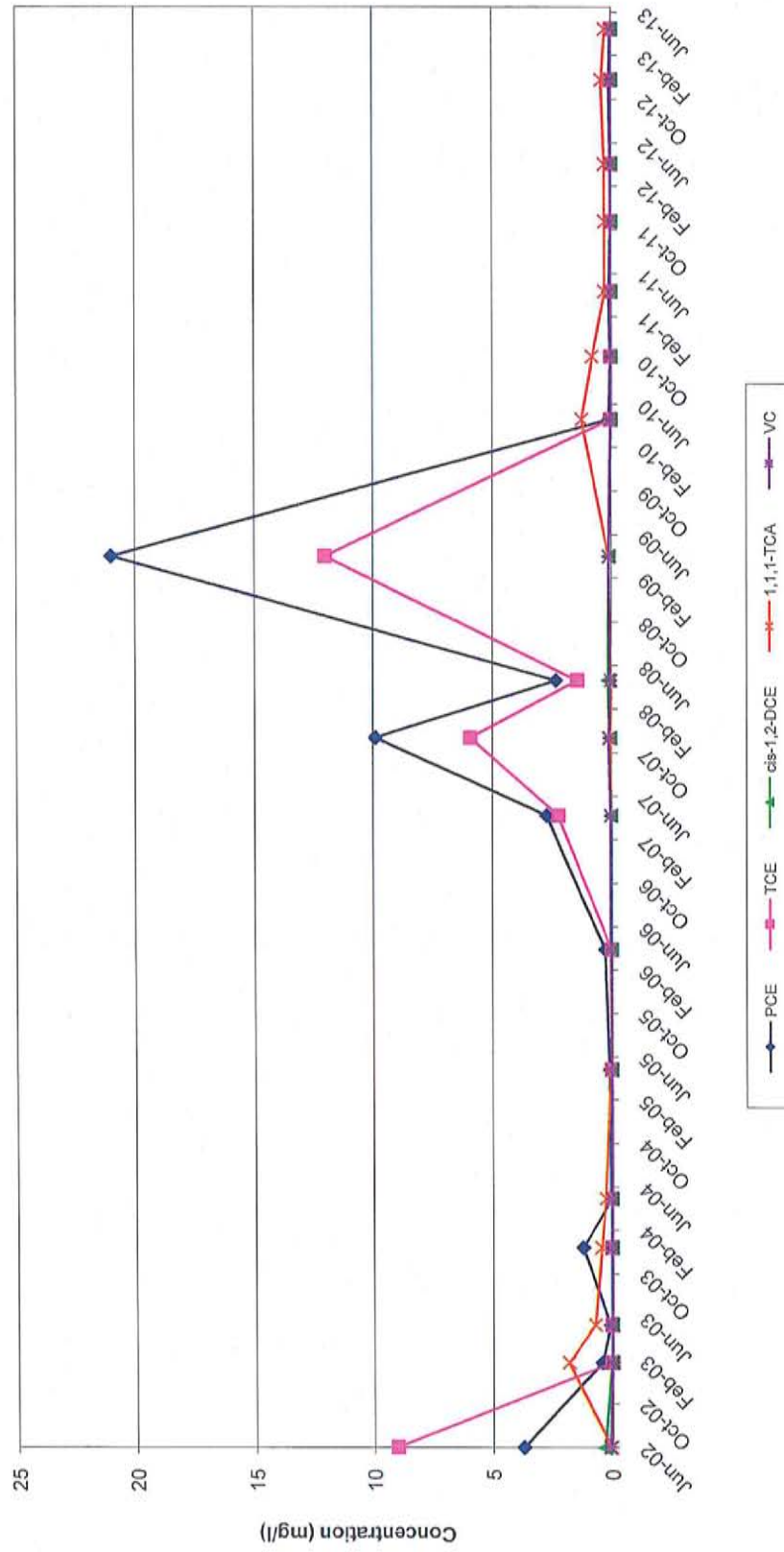
Notes: MW-9 is a shallow overburden well adjacent to Building 9 where bio-injection was conducted in 2006, 2007, 2009, and 2012. See end of appendix for additional notes.

VOC Trends in Well MW-009A
Former Varian Facility Site
Beverly, Massachusetts



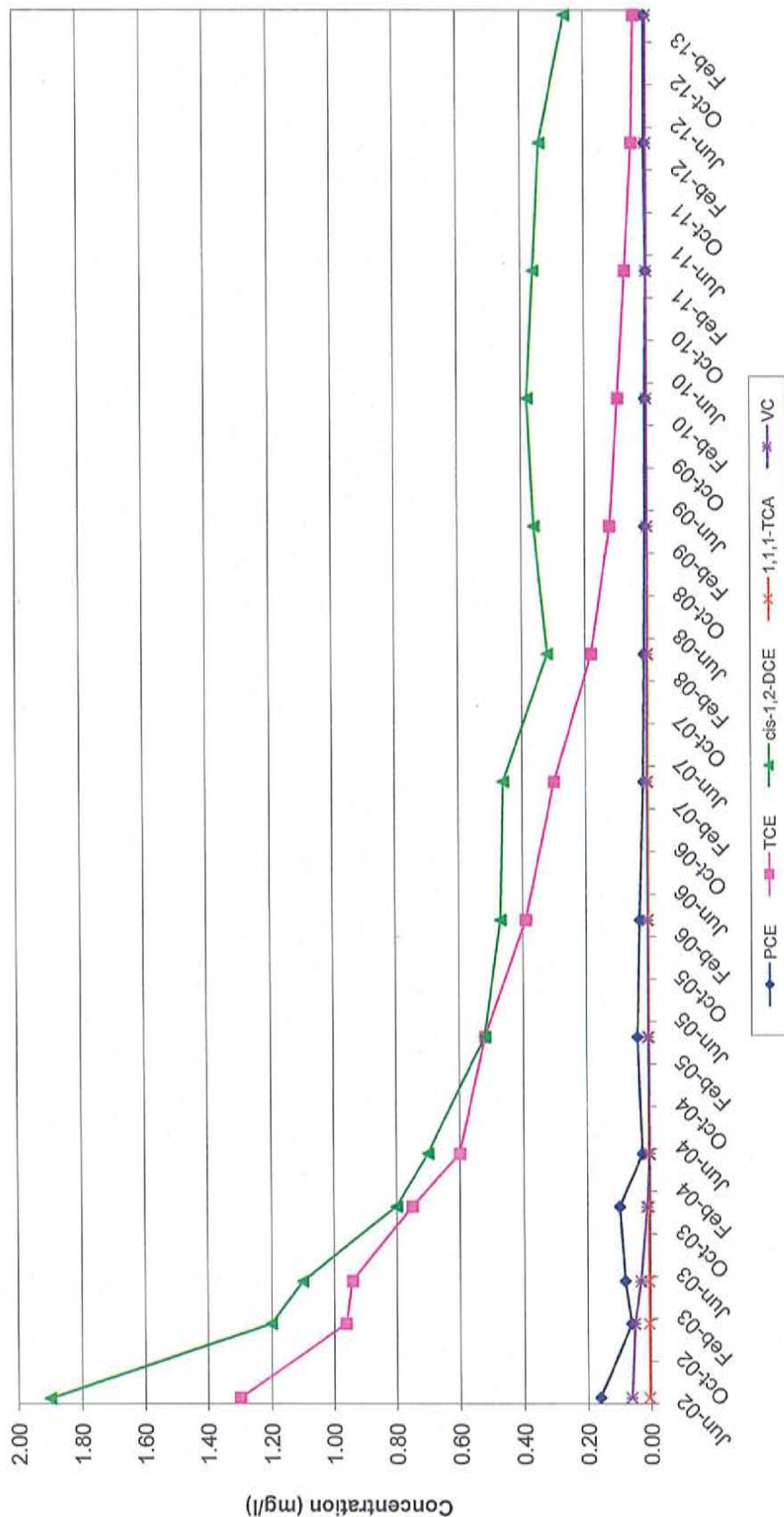
Notes: MW-9A is a shallow overburden well adjacent to Building 9.
See end of appendix for additional notes.

VOC Trends in Well MW-013
Former Varian Facility Site
Beverly, Massachusetts



Note: MW-13 is a deep overburden well located to the northeast of Building 3 where permanganate injection was conducted in 2002 and 2010-2011. See end of appendix for additional notes.

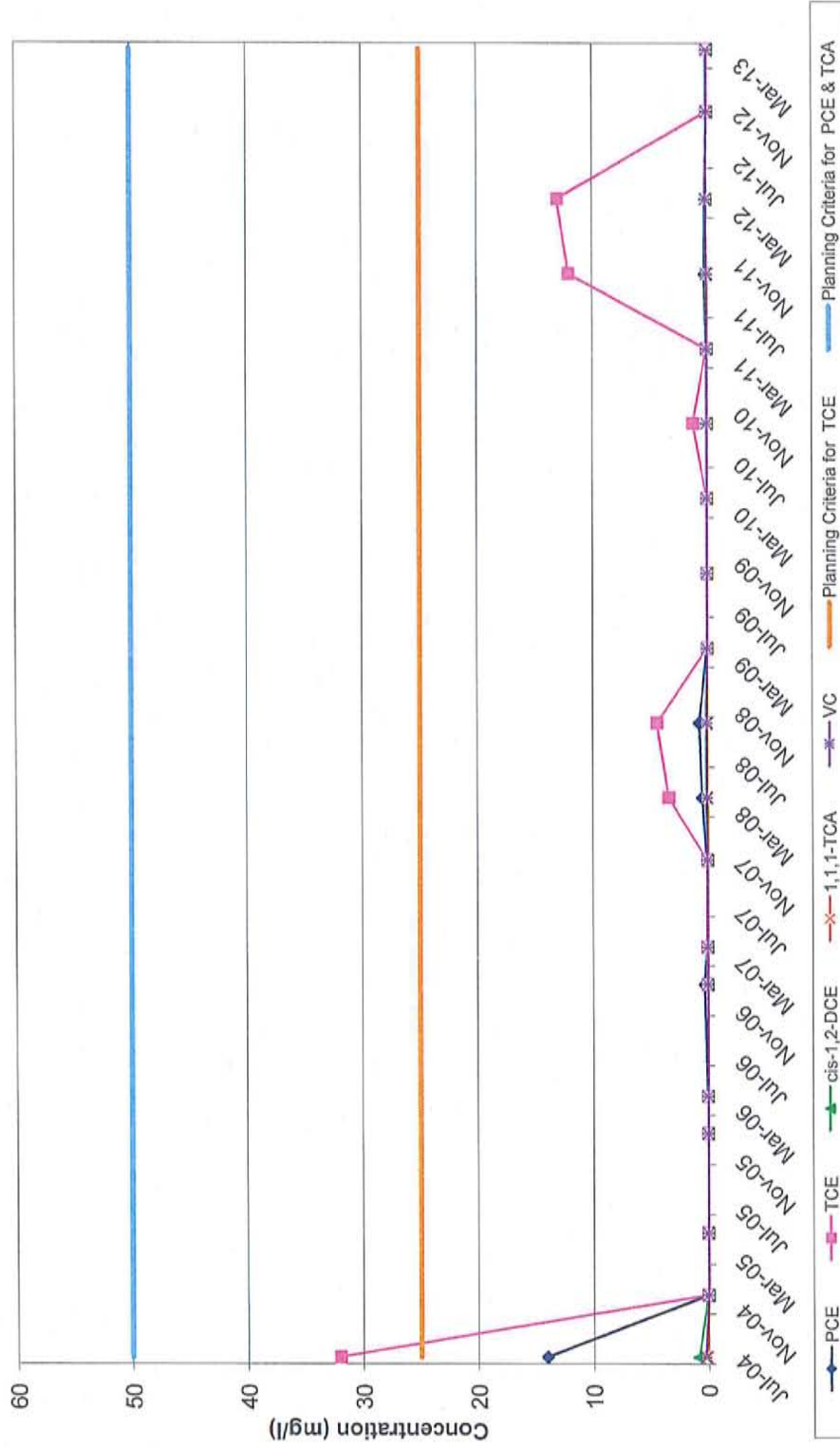
VOC Trends in Well RW-22 Former Varian Facility Site Beverly, Massachusetts



Notes: RW-22 is a bedrock well located north of Building 1.
See end of appendix for additional notes.

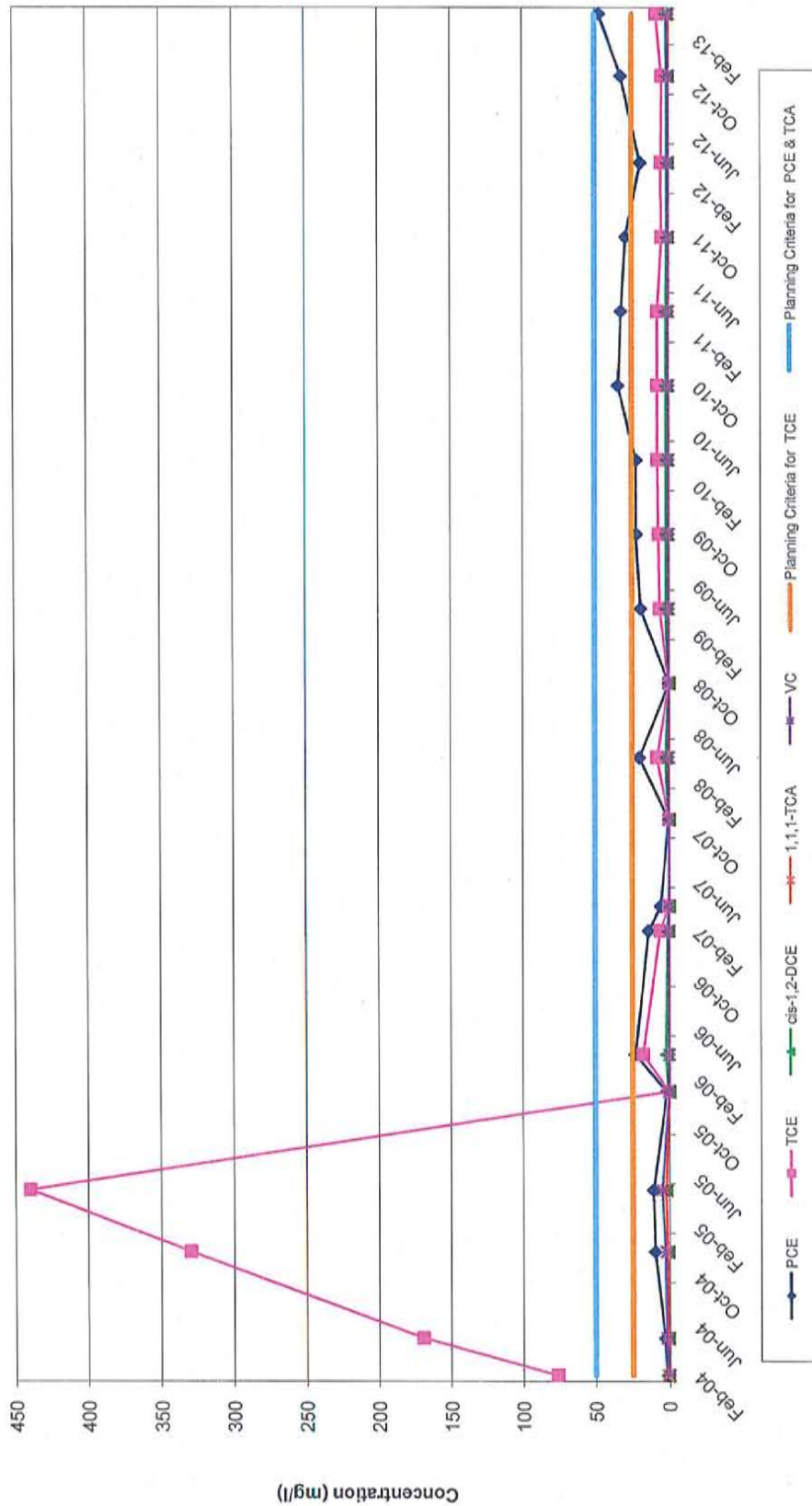
BUILDING 5 TREATMENT AREA

VOC Trends in Well AP-27-DO Former Varian Facility Site Beverly, Massachusetts



Notes: AP-27-DO is a deep overburden well adjacent to Building 5 where permanganate injection was conducted in 2004 and 2005. See end of appendix for additional notes.

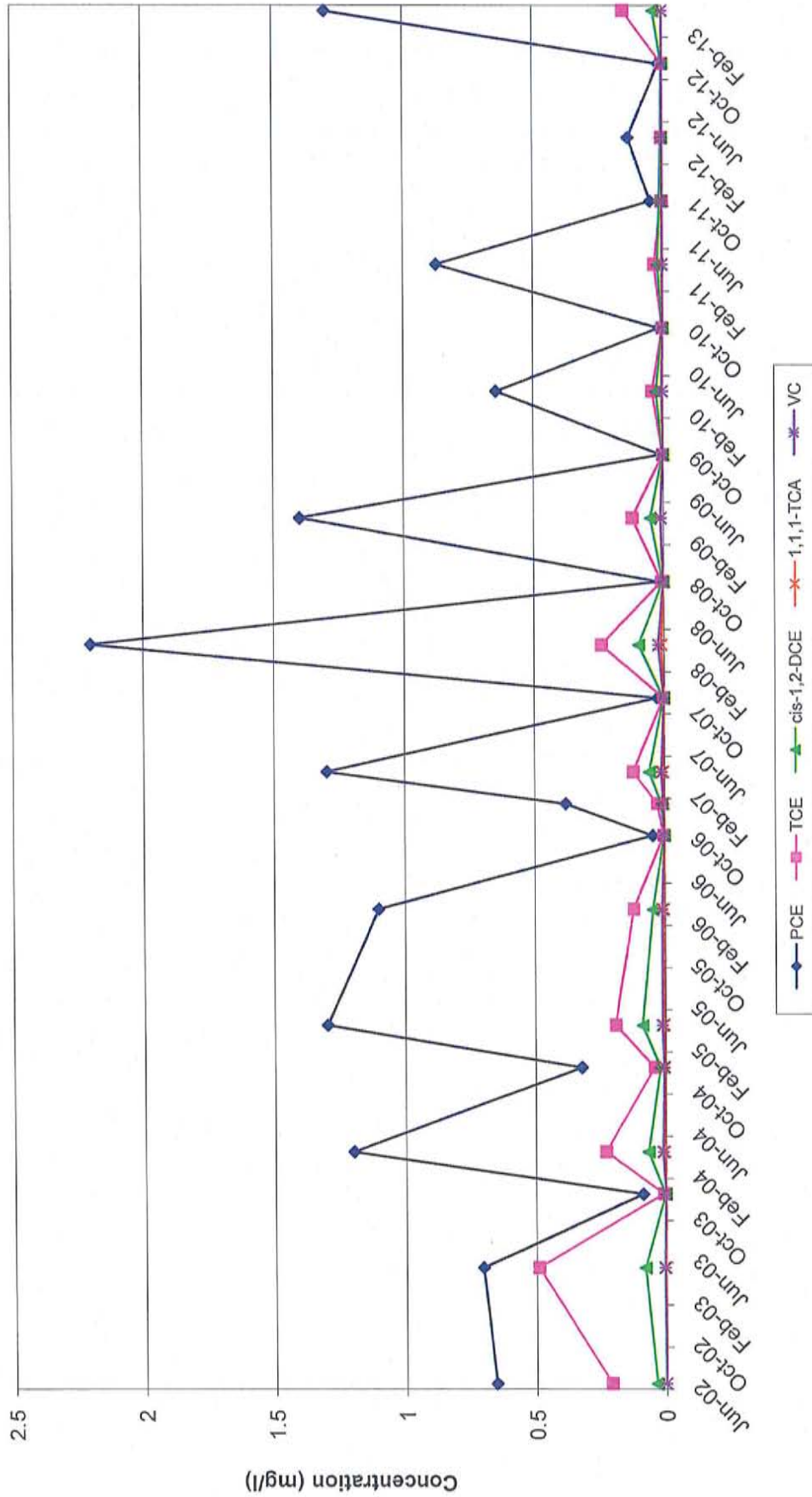
VOC Trends in Well OB-35-DO
Former Varian Facility Site
Beverly, Massachusetts



Notes: OB35-DO is a deep overburden well inside Building 5 where permanganate injection was conducted from 2005 to 2008 and 2010 to 2012.
See end of appendix for additional notes.

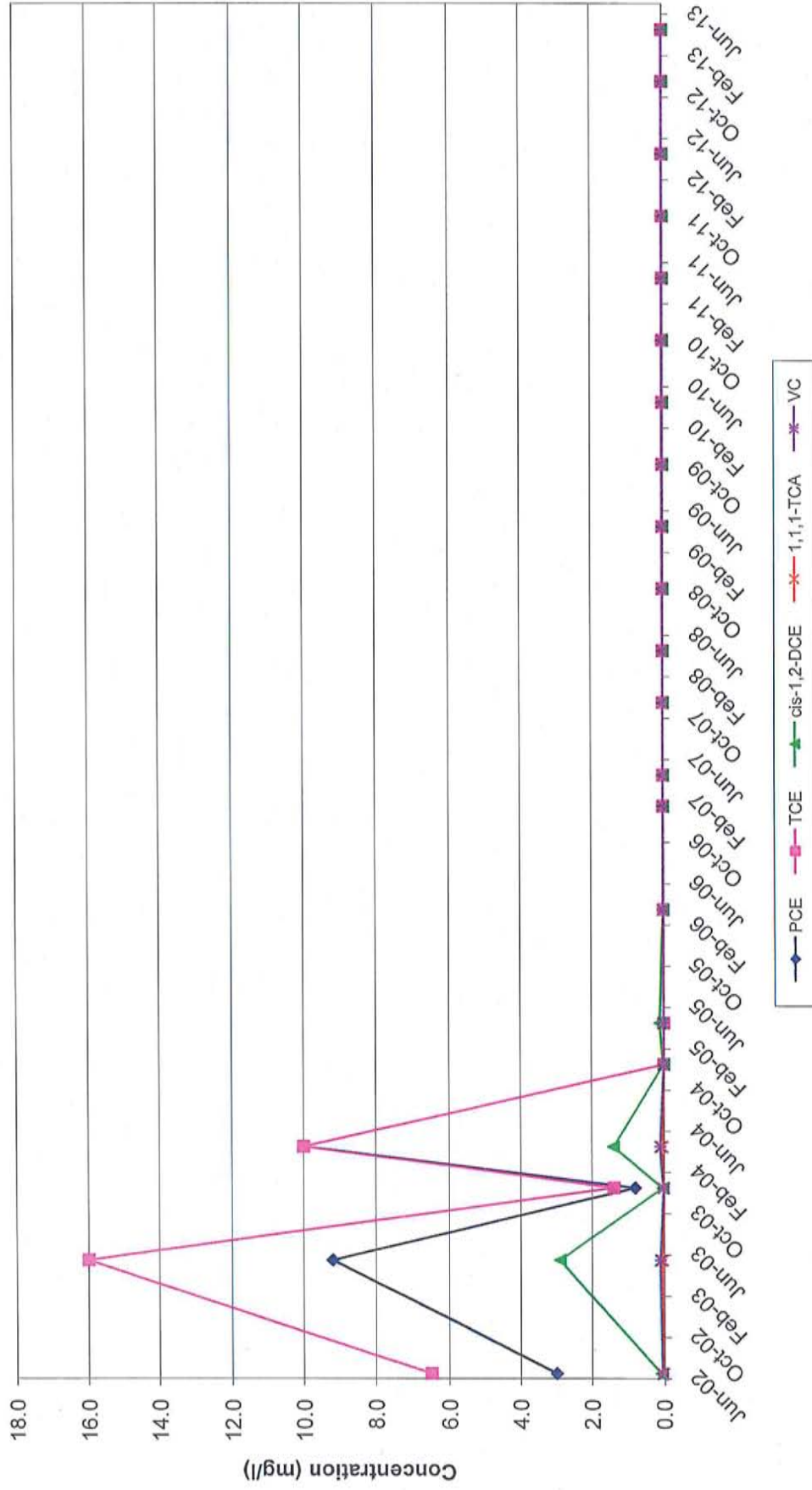
PSL 10 TREATMENT AREA

VOC Trends in Well CL10-S Former Varian Facility Site Beverly, Massachusetts



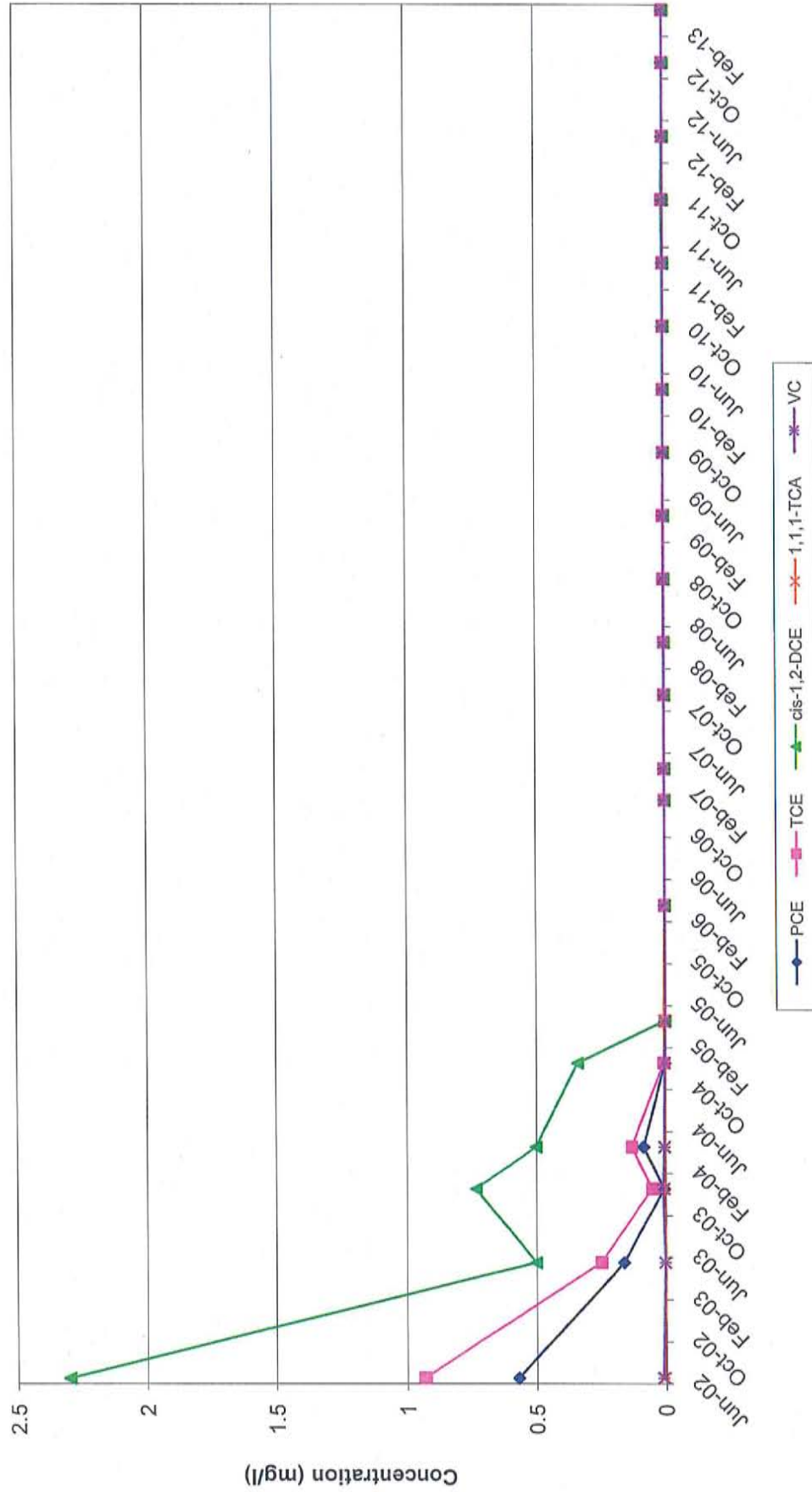
Notes: CL10-S is a shallow overburden well located in the PSL10 treatment area, south of the facility. See end of appendix for additional notes.

VOC Trends in Well CL10-DO Former Varian Facility Site Beverly, Massachusetts



Notes: CL10-DO is a deep overburden well located in the PSL10 treatment area, south of the facility. See end of appendix for additional notes.

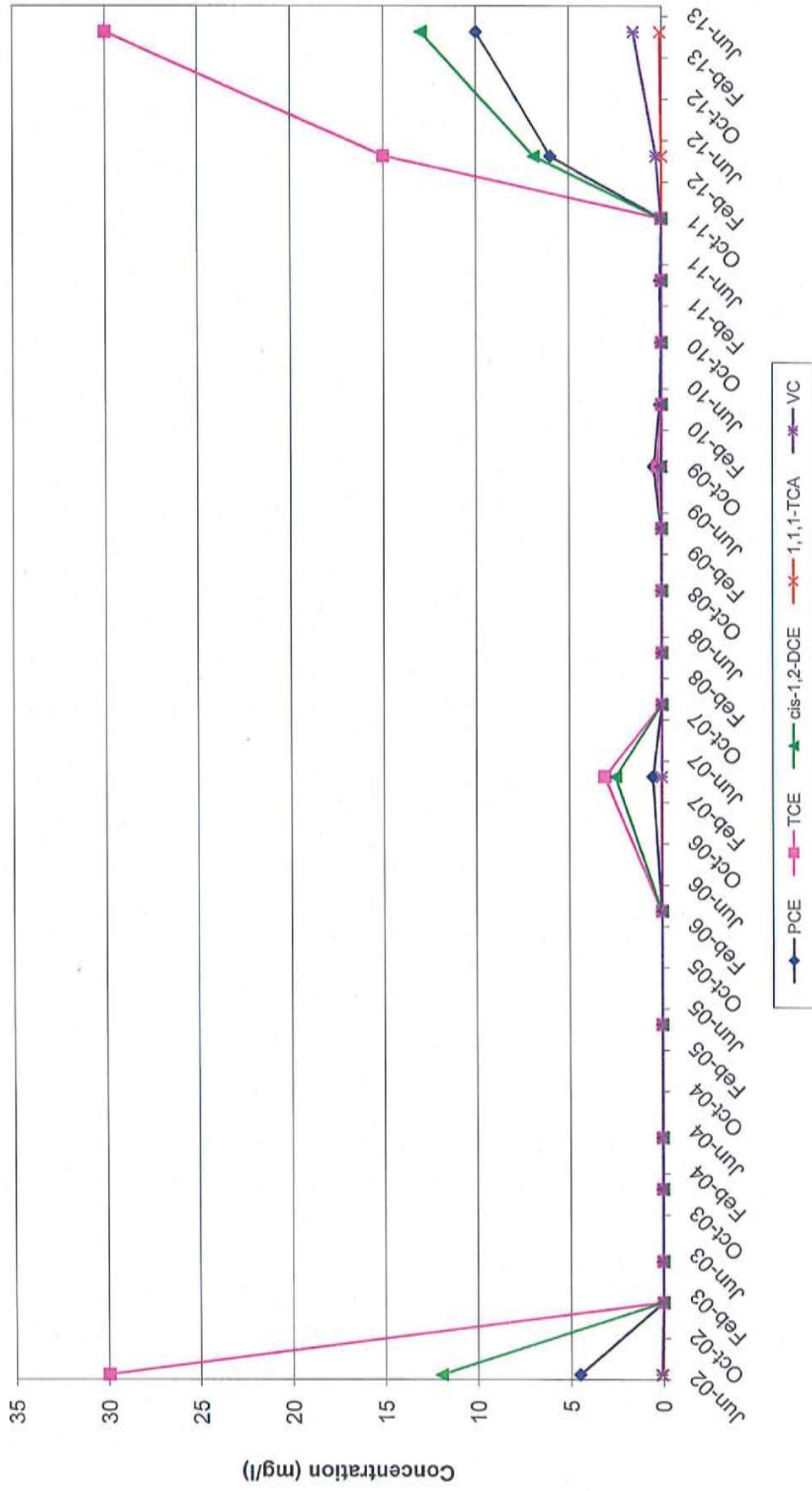
VOC Trends in Well CL10-BR Former Varian Facility Site Beverly, Massachusetts



Notes: CL10-BR is a bedrock well located in the PSL10 treatment area, south of the facility. See end of appendix for additional notes.

TOZER ROAD TREATMENT AREA SOUTH OF ROUTE 128

VOC Trends in Well CL03-DO Former Varian Facility Site Beverly, Massachusetts



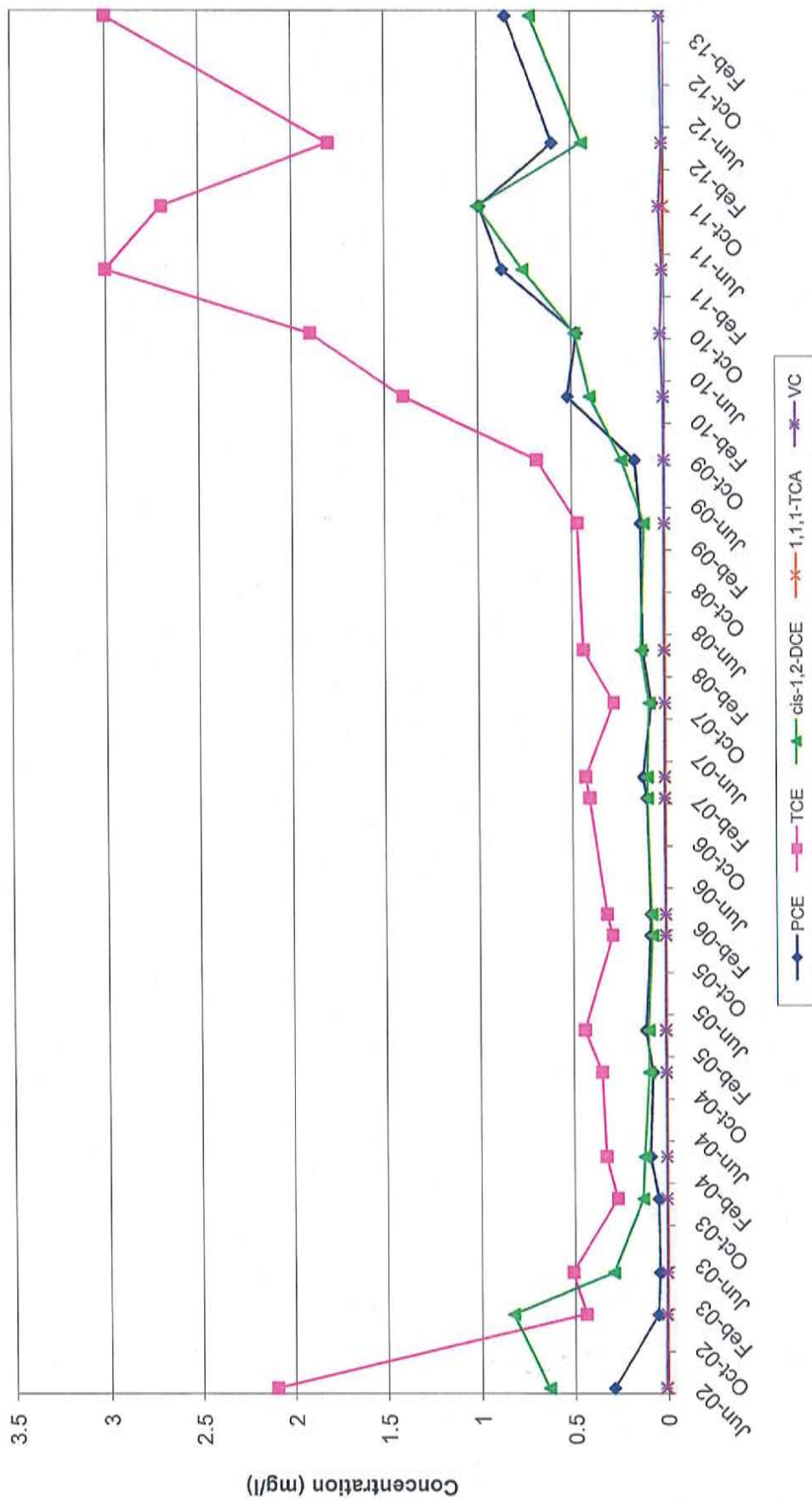
Notes: CL3-DO is a deep overburden well located at 28 Tozer Road where permanganate injection was conducted 2002. See end of appendix for additional notes.

VOC Trends in Well CL03-S Former Varian Facility Site Beverly, Massachusetts



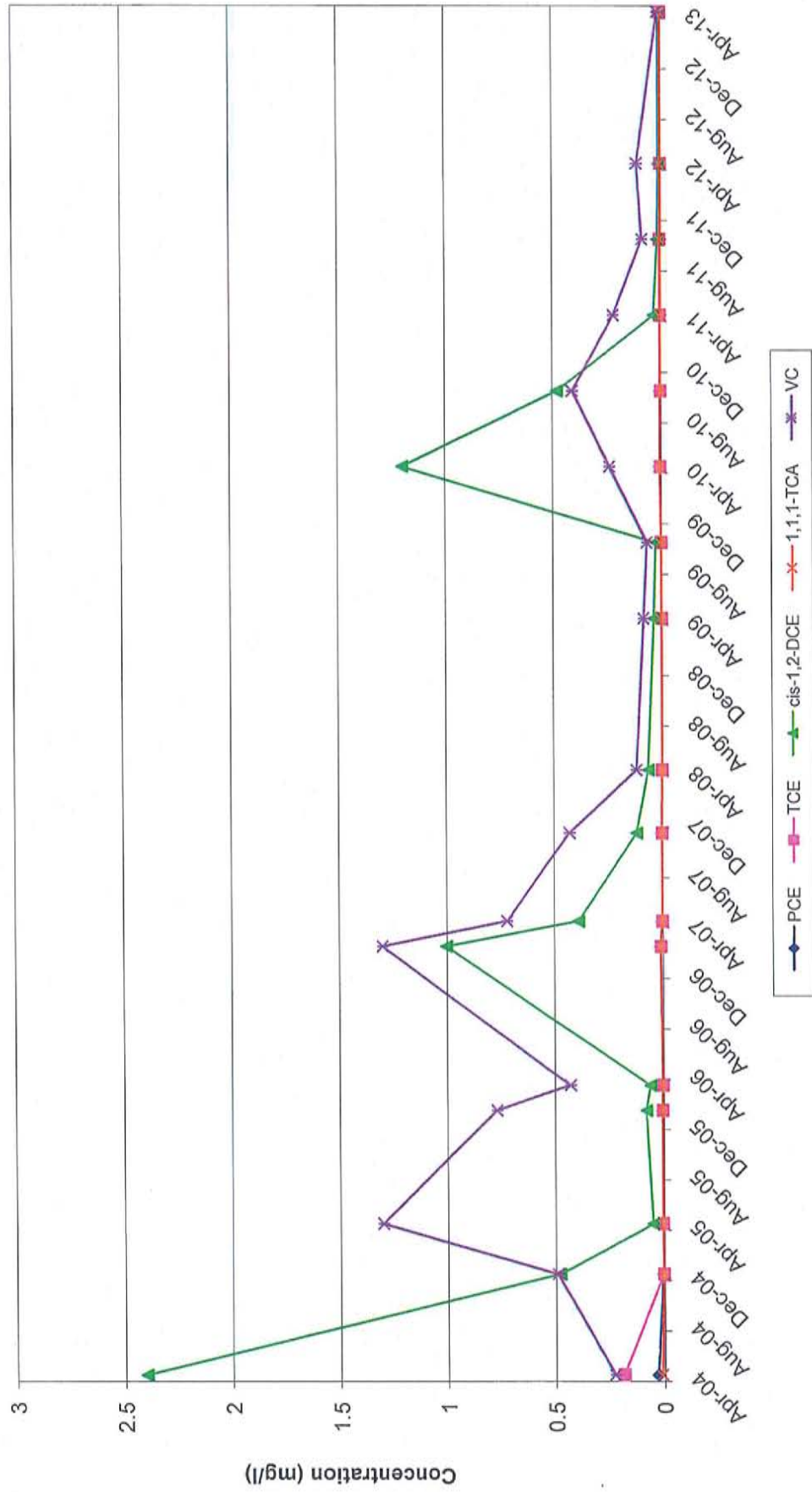
Notes: CL3-S is a shallow overburden well located at 28 Tozer Road.
See end of appendix for additional notes.

VOC Trends in Well OB-05-DO Former Varian Facility Site Beverly, Massachusetts



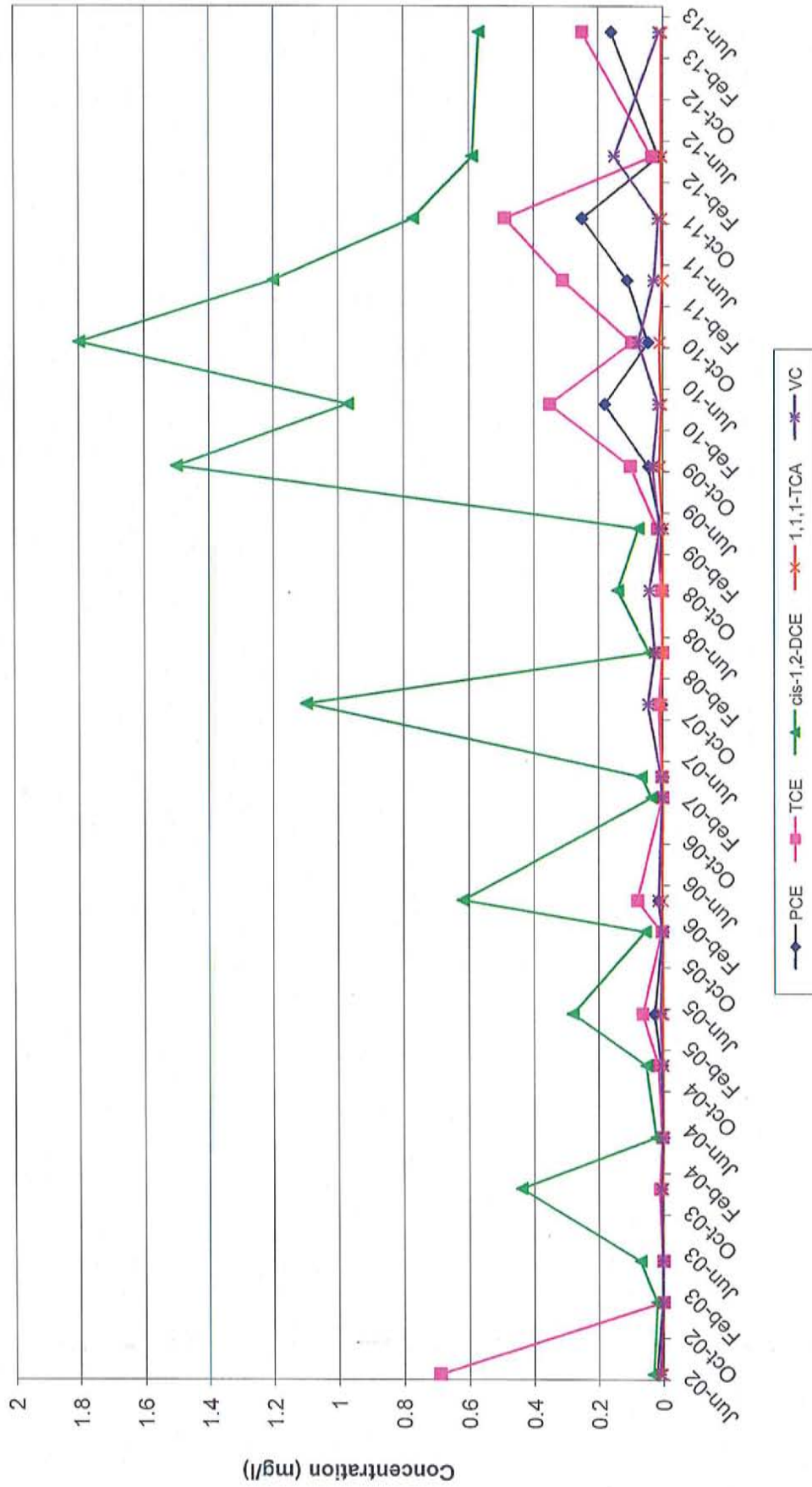
Note: OB-5-DO is a deep overburden well south of the 28 Tozer Road treatment area.
See end of appendix for additional notes.

VOC Trends in Well OB-05-BR
Former Varian Facility Site
Beverly, Massachusetts



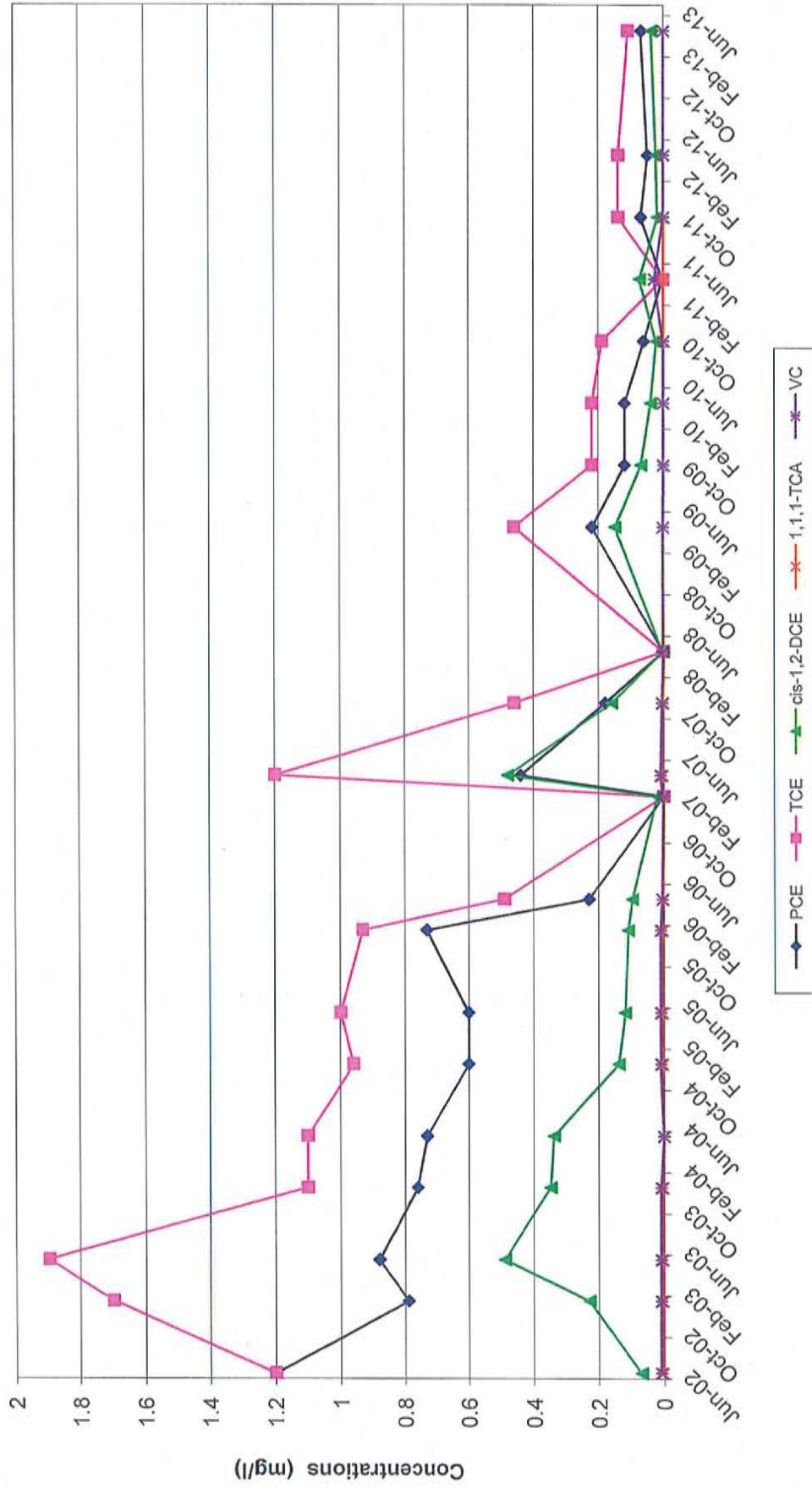
Note: OB-5-BR is a bedrock well south of the 28 Tozer Road treatment area.
See end of appendix for additional notes.

VOC Trends in Well OB-06-DO Former Varian Facility Site Beverly, Massachusetts



Note: OB-6-DO is a deep overburden well west of the 28 Tozer Road treatment area on Sonning Road. See end of appendix for additional notes.

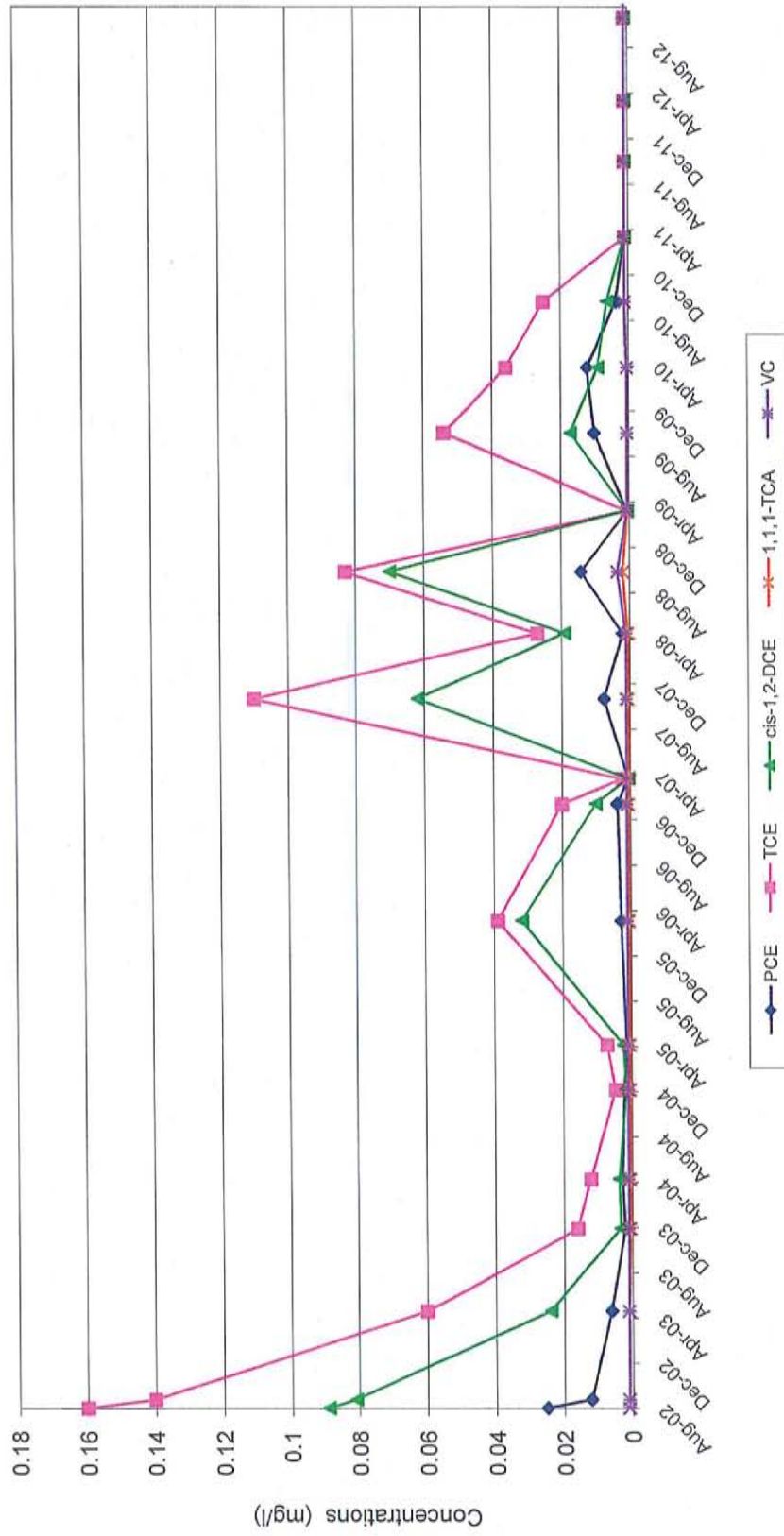
VOC Trends in Well OB-06-BR
Former Varian Facility Site
Beverly, Massachusetts



Note: OB-6-BR is a bedrock well west of the 28 Tozer Road treatment area on Sonning Road.
See end of appendix for additional notes.

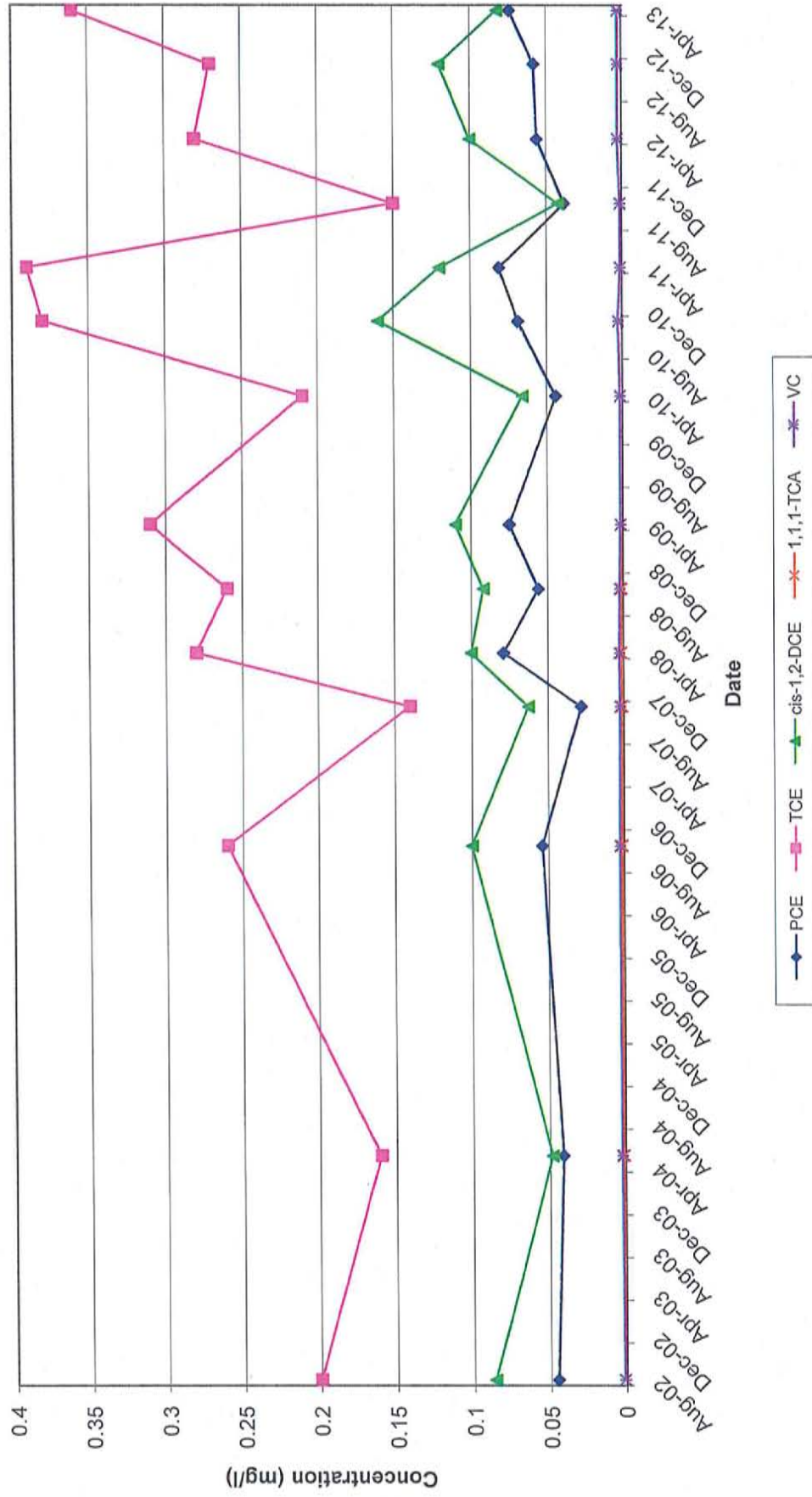
31 TOZER ROAD TREATMENT AREA

VOC Trends in Well AP-15S
Former Varian Facility Site
Beverly, Massachusetts



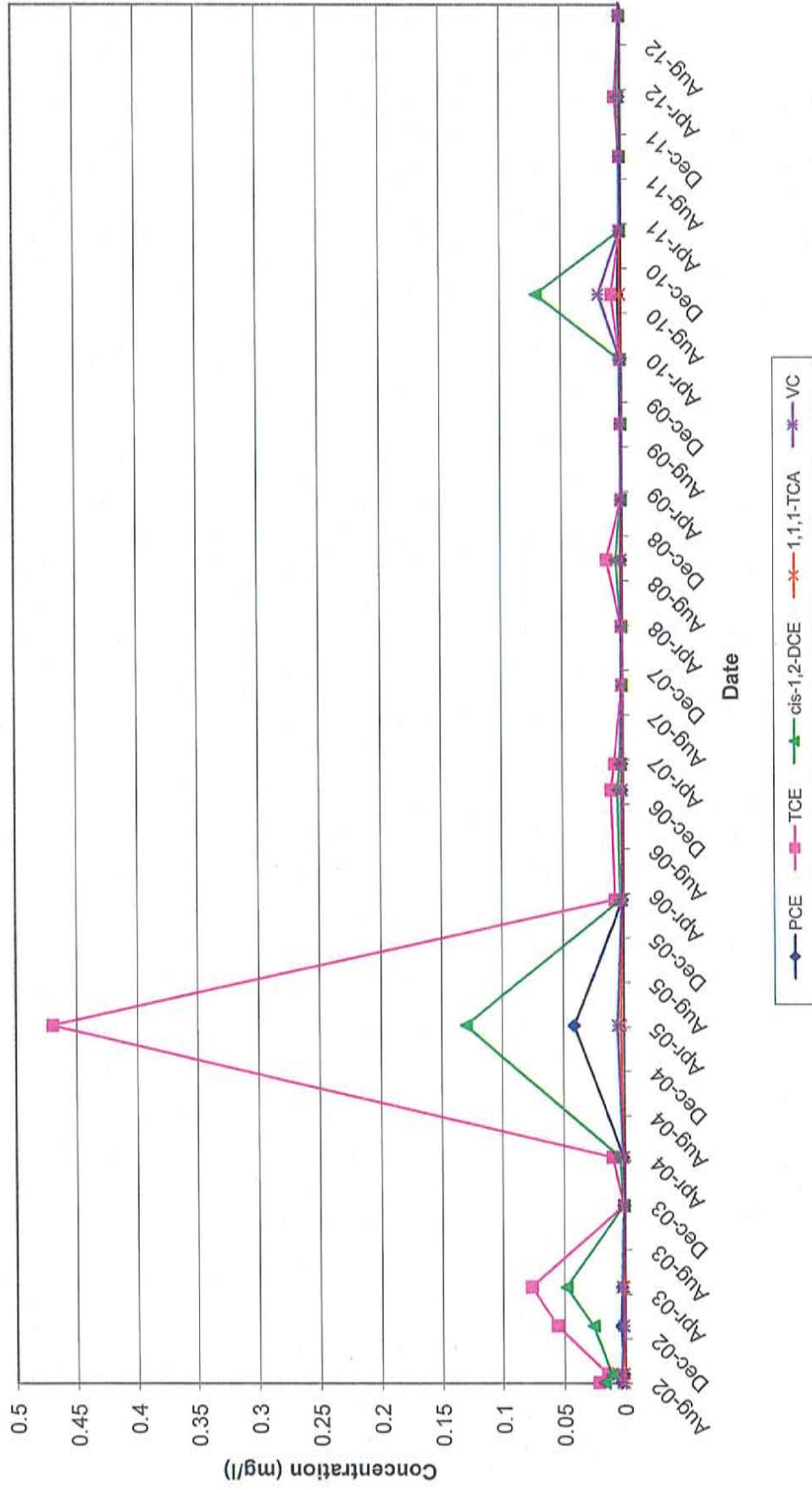
Notes: AP15-S is a shallow well at 31 Tozer Road.
See end of appendix for additional notes.

VOC Trends in Well OB-08-S Former Varian Facility Site Beverly, Massachusetts



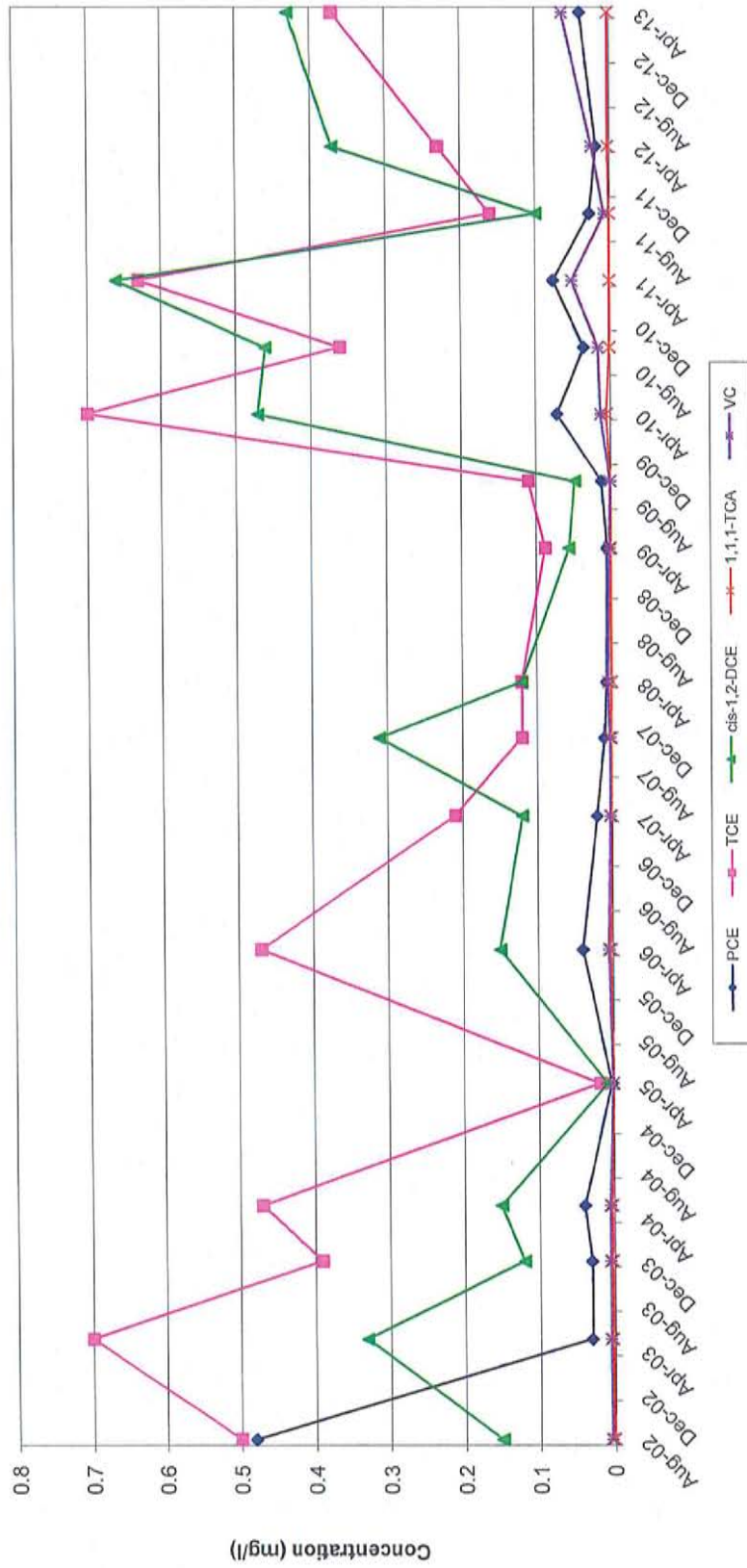
Note: OB-08-S is a shallow overburden well located south of 39 Tozer Road.
See end of appendix for additional notes.

VOC Trends in Well OB-18-S Former Varian Facility Site Beverly, Massachusetts



Note: OB-18-S is a shallow overburden well located at 31 Tozer Road.
See end of appendix for additional notes.

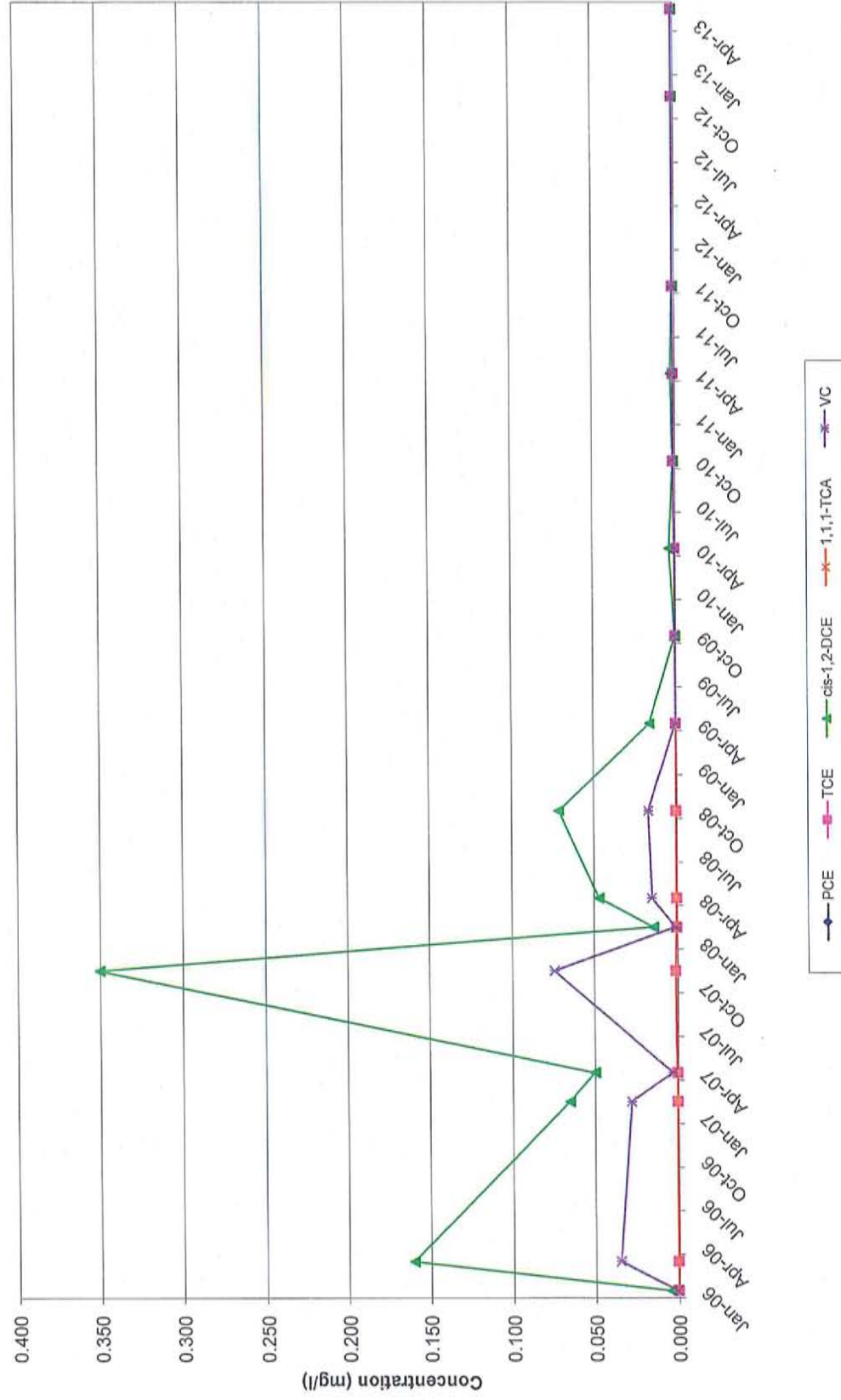
VOC Trends in Well OB-18-DO
Former Varian Facility Site
Beverly, Massachusetts



Notes: OB18-DO is a deep overburden well located at 31 Tozer Road.
See end of appendix for additional notes.

LONGVIEW/HILL STREET TREATMENT AREA

VOC Trends in Well P-9R
Former Varian Facility Site
Beverly, Massachusetts



Notes: P-9R is a shallow overburden well on Hill Street.
See end of appendix for additional notes.

Groundwater VOC Concentration Trend Graph Notes
Former Varian Facility Site
150 Sohler Road
Beverly, MA

mg/l = milligrams per liter

PCE = tetrachloroethene

TCE = trichloroethene

Cis-1,2-DCE = cis-1,2-dichloroethene

1,1,1-TCA or TCA = 1,1,1-trichloroethane

VC = vinyl chloride

UCL = Upper Concentration Limit

Remedial Criteria for TCE = 50% of the UCL ($50 \text{ mg/l} * 0.5 = 25 \text{ mg/l}$).

Remedial Criteria for PCE and TCA = 50% of the UCL (for both $100 \text{ mg/l} * 0.5 = 50 \text{ mg/l}$).

For results that are non-detect, $\frac{1}{2}$ the reporting limited is use for graphing.

APPENDIX E

DRILLING LOGS



Drilling Log

Monitoring Well

AP-33-DO

Page: 1 of 2

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 3, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 40.0 ft. North East
 Top of Casing NA Water Level Initial ▽ 12.0 ft. Static ▼ 11.2 ft. Diameter 4.25 in.
 Screen: Dia 2 in. Length 20 ft. Type/Size PVC/Slot 0.010 in.
 Casing: Dia 2 in. Length 20 ft. Type PVC
 Fill Material #2 Sand, Bentonite, Grout Rig/Core CME-75/140 Hammer
 Drill Co. TDS Method Hollow Stem Auger
 Driller Gary Log By Dale Dailey Date 9/10/13 Permit # NA
 Checked By Raymond Cadorette License No.

COMMENTS

ND = Not Detected

Depth (ft.)	Well Completion	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0							Hand cleared to 0' - 5'.
2		ND				SP	Brown, damp, loose, poorly sorted, fine SAND, trace gravel (Fill)
4							
5							Same as above (Fill)
6		0.8	60%	16		SP	
8		1.0	75%	16		SM	Brown, damp, medium dense, fine SAND, 2" lens of gray, dry, medium dense, gravel, some silt
10		1.1	60%	19		SM	Brown, moist, poorly sorted, medium dense, SILTY SAND
12		1.1	30%	27		SC	Grayish brown, moist, stiff, CLAYEY SAND, trace gravel (10%) to 12'
14		1.3	40%	8		SW	Brown, wet, stiff, CLAYEY SAND to 13'
16		1.7	75%	13		SP	Brown, wet, well sorted, loose, SAND, some gravel (1 - 1.5 cm)
18		18.8	90%	27		SP	Brown, wet, very loose SAND, occasional 1" lenses of brown, loose clay
20		26.7	40%	NA		SP	Brown, wet, loose SAND, trace gravel (to 18.5')
						GC	Brown, wet, poorly sorted, stiff, GRAVELLY CLAY
						SP	Boulder at 19'

Continued Next Page



Drilling Log

Monitoring Well

AP-33-DO

Page: 2 of 2

Project Varian Beverly

Owner Varian Medical Systems, Inc.

Location Building 3, 150 Sohier Road, Beverly, Massachusetts

Proj. No. 150151

Depth (ft.)	Well Completion	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
20		26.7	40%	4		SP	<i>Continued</i> Brown, saturated, poorly sorted, very loose SAND
22		39.3	100%	12		SP	Brown, wet, well sorted, loose, GRAVELLY SAND, (to 23')
24		66.9	60%	51		CH	Brown, wet, GRAVELLY SAND, (black staining)
26				83		CH	Light gray, saturated, hard CLAY, trace poorly sorted sand lenses, some poorly sorted gravel (0.75 - 3 cm), (staining)
28		271	50%	25		CH	Light gray, saturated, hard CLAY with gravelly clay lenses, (poorly sorted gravel 2 - 4 cm)
30				46		CH	
32				25		MH	Light gray, wet, very stiff, SILT, trace large cobbles
34		205	50%	46		MH	
36							
38			10%	24		CL	Light gray, saturated, stiff CLAY, trace poorly sorted gravel (1.5 - 3 cm), (odor)
40				23		CL	
42							End of exploration at 40 feet below surface grade.
44							
46							



Drilling Log

Monitoring Well **AP-34-DO**

Page: 1 of 2

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 3, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 42.0 ft. North East
 Top of Casing NA Water Level Initial ▽ 12.0 ft. Static ▼ 11.4 ft. Diameter 4.25 in.
 Screen: Dia 2 in. Length 20 ft. Type/Size PVC/Slot 0.010 in.
 Casing: Dia 2 in. Length 19.42 ft. Type PVC
 Fill Material #2 Sand, Bentonite, Grout Rig/Core CME-75/140 Hammer
 Drill Co. TDS Method Hollow Stem Auger
 Driller Gary Log By Dale Dailey Date 9/11/13 Permit # NA
 Checked By Raymond Cadorette License No.

COMMENTS

ND = Not Detected

Depth (ft.)	Well Completion	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0							Hand cleared to 0' - 5'. Brown, dry, very loose, fine SAND, (Fill)
2						SP	
4							
6		0.1	30%	1		SP	Brown, damp to dry, very loose, well sorted, fine SAND, trace well sorted gravel (approximately 2 cm) (Fill)
8		0.8	60%	4		SP	Brown, damp to moist, loose, well sorted, fine SAND, trace poorly sorted gravel (0.5 - 2 cm) (Fill)
10		1.1	85%	5		SP	Brown, wet, loose, well sorted, fine SAND, trace well sorted gravel (0.5 - 3 cm) (Fill)
12		1.1	90%	10		SP	Brown, wet, medium dense, fine, well sorted SAND, some poorly sorted gravel (0.5 - 3 cm), trace cobbles (Fill)
14		1.5	20%	4		SW	Brown, saturated, loose, fine and medium, poorly sorted SAND and GRAVEL (0.5 - 2 cm) (Fill)
16		2.0	45%	1		SP	Brown, saturated, very loose, well sorted, medium SAND, some poorly sorted gravel (0.5 - 2.5 cm) (Fill)
18		21.8	85%	6		SP	Brown, saturated, very loose, well sorted, medium SAND, some poorly sorted gravel (0.5 - 2.5 cm) (Fill)
20		41.4	50%	10		SP	Brown, wet, loose, well sorted, medium SAND, some well sorted gravel, trace poorly sorted cobbles (Fill)

Continued Next Page



Drilling Log

Monitoring Well

AP-34-DO

Page: 2 of 2

Project Varian Beverly

Owner Varian Medical Systems, Inc.

Location Building 3, 150 Sohier Road, Beverly, Massachusetts

Proj. No. 150151

Depth (ft.)	Well Completion	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
20		41.4	50%	7 9		SP	<i>Continued</i>
22		164	100%	19 20 18		SP	Same as above, (Fill) (staining and at 22')
24		44.9	70%	10 29 31 39		SP	Brown, saturated, well sorted, dense SAND (Fill)
26		39.5	50%	12 57 53		SP SW	Brown, wet, loose, well sorted, medium SAND (Fill) (to 26') Grayish brown, wet, poorly sorted, very hard SAND and GRAVEL, rock at 26', (strong odor)
28		13.9	100%	28 50		SP	Brown, wet, well sorted, hard, medium SAND (to 28.5')
30							Rock or boulder
32		42.4	25%	5 4 12 15		SM	Dark brown, moist, loose, medium dense, SILTY SAND, some poorly sorted, coarse gravel (2 - 5 cm), (staining)
34		275	95%	9 9 11 16		GM SP CL	Brownish gray, wet, SANDY GRAVEL (to 32.5') Dark brown, wet, loose, SAND, (staining at 33') Gray, moist, sticky, stiff CLAY (to 34')
36		1682	60%	6 5 6 13		CH	Gray, wet, stiff CLAY, some poorly sorted gravel (0.5 - 1.5 cm)
38		773	40%	16 18 31 17		CH	Gray, wet, very stiff, CLAY, trace poorly sorted gravel
40		1118	80%	7 7 10 14		CH	Gray, wet, stiff CLAY, trace poorly sorted gravel
42		1029	60%	10 8 10 12		CH	Same as above
44							End of exploration at 42 feet below surface grade. Well set at 39.42 feet below surface grade.
46							



Drilling Log

Monitoring Well

AP-35-DO

Page: 1 of 2

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 3, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 40.0 ft. North _____ East _____
 Top of Casing NA Water Level Initial ▽ 12.5 ft. Static NA Diameter 4.25 in.
 Screen: Dia 2 in. Length 20 ft. Type/Size PVC/Slot 0.010 in.
 Casing: Dia 2 in. Length 20 ft. Type PVC
 Fill Material #2 Sand, Bentonite, Grout Rig/Core CME-75/140 Hammer
 Drill Co. TDS Method Hollow Stem Auger
 Driller Gary Log By Dale Dailey Date 9/12/13 Permit # NA
 Checked By Raymond Cadorette License No. _____

COMMENTS

ND = Not Detected

Drilling started 9/11/2013 and finished 9/12/2013.

Depth (ft.)	Well Completion	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0							Hand cleared to 0' - 5'.
2							Light brown, wet, well sorted, medium SAND, (Fill)
4							
6							
8						SP	
10							
12							
14							
16		0.3	70%	1 2 3		SP	Same as above (Fill)
18		0.4	65%	2 4 6		SP	Same as above (Fill)
20				6		SP	Same as above (Fill)

CB&I LOGO Rev: 8/9/13 2013_BLDG3.GPJ IT_CORP.GDT 10/21/13

Continued Next Page



Drilling Log

Monitoring Well

AP-35-DO

Page: 2 of 2

Project Varian Beverly

Owner Varian Medical Systems, Inc.

Location Building 3, 150 Sohier Road, Beverly, Massachusetts

Proj. No. 150151

Depth (ft.)	Well Completion	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
20							<i>Continued</i>
22						SP	
24		56.8	60%	10 17 18		SW	Brown, wet, poorly sorted, GRAVELLY SAND, (gravel 0.25 - 3 cm), trace clay
26		52.5		6 10 14 11		SW	Brown, saturated, poorly sorted, medium dense, SAND, some poorly sorted gravel (0.25 - 1.25 cm)
28							Rock or boulder at 26.5'
30							Poorly sorted, SAND and GRAVEL, rock or boulder at 29'
32						SW GW	
34		3596	70%	8 10 16 20		SW	Brown, wet, poorly sorted, medium dense SAND to 34.25', some gravel (0.5 - 2 cm)
36		3429	100%	19 18 16 10 6		OL SW OL	Light brownish gray, stiff, CLAYEY SILT, some gravel Brown, wet, dense, gravelly SAND to 35.75', (30% gravel, 0.25 - 1.0 cm) Light brownish gray, moist, stiff, SILTY CLAY, trace gravel and silt
38			0%	6 8 17 10			No recovery
40							End of exploration at 40 feet below surface grade.
42							
44							
46							



Drilling Log

Soil Boring **Bldg.3-SB-104**

Page: 1 of 1

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 3, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 9.0 ft. North _____ East _____
 Top of Casing NA Water Level Initial NA Static NA Diameter 2 in.
 Screen: Dia NA Length NA Type/Size NA
 Casing: Dia NA Length NA Type NA
 Fill Material Native Rig/Core Mini-Rig/Hydraulic Drive
 Drill Co. NH Boring Method Split Spoon
 Driller Tommy Log By Dale Dailey Date 7/24/13 Permit # NA
 Checked By Raymond Cadorette License No. _____

COMMENTS

ND = Not Detected

Soil sample collected at 5' - 6' (SB104-01) and 8' - 9' (SB104-02) were sent to laboratory for VOC and percent solids analysis.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Concrete (approximately 3")
2					SP	Hand cleared to 5' Brown, dry, low plasticity, very hard, SAND, little cobbles (6 cm - 10 cm), (Fill)
4						
6	22.5	80%	111		SP	Brown, dry, low plasticity, GRAVELLY SAND (Fill)
	1.2	70%	116		SP	Brown, dry, low plasticity, very hard, SAND, some gravel (3 mm - 5 mm), (Till)
	1.2	70%	178		GP	Brownish gray, dry, very hard, low plasticity, SANDY GRAVEL (Till)
8	7.2	60%	236		GW	Brownish gray, dry, low plasticity, very hard, SANDY GRAVEL, some fine sand lenses, little to no silt
10						End of exploration at 9 feet below surface grade.
12						
14						



Drilling Log

Soil Boring **Bldg.3-SB-105**

Page: 1 of 1

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 3, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 11.8 ft. North _____ East _____
 Top of Casing NA Water Level Initial NA Static NA Diameter 2 in.
 Screen: Dia NA Length NA Type/Size NA
 Casing: Dia NA Length NA Type NA
 Fill Material Native Rig/Core Mini-Rig/Hydraulic Drive
 Drill Co. NH Boring Method Split Spoon
 Driller Tommy Log By Dale Dailey Date 7/25/13 Permit # NA
 Checked By Raymond Cadorette License No. _____

COMMENTS

ND = Not Detected

Boring started 7/24/2013;
completed 7/25/2013.

Soil sample collected at 5' - 7'
(SB105-01) and 11' - 11.8'
(SB105-02) were sent to
laboratory for VOC and percent
solids analysis.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Concrete (4" - 5")
2					SP	Hand cleared to 5' Brown, dry, very hard, non-plastic, poorly graded SAND, little to no silt, little cobbles (3 cm - 10 cm), (Fill)
4	17.5	100%	94		SP	Brown, dry, very hard, low plasticity, poorly graded, granular SAND, trace cobbles (Fill)
6	18.3	75%	100		SP	Brown, dry, very hard, low plasticity, poorly graded SAND, over dry, very hard, gravelly sand (Fill)
8	18.6	60%	87		SP	Same as above to 7.5'
			108		GW	Brown, gray, dry, very hard, SANDY GRAVEL (7.5' - 8')
			110		GW	Grayish brown, dry, very hard, well graded, SAND and GRAVEL (8' - 9'), (Till)
10	483	50%	90		GP	Brownish gray, dry, very hard, medium plasticity, poorly graded, SANDY GRAVEL (Till)
			127		GP	Dark grayish brown, slightly moist, poorly graded, SANDY GRAVEL (Till)
12	485		95			
14			170			
			68			
			115			
			100			
			118			
			185			
						End of exploration at 11.8 feet below surface grade.



Drilling Log

Soil Boring **Bldg.3-SB-106**

Page: 1 of 1

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 3, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 9.4 ft. North _____ East _____
 Top of Casing NA Water Level Initial NA Static NA Diameter 2 in.
 Screen: Dia NA Length NA Type/Size NA
 Casing: Dia NA Length NA Type NA
 Fill Material Native Rig/Core Mini-Rig/Hydraulic Drive
 Drill Co. NH Boring Method Split Spoon
 Driller Tommy Log By Dale Dailey Date 7/26/13 Permit # NA
 Checked By Raymond Cadorette License No. _____

COMMENTS

ND = Not Detected

Soil sample collected at 4' - 5' (SB106-01) and 7' - 9' (SB106-02) were sent to laboratory for VOC and percent solids analysis.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Concrete (4" - 5")
2					SP	Hand cleared to 5' Brown, dry, very hard, poorly graded SAND, little gravel (Fill)
4	5.0	30%	46		SW	Medium brown, dry, very hard, medium plasticity, SAND and fine, moderately graded GRAVEL, (Fill)
6	3.5	70%	87		SW	Medium brown, dry, very hard, poorly graded SAND, some gray and black, fine gravel (Till)
8	4.1		66		GP	Medium brown, dry, very hard, poorly graded, SANDY GRAVEL (Till), trace fine gravel
10	4.1		100		SP	Medium brown, dry, very hard, poorly graded, SAND, trace gravel (Till)
12			121			
14			67			
			145			
			180			
			180			
			200			
						End of exploration at 9.4 feet below surface grade.



Drilling Log

Soil Boring **Bldg.3-SB-107**

Page: 1 of 1

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 3, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 8.5 ft. North _____ East _____
 Top of Casing NA Water Level Initial NA Static NA Diameter 2 in.
 Screen: Dia NA Length NA Type/Size NA
 Casing: Dia NA Length NA Type NA
 Fill Material Native Rig/Core Mini-Rig/Hydraulic Drive
 Drill Co. NH Boring Method Split Spoon
 Driller Tommy Log By Dale Dailey Date 7/26/13 Permit # NA
 Checked By Raymond Cadorette License No. _____

COMMENTS

ND = Not Detected

Soil sample collected at 5' - 7' (SB107-01) and 7' - 8.5' (SB107-02) were sent to laboratory for VOC and percent solids analysis. Soil sample collected at 3' - 5' (SB107-03) was sent to laboratory for Oxidation Demand analysis.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Concrete (4" - 5")
2					SP	Hand cleared to 5' Brown, dry, very hard, non-plastic, poorly graded SAND, some well graded cobbles (3 cm - 10 cm), (Fill)
4	7.0	60%	40 56		SP	Medium brown, very dry, very hard, low plasticity, coarse SAND, trace fine gravel, (Fill)
6	6.8	90%	40 47 56 48		SM	Medium to dark brown, slightly moist, very hard, high plasticity, dense, medium SANDY SILT, trace fine gravel, (Till)
8	4.1	70%	130 146 200		SP SC SP	Light brown, dry, hard, low plasticity, SAND Dark brown, damp, very dense, medium plasticity, SANDY CLAY, some fine and coarse gravel (Till) Medium brown, loose, low plasticity, SAND
						Weathered, gray, fractured boulder
10						End of exploration at 8.5 feet below surface grade.
12						
14						



Drilling Log

Soil Boring **Bldg.3-SB-108**

Page: 1 of 1

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 3, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 9.6 ft. North _____ East _____
 Top of Casing NA Water Level Initial NA Static NA Diameter 2 in.
 Screen: Dia NA Length NA Type/Size NA
 Casing: Dia NA Length NA Type NA
 Fill Material Native Rig/Core Mini-Rig/Hydraulic Drive
 Drill Co. NH Boring Method Split Spoon
 Driller Tommy Log By Dale Dailey Date 7/29/13 Permit # NA
 Checked By Raymond Cadorette License No. _____

COMMENTS

ND = Not Detected

Soil sample collected at 4' - 5' (SB108-01) and 9' - 9.6' (SB108-02) were sent to laboratory for VOC and percent solids analysis.

Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0						Asphalt Tile over Concrete (4" - 5")
2					SW	Hand cleared to 5' Brown, dry, non-plastic, well graded, GRAVELLY SAND (Fill)
4	5.1	90%	58		SW	Brown, dry, low plasticity, GRAVELLY SAND (Fill)
6	2.6	60%	42 160 200		SW	Brown, dry, well graded, low plasticity, hard, GRAVELLY SAND, lenses of brown, damp, medium plasticity, dense clay. Gravel is gray to black with some cobbles (Till)
8	3.3	65%	62 56 32		GC	Brownish gray, damp, medium plasticity, dense, GRAVELLY CLAY, (Till), some gray to grayish black, trace gravel and cobble (Till)
			80		SW	Gray, dry, very hard, well graded, GRAVELLY SAND (Till)
	4.2	60%	218		GP	Brownish gray, damp, low plasticity, well graded, very hard, SANDY GRAVEL (Till), some large cobbles (2"), some clay lenses
10			230			
12			200			
14						End of exploration at 9.6 feet below surface grade.

APPENDIX F

COPIES OF WASTE MAINFESTS

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number MAR000006734	2. Page 1 of 1	3. Emergency Response Phone 800-424-9300	4. Manifest Tracking Number 006197360 FLE			
5. Generator's Name and Mailing Address VARIAN Medical Systems, Inc c/o Shaw Comm. mchd 151 Royal Street CANTON, MA 02021				Generator's Site Address (if different than mailing address) VARIAN Medical Systems PO Box 11111 151 Schenck ROAD Beverly, MA 01915				
Generator's Phone: 650-424-6103								
6. Transporter 1 Company Name HORWITH TRUCKS INC				U.S. EPA ID Number PAD14671487M				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address SIEMENS WIRE Technologies LLC 2523 Mchha. Street Phoenix, AZ 85344				U.S. EPA ID Number				
Facility's Phone: 928-664-5758				AZD982441263				
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt/Vol.	13. Waste Codes		
		No.	Type					
X	1. NA 3077, HAZARDOUS WASTE SOLID, A105 (SOLVENTS) 9, III	21	DM	EST 4200	P	PO02		
	2.							
	3.							
	4.							
14. Special Handling Instructions and Additional Information 9a) Spent VAPOR CHARGE SVO# Profile: W90382RH-1 12/2/13								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Officer's Printed/Typed Name Raymond J. Cadorette Agent for VMS				Signature <i>[Signature]</i>		Month / Day / Year 12 / 1 / 13		
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Transporter signature (for exports only): _____ Date leaving U.S.: _____								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name Bill Cassius				Signature <i>[Signature]</i>		Month Day Year 9 / 11 / 13		
Transporter 2 Printed/Typed Name				Signature		Month Day Year		
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: _____								
18b. Alternate Facility (or Generator)				U.S. EPA ID Number				
Facility's Phone: _____								
18c. Signature of Alternate Facility (or Generator)				Signature		Month Day Year		
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1.		2.		3.		4.		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name				Signature		Month Day Year		

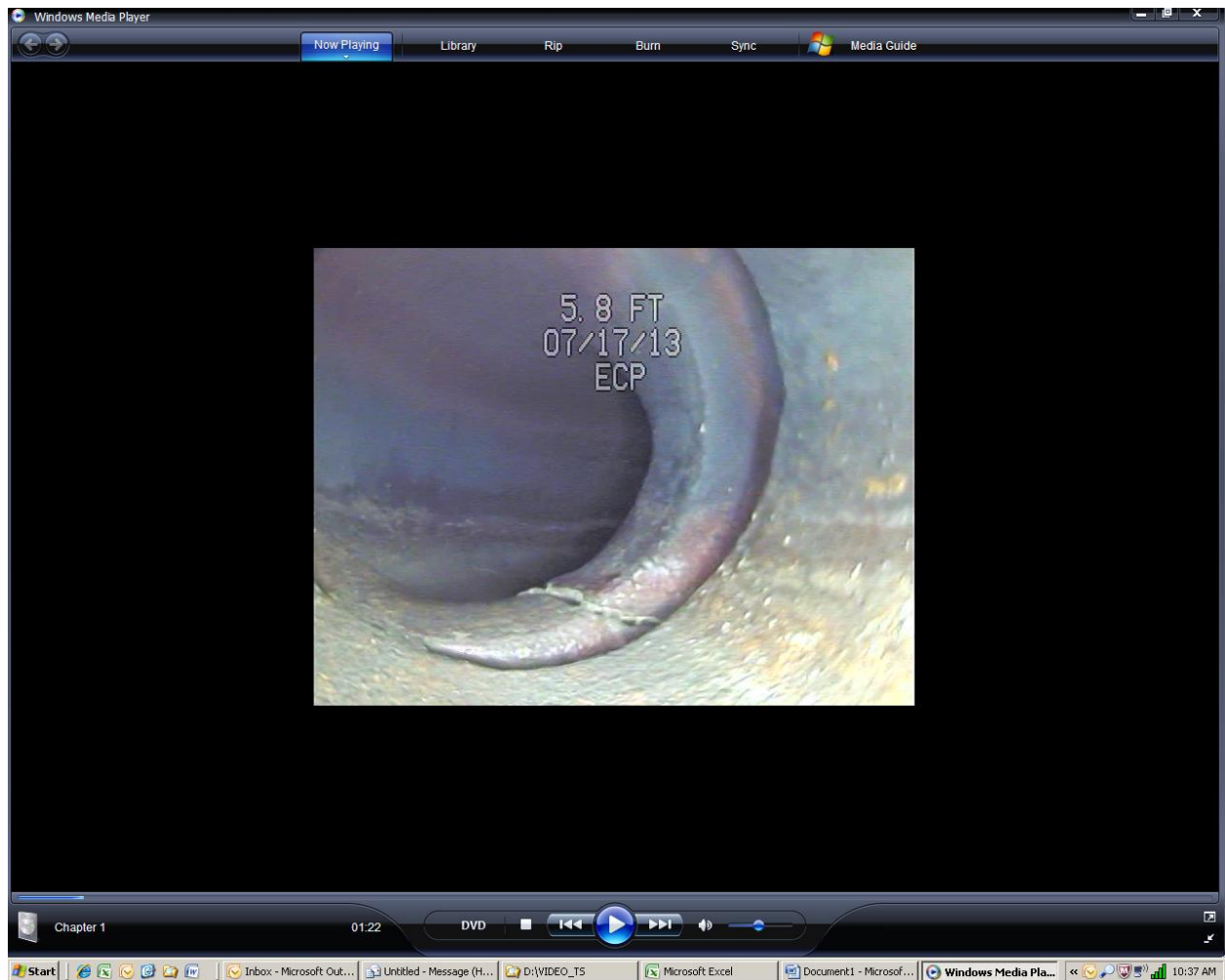
UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number	
		MAR000006734	1	800-424-9300	006197355 FLE	
5. Generator's Name and Mailing Address		Generator's Site Address (if different than mailing address)				
Various Medical Systems c/o Shaw Environmental 150 Royal Street Cambridge, MA 02021		Various Medical Systems 150 Schenck Road Beverly, MA 01915				
Generator's Phone:						
6. Transporter 1 Company Name		U.S. EPA ID Number				
Horwitz Trucks Inc		PA0146714878				
7. Transporter 2 Company Name		U.S. EPA ID Number				
8. Designated Facility Name and Site Address		U.S. EPA ID Number				
Siemens Water Technologies LLC 2523 Muthman Street Phoenix, AZ 85344		AZD 982441263				
Facility's Phone:						
928-664-5758						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		No.	Type			
X	1. HAZARDOUS WASTE SOLID AQS (SOLID) 9. NA 3077, PL III	24	DM	EST 4,000	P	F002
	2.					
	3.					
	4.					
14. Special Handling Instructions and Additional Information						
9a1) Spent Vapor (CARBON) SV04 5732731 Prohibit W90382RH-1 Exp: 12/24/13						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name		Signature			Month	Day Year
Raymond J. Carosella Agent for VMS					08	15 13
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name		Signature			Month	Day Year
Bill Cassim					08	17 13
Transporter 2 Printed/Typed Name		Signature			Month	Day Year
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
Manifest Reference Number: _____						
18b. Alternate Facility (or Generator) U.S. EPA ID Number _____						
Facility's Phone: _____						
18c. Signature of Alternate Facility (or Generator) _____ Month _____ Day _____ Year _____						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1.		2.		3.		4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name		Signature			Month	Day Year

APPENDIX G

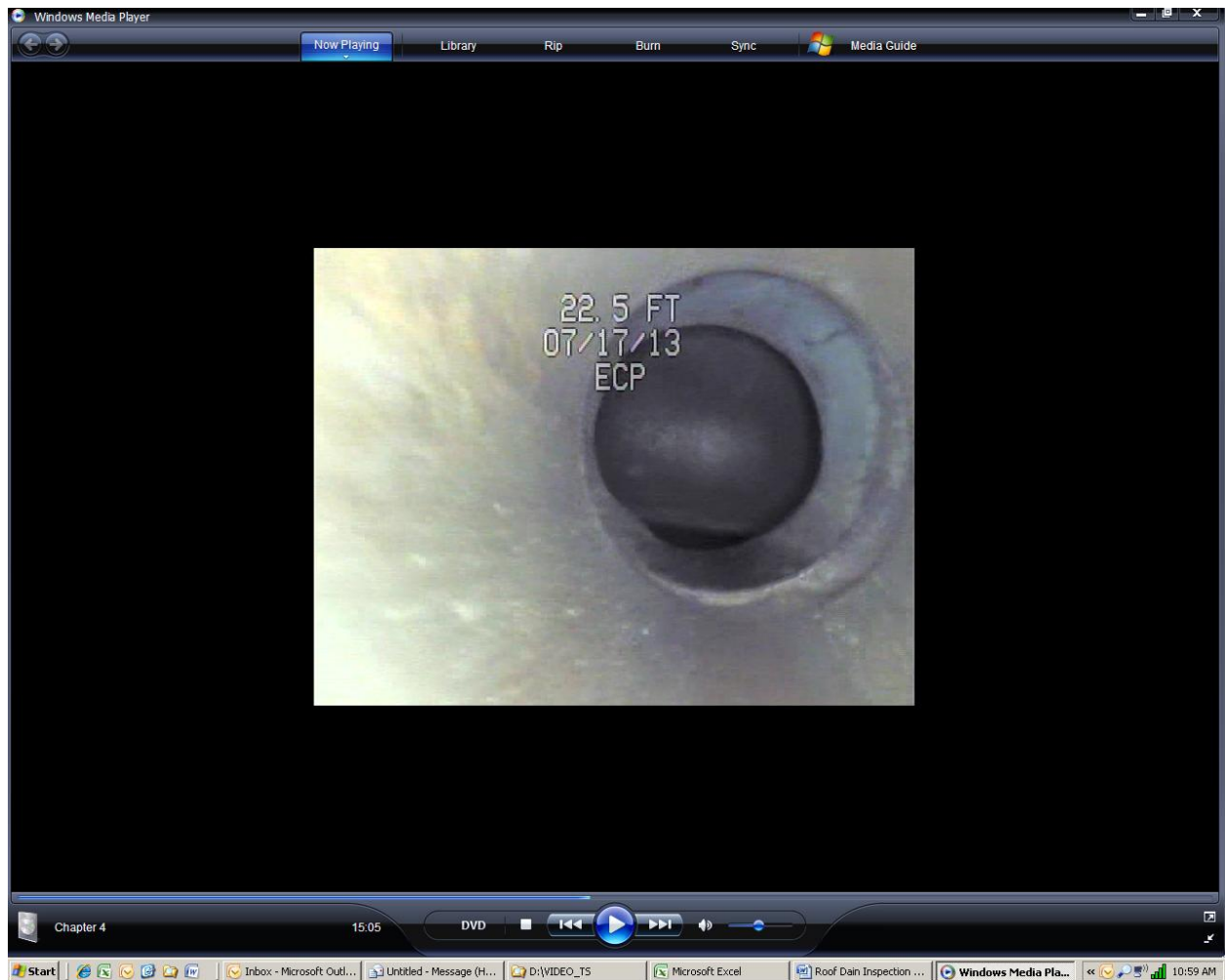
BUILDING 3 ROOF DRAIN INSPECTION



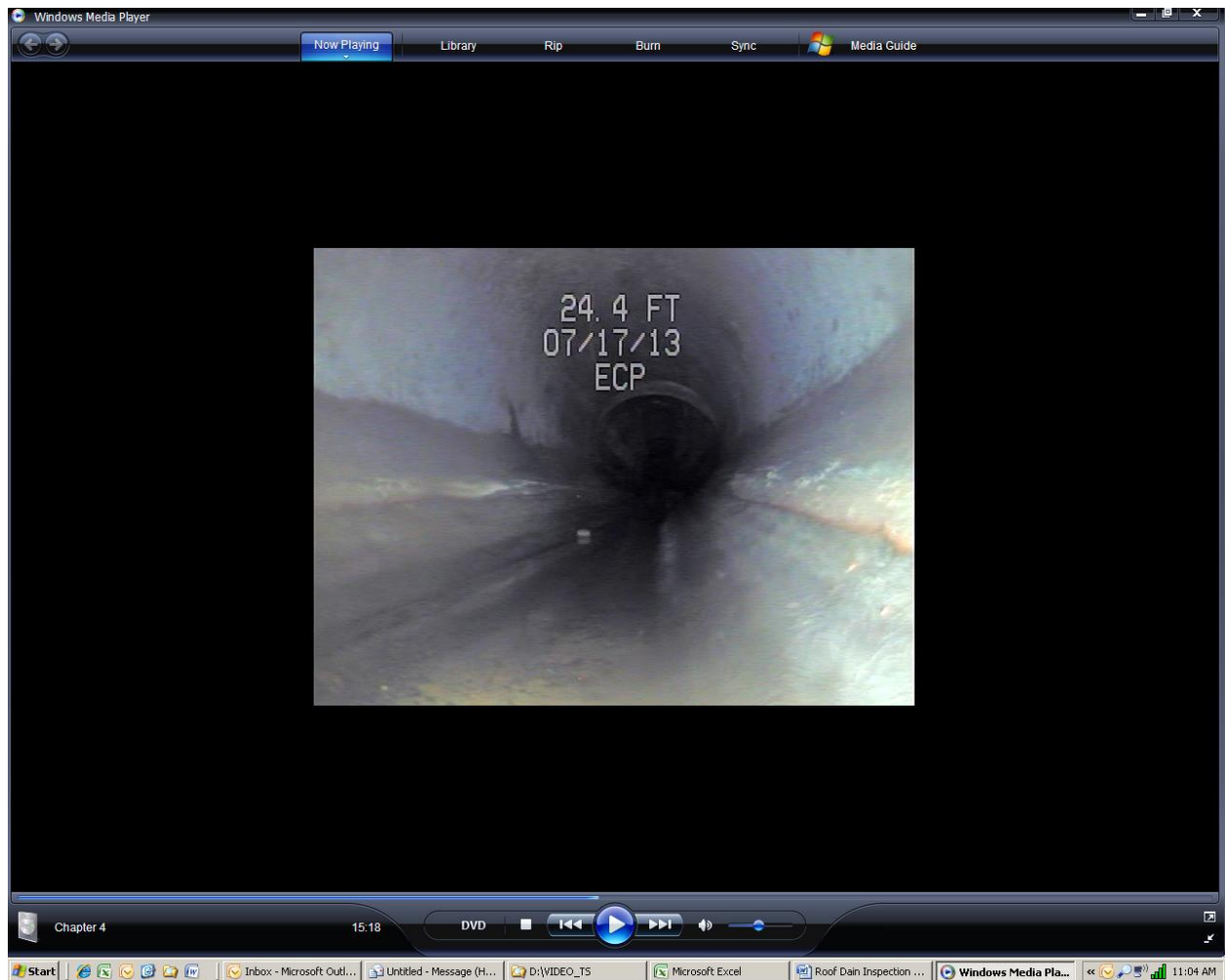
Screen shot 1: off-set connection between sections of four-inch pipe in Drain Line 1 (noted in several locations)



Screen shot 2: off- set connection between pipe section and elbow with crack in Drain Line 1



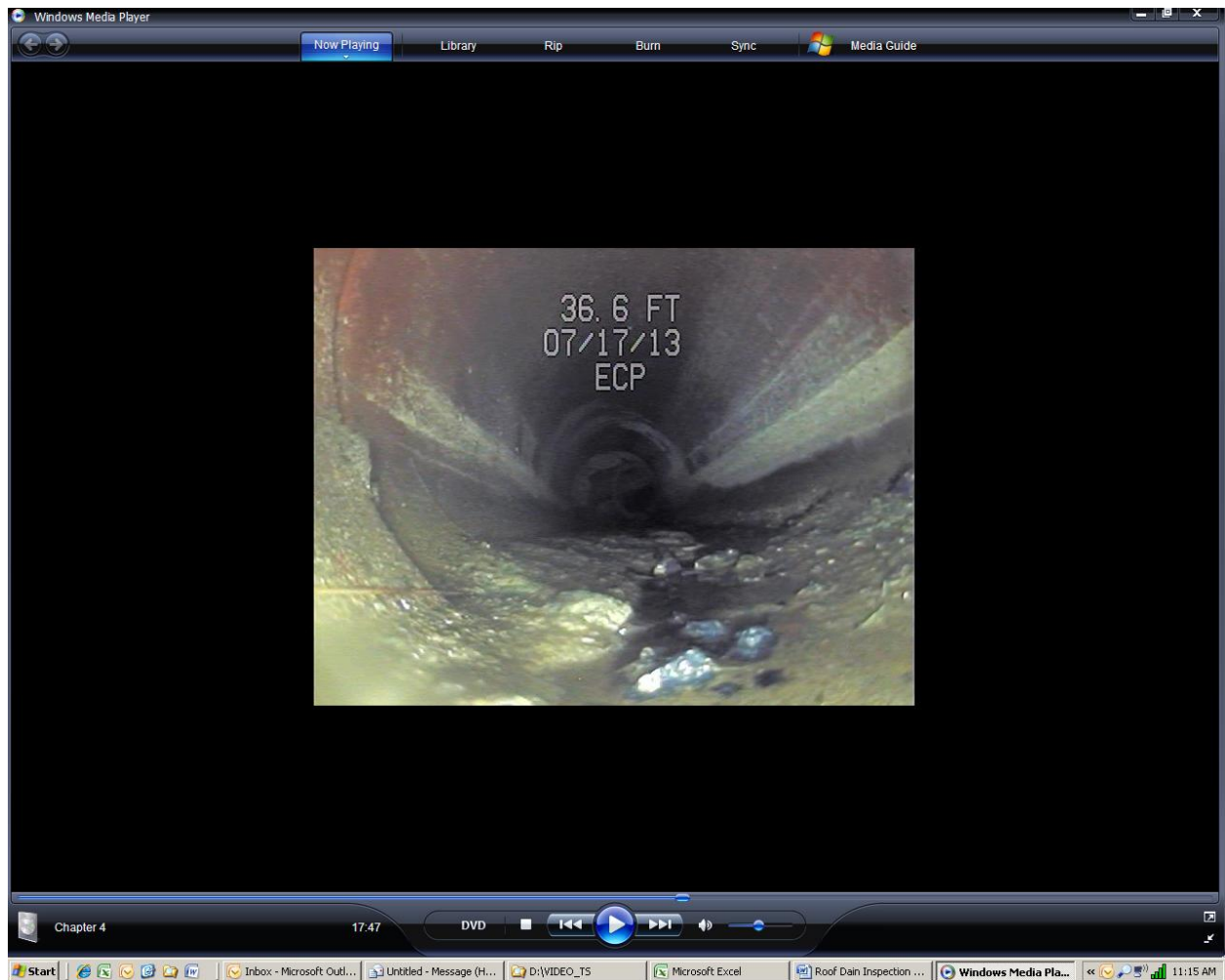
Screen shot 3: four-inch diameter Drain Line 1 as it connects to eight-inch diameter Drain Line 2



Screen shot 4: Drain Line 2 with standing water present (no sediment)



Screen shot 5: Drain Line 2 where sediment was first observed (note metal debris)



Screen shot 6: Drain Line 2 where dark colored sediment was noted



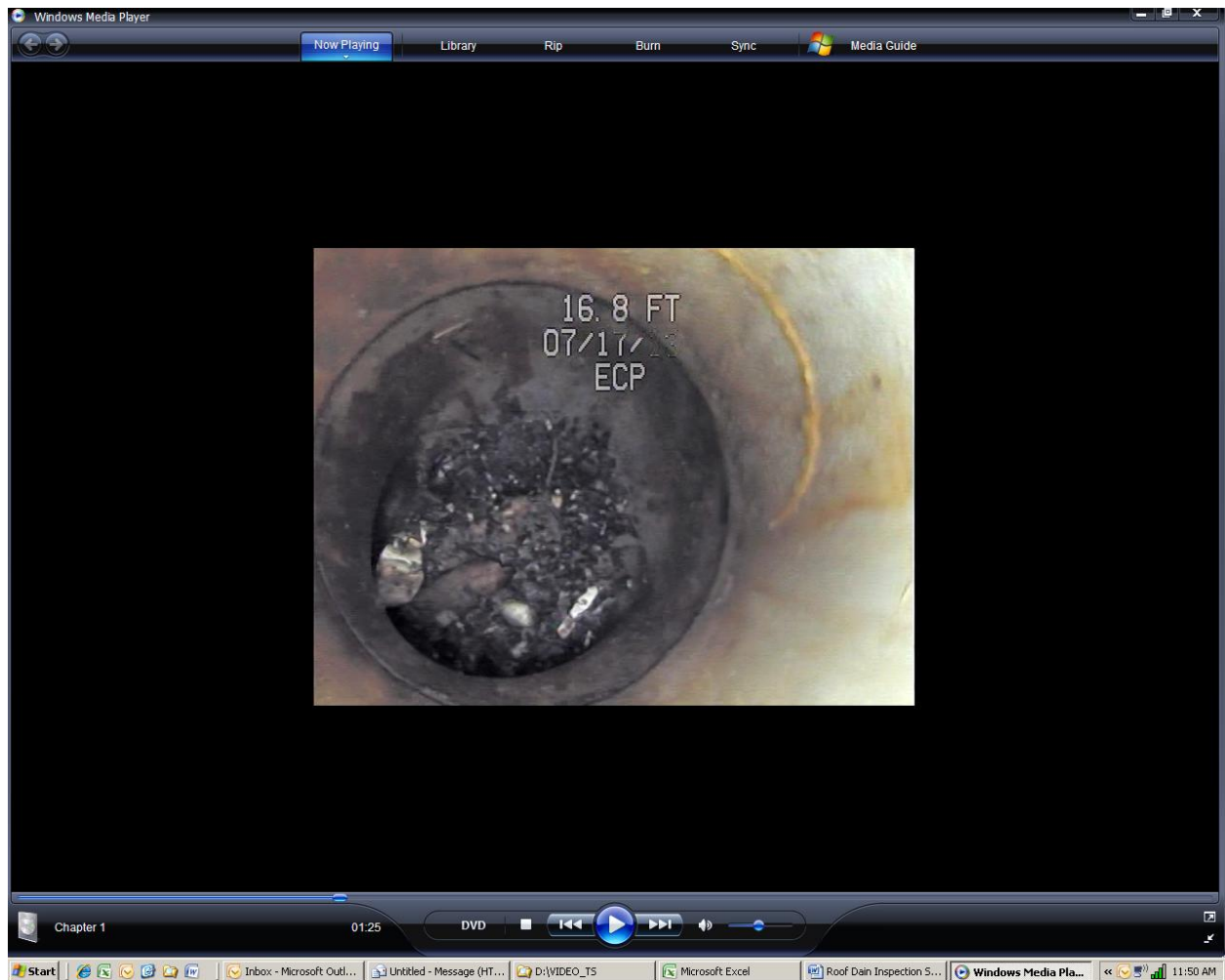
Screen shot 7: eight-inch Drain Line 2 where debris (wire nut) was noted



Screen shot 8: connection between eight-inch diameter Drain Line 2 and four-inch diameter Drain Line 3 (note that configuration of connection results in sediment accumulation)



Screen shot 9: one-inch horizontal line noted in four-inch vertical Vent Line 1



Screen shot 10: Apparent sediment or soil at the bottom of vertical Vent Line 1 at location I (note potential debris)

APPENDIX H

BUILDING 5 SVE AS-BUILT CONSTRUCTION DRAWINGS

87654321

INDEX OF DRAWINGS

SHAW DRAWING NUMBER	SHEET REFERENCE NUMBER	DESCRIPTION
146898-T1	T-1	TITLE SHEET
146898-SITE PLAN	Y-1	SITE PLAN
146898-SITE DETAIL	Y-2	SITE DETAIL
32001-T41-L	NA	SUB-SLAB VENTING/VAPOR EXTRACTION SYSTEM TRAILER LAYOUT
146898-DETAIL	Y-4	CONSTRUCTION DETAILS-SVE PIPING, MONITORING, PIPE SUPPORT AND ELECTRICAL SCHEMATIC DETAIL
146898-PID LEGEND	P-1	PIPING AND INSTRUMENTATION LEGEND
146898-PID	P-2	SUB-SLAB SVE SYSTEM PIPING AND INSTRUMENTATION DIAGRAM
32001-T41-P	NA	SUB-SLAB VENTING/VAPOR EXTRACTION PROCESS AND INSTRUMENTATION DIAGRAM

SUB-SLAB SOIL VAPOR
EXTRACTION SYSTEM

BUILDING 5
FORMER VARIAN FACILITY
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

PREPARED FOR:


VARIAN MEDICAL SYSTEMS, INC.
3120 HANSEN WAY
PALO ALTO, CALIFORNIA



IMAGE	X-REF	OFFICE	DRAWING	146898-T1
---	---	CANTON	NUMBER	

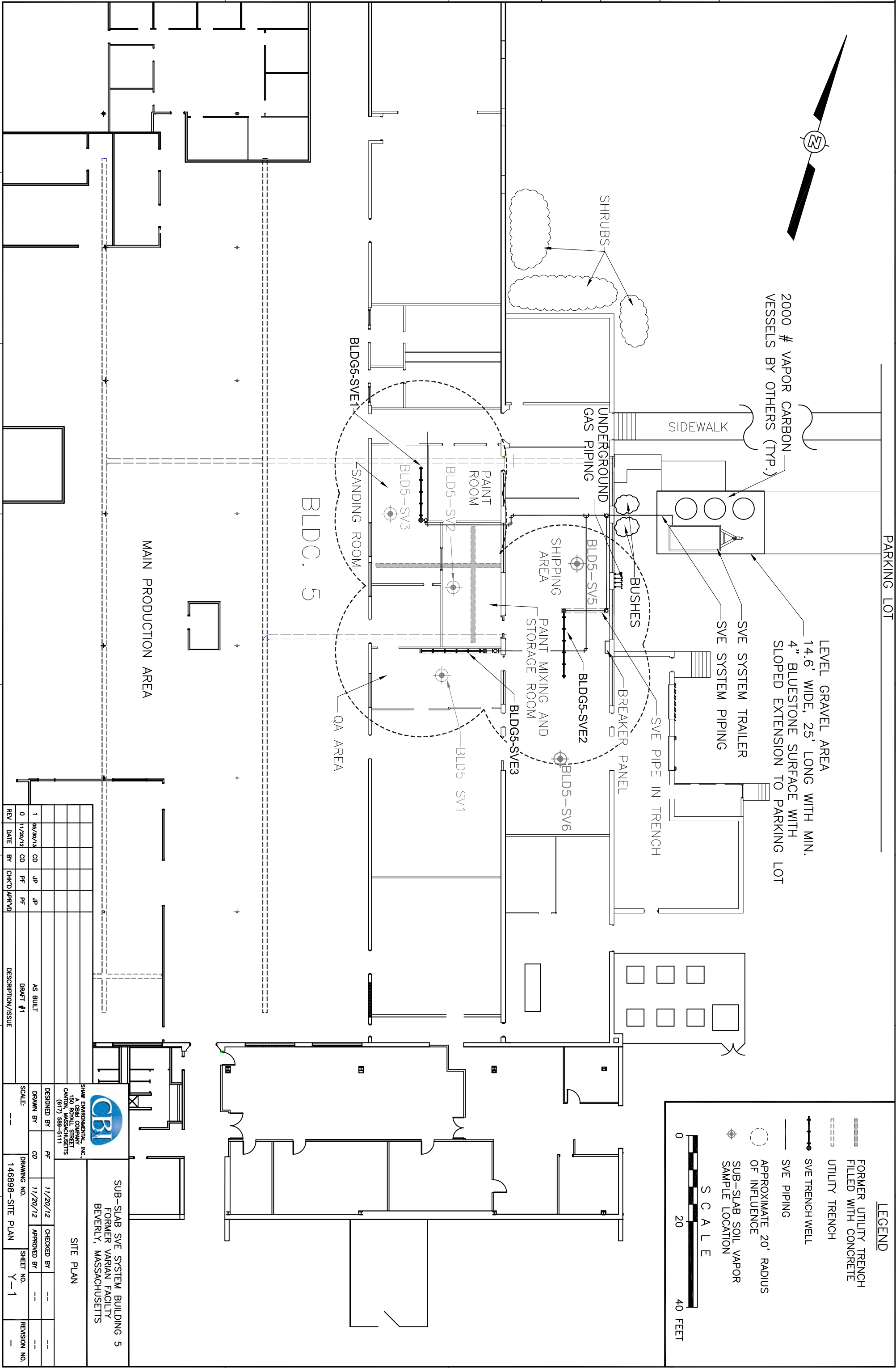
XREF Files: IMAGE Files: CBI-Logo-Color.jpg
File: T:\MISC\Varian\Beverly, Ma\Phase 4\BUILDING 5 SYSTEM\146898-T1.dwg Layout: Model User: chris.desiato Jun 17, 2013 -- 7:08pm

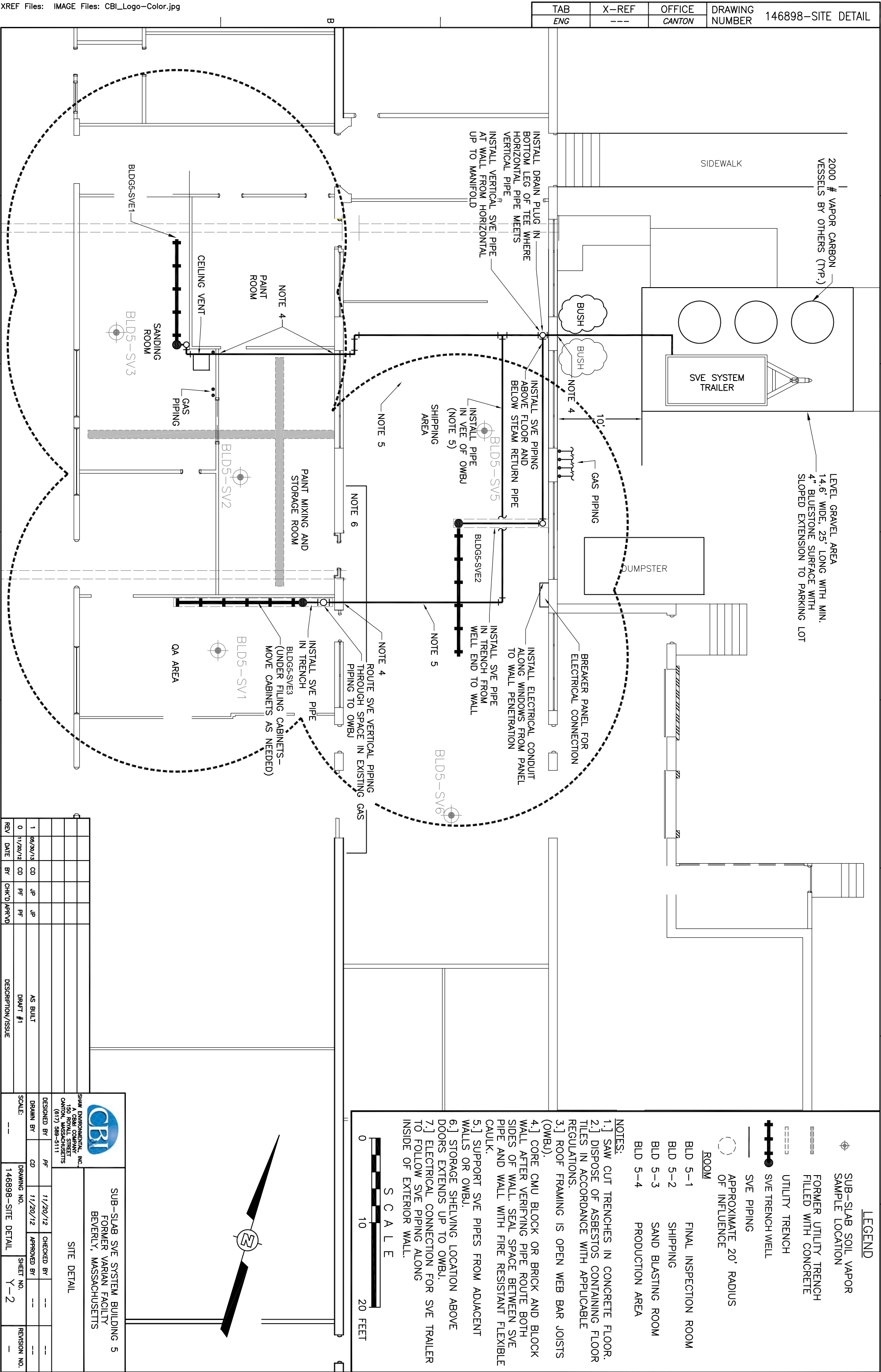
1	06/28/13	CD	JP	JP		AS-BUILT
0	11/20/12	CD	-	-		DRAFT #1
REV	DATE	BY	CHK'D	APPROV'D		DESCRIPTION/ISSUE

 SHAW ENVIRONMENTAL, INC. A CBI COMPANY 150 SOHIER ROAD BEVERLY, MASSACHUSETTS (617)969-5111		SUB-SLAB SVE SYSTEM BUILDING 5 FORMER VARIAN FACILITY BEVERLY, MASSACHUSETTS			
		TITLE SHEET			
DESIGNED BY	PF	11/20/12	CHECKED BY	--	--
DRAWN BY	CD	11/20/12	APPROVED BY		
SCALE:		DRAWING NO.	146898-T1	SHEET NO.	T-1
	NONE				REVISION NO. --

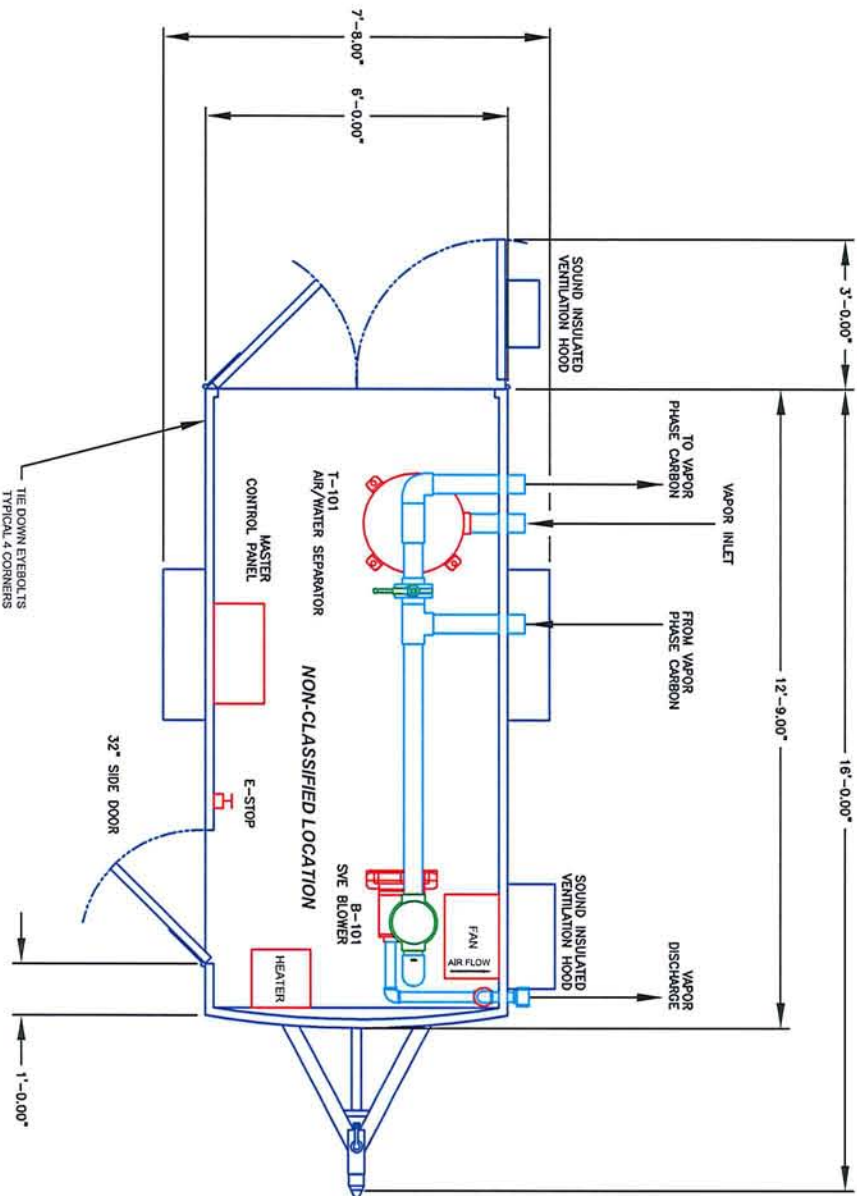
87654321

TAB	X-REF	OFFICE	DRAWING NUMBER 146898-SITE PLAN
ENG	---	CANTON	





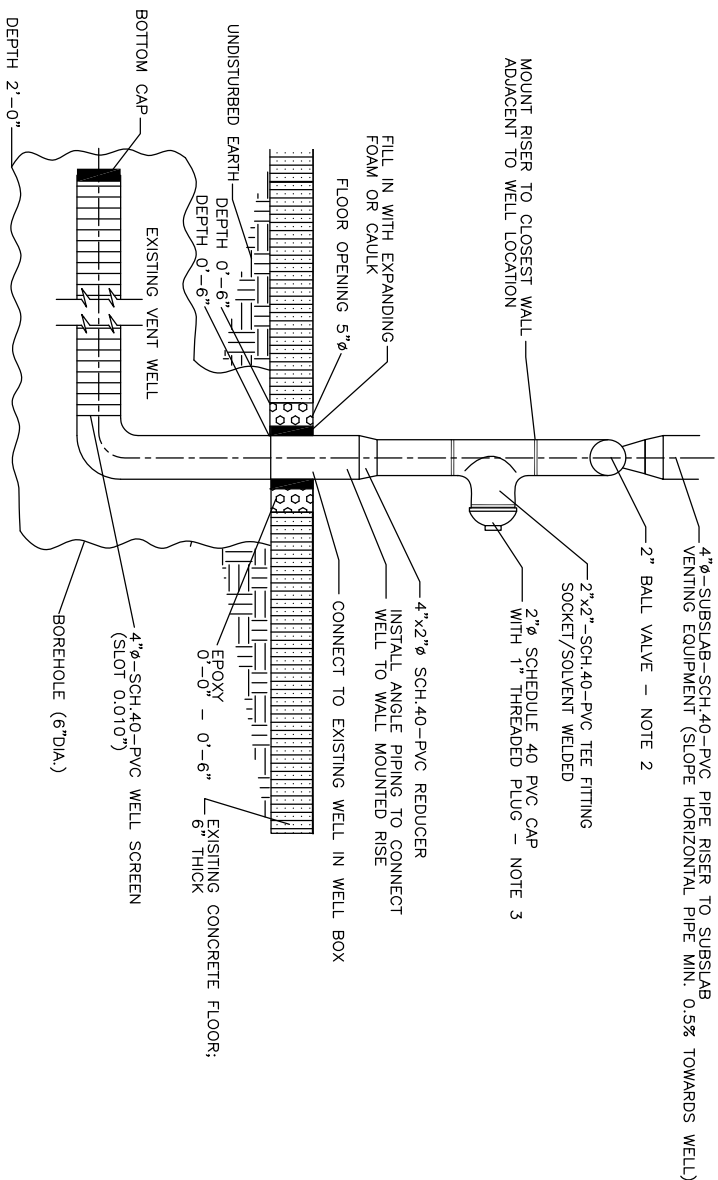
REVISIONS				
REV	DESCRIPTION	DATE	APPR	
1	MOVE MASTER CONTROL PANEL FROM EXTERIOR TRAILER FRONT TO THE INTERIOR CURBSIDE WALL. MOVE VAPOR INLET FROM CURBSIDE WALL TO STREETSIDE WALL.	1/16/13	PRS	
2	REVISE TRAILER DIMENSIONS: ADD BLOWER PIPING; ADD TIE DOWN EYEBOLTS	1/24/13	PRS	
AS BUILT	AS BUILT	2/16/13	PRS	



CONFIDENTIALITY NOTE:				
The information contained in this drawing is the property of Air Energy, Incorporated. The information is confidential and any copying, distribution or dissemination without the express written consent of Air Energy, Incorporated is strictly prohibited.				
AIR ENERGY, INCORPORATED				
6 Norfolk Avenue South Easton, Massachusetts 02375				
Phone (508) 230-9445 Fax (508) 230-9446				

TITLE			
SUB-SLAB VENTING / VAPOR EXTRACTION SYSTEM			
TRAILER LAYOUT			
DRWN BY	DATE	CHK BY	DATE
PRS	12/21/12		
APPR BY	DATE	SCALE	SIZE
		1"=30'	C
FORMER VARIAN FACILITY - BEVERLY, MA		DWG NO.	32001-T41-L
SHAW ENVIRONMENTAL		MODEL NO.	AE-TSVE-208V
		SHEET	REV
		1 OF 1	AS BUILT

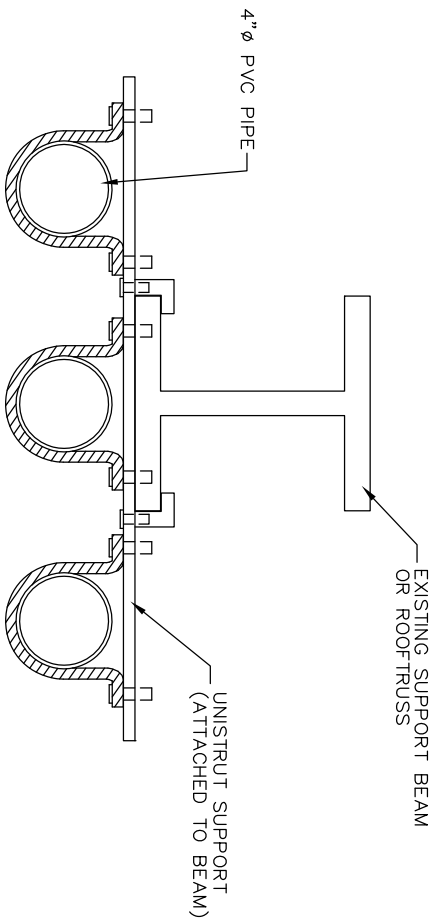
TAB	X-REF	OFFICE	DRAWING NUMBER 146898-DETAIL
ENG	---	CANTON	



SUBSLAB VENTING WELL CONNECTION (TYPICAL)

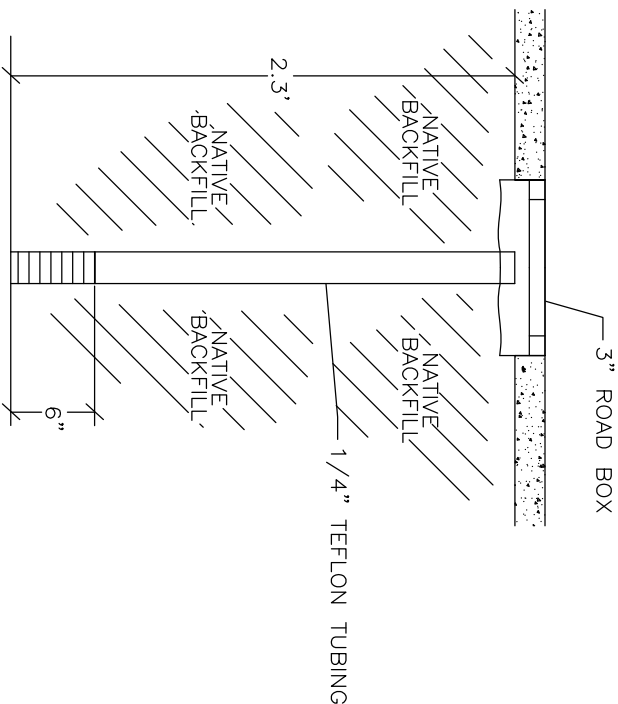
NOT TO SCALE
ALL DEPTHS ARE APPROXIMATE

NOTES:
1.] INSTALL SOLID PIPE IN TRENCH TO CONNECT SVE-2 AND SVE-3 TO RISER PIPE AT ADJACENT WALL. TRENCH INSTALLATION INCLUDES CUTTING AND REPLACING CONCRETE FLOOR IN KIND. BACKFILL TRENCH WITH 3/8" WASHED SLOPE.
2.] INSTALL BALL VALVE ON RISER AS CLOSE TO FLOOR AS POSSIBLE. ON SVE-2 INSTALL BALL VALVE ON FIRST SURFABLE VERTICAL PIPE.
3.] FACE AWAY FROM WALL.



OVERHEAD PIPE SUPPORT (TYPICAL)

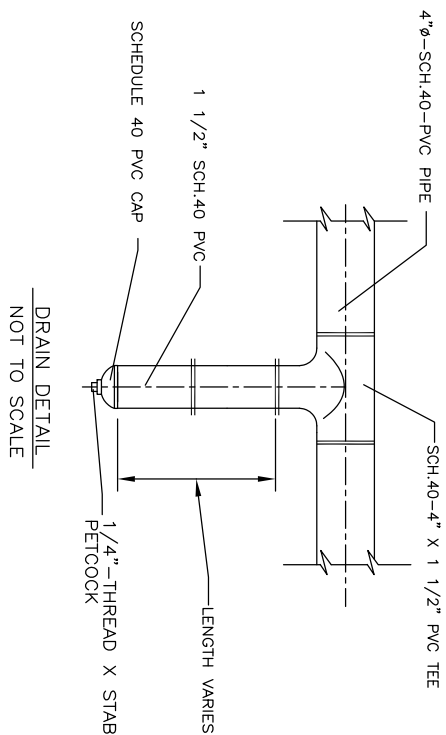
NUMBER OF PIPES ATTACHED)
NOT TO SCALE



SOIL VAPOR MONITORING POINT (TYPICAL)

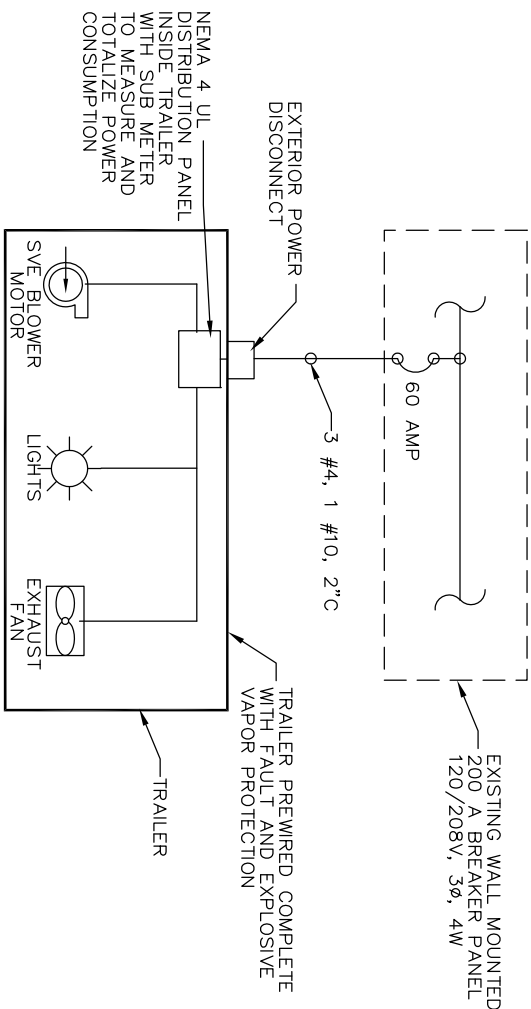
NOI 10 SCALE
ALL DEPTHS ARE APPROXIMATE

DETAIL 1



DRAIN DETAIL
NOT TO SCALE

DRAIN DETAIL
NOT TO SCALE



ELECTRICAL SCHEMATICS POWER

SOURCE FEED IO TRAILER
NOT TO SCALE

1	06/30/13	CD	JP	JP		AS BUILT
0	11/20/12	CD	PF	PF		DRAFT #1
REV	DATE	BY	CHK'D	APPROV		DESCRIPTION/ISSUE


		SUB-SLAB SVE SYSTEM BUILDING 5 FORMER VARIAN FACILITY BEVERLY, MASSACHUSETTS			
SHAW ENVIRONMENTAL, INC., A CBI® COMPANY 150 ROYAL STREET CAMBRIDGE, MASSACHUSETTS (617) 588-5111		CONSTRUCTION DETAILS -- SVE PIPING, MONITORING WELL, PIPE SUPPORT, AND ELECTRICAL SCHEMATIC DETAIL			
DESIGNED BY	PF	11/20/12	CHECKED BY	--	--
DRAWN BY	CD	11/20/12	APPROVED BY	--	--
SCALE:	DRAWING NO. 146898-DETAIL		SHEET NO. Y-4	REVISION NO. --	



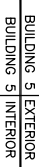
IMAGE	X-REF	OFFICE	DRAWING NUMBER	146898--PID_LEGEND
---	---	CANTON		

VALVE AND PIPING SYMBOLS				
	GLOBE VALVE		EXPANSION JOINT	
	GATE VALVE (NORMALLY OPEN)		BASKET TYPE STRAINER	
	GATE VALVE (NORMALLY CLOSED)		Y-TYPE STRAINER	
	BUTTERFLY VALVE		STEAM TRAP	
	SPRING CHECK VALVE		DUPLEX STRAINER	
	CHECK VALVE		SLEEVE COUPLING (SC)	
	PLUG VALVE		FLOOR DRAIN	
	3-WAY VALVE		EQUIPMENT DRAIN	
	ANGLE VALVE		CLEANOUT (CO)	
	RELIEF OR SAFETY VALVE		REMOVABLE PLUG	
	DIAPHRAGM VALVE		REMOVABLE CAP	
	SAMPLE PORT		BLIND FLANGE	
	BALL VALVE NC (NORMALLY CLOSED)		EXHAUST TO ATMOSPHERE (INSIDE)	
	BALL VALVE THROTTLED		EXHAUST TO ATMOSPHERE (OUTSIDE)	
	BALL VALVE NO (NORMALLY OPEN)		REDUCER	
	SELF-CONTAINED PRESSURE REGULATING VALVE W/RELIEF		UNION	
	SELF-CONTAINED PRESSURE REGULATING VALVE AND FILTER W/RELIEF		QUICK DISCONNECT COUPLING	
	FILTER		GAUGE SEAL	
	KNIFE GATE VALVE		DAMPER	
	BACKFLOW PREVENTER		SILENCER	
	FLEXIBLE HOSE		VACCUUM BREAK	
	CAPPED LINE		TEE	
	90° ELBOW			
VALVE OPERATOR SYMBOLS				
	SOLENOID		DIAPHRAGM WITH POSITIONER	
	MOTOR, ELECTRIC		HANDWHEEL OR LEVER	
	DIAPHRAGM		CHAINWHEEL	
PRIMARY ELEMENT SYMBOLS - FLOW				
	ORIFICE PLATE		POSITIVE DISPLACEMENT FLOW METER	
	PITOT TUBE		WEIR	
	AVERAGING PITOT TUBE		TURBINE OR PROPELLER TYPE METER	
	SIGHT TUBE		MAGNETIC FLOW METER	
	TOTALIZING FLOWMETER		ROTAMETER	
	FLOW SWITCH			

GENERAL INSTRUMENT SYMBOLS				
	FIELD MOUNTED		TWO INSTRUMENTS PHYSICALLY CONNECTED	
	PANEL MOUNTED		INTERNAL PLC INSTRUMENT OR FUNCTION	
	REAR-OF-PANEL MOUNTED		INDICATOR LIGHT	
	INTERLOCK (WHERE N = INTERLOCK NUMBER)		PISTON ACTUATOR	
	PURGE			
LINE SYMBOLS				
	PROCESS PIPES OR CHANNELS			
	ELECTRICAL SIGNAL			
	ELECTRICAL INTERCONNECTION			
	PNEUMATIC SIGNAL			
	CAPILLARY TUBING (FILLED SYSTEM)			
	HYDRAULIC SIGNAL			
	ELECTROMAGNETIC OR SONIC SIGNAL NO WIRING OR TUBING			


SERVICE ABBREVIATIONS				
AIR	AIR, ATMOSPHERIC	PRESSURE		
ASP	AIR SPARGE			
BW	BACKWASH			
CA	COMPRESSED AIR			
CDS	CONDENSATE			
CGW	CONTAMINATED GROUNDWATER			
D	DRAIN			
EFF	EFFLUENT			
EXH	EXHAUST			
GW	GROUNDWATER			
NPW	NON-POTABLE WATER			
P	PRODUCT			
PW	POTABLE WATER			
S	SANITARY			
SC	SECONDARY CONTAINMENT			
SL	SLUDGE			
SMC	STEAM MIGRATION CONTROL			
SP	SAMPLE PORT			
SS	STORM SEWER			
STM	STEAM			
SV	SUB-SLAB VENTING			
SVE	SOIL VAPOR EXTRACTION			
TF	TOTAL FLUIDS			
V	VENT			
VAP	VAPOR			
PIPING MATERIAL IDENTIFICATION				
CIP	CAST IRON PIPE			
CMP	CORRUGATED METAL PIPE			
COP	COPPER			
CPVC	CHLORINATED POLYVINYL CHLORIDE			
CSP	CARBON STEEL PIPE			
DIP	DUCTILE IRON PIPE			
ESP	EPOXY-COATED STEEL PIPE			
FLX	FLEXIBLE HOSE			
GAL	GALVANIZED STEEL PIPE			
PE	POLYETHYLENE PIPE			
PP	POLYPROPYLENE PIPE			
PVC	POLYVINYL CHLORIDE PIPE			
RPC	REINFORCED CONCRETE PIPE			
RUB	RUBBER HOSE			
SS	STAINLESS STEEL PIPE			
VCP	VITRIFIED CLAY PIPE			
INSULATION/FINISH CLASS				
I	INSULATED			
H	HEAT TRACED			
P	PAINTED			
N	NO FINISH			
PROCESS PIPING IDENTIFICATION				
PIPE DIAMETER (INCHES) - PROCESS PIPE				
2" - WWW - XXX - Y - Z				
SERVICE PIPING MATERIAL IDENTIFICATION (REFER TO PROJECT SPECIFICATIONS)				
INSULATION/FINISH CLASS				
INSTRUMENT IDENTIFICATION				
FIT-1-100				
AREA NUMBER				
SEE BELOW				
LOOP NUMBER				
LEVEL SWITCH HIGH-HIGH				
RUN LIGHT				
MOTORIZED VALVE				
OPEN(MOMENTARY)-CLOSE-AUTO				
PRESSURE ALARM HIGH				
PRESSURE CONTROL VALVE				
PRESSURE INDICATOR				
PRESSURE SWITCH				
PRESSURE SWITCH HIGH				
RELIEF VALVE				
SOLENOID VALVE				
TEMPERATURE ANALYZER				
TEMPERATURE ELEMENT				
TEMPERATURE INDICATOR				
TEMPERATURE SWITCH HIGH				
TEMPERATURE TRANSMITTER				
VACUUM INDICATOR				
F	FLOW ELEMENT			
FE	FLOW INDICATOR			
FT	FLOW INDICATOR AND TRANSMITTER			
FIQ	FLOW INDICATOR AND TOTALIZER			
FN	FAN			
FQ	FLOW TOTALIZER			
FR	FLOW REGULATOR			
FSL	FLOW SWITCH LOW			
HOA	HAND-OFF-AUTOMATIC			
HS	HAND SWITCH			
KY	TIMER			
LAH	LEVEL ALARM HIGH-HIGH			
LAHH	LEVEL ALARM HIGH-HIGH			
LEL	LEVEL EXPLOSIVE LIMIT			
LI	LEVEL INDICATOR			
LSL	LEVEL SWITCH LOW			
LSH	LEVEL SWITCH HIGH			
SUB-SLAB SVE SYSTEM BUILDING 5 FORMER VARIAN FACILITY BEVERLY, MASSACHUSETTS				
SHAW ENVIRONMENTAL, INC. A CBI COMPANY 150 ROYAL STREET CANTON, MASSACHUSETTS (617)389-5111				
PIPING AND INSTRUMENTATION DIAGRAM LEGEND				
DESIGNED BY	PF	11/20/12	CHECKED BY	--
DRAWN BY	CD	11/20/12	APPROVED BY	--
SCALE:	NONE		DRAWING NO.	146898--PID
			SHEET NO.	P-1
			REVISION NO.	
DESCRIPTION/ISSUE				

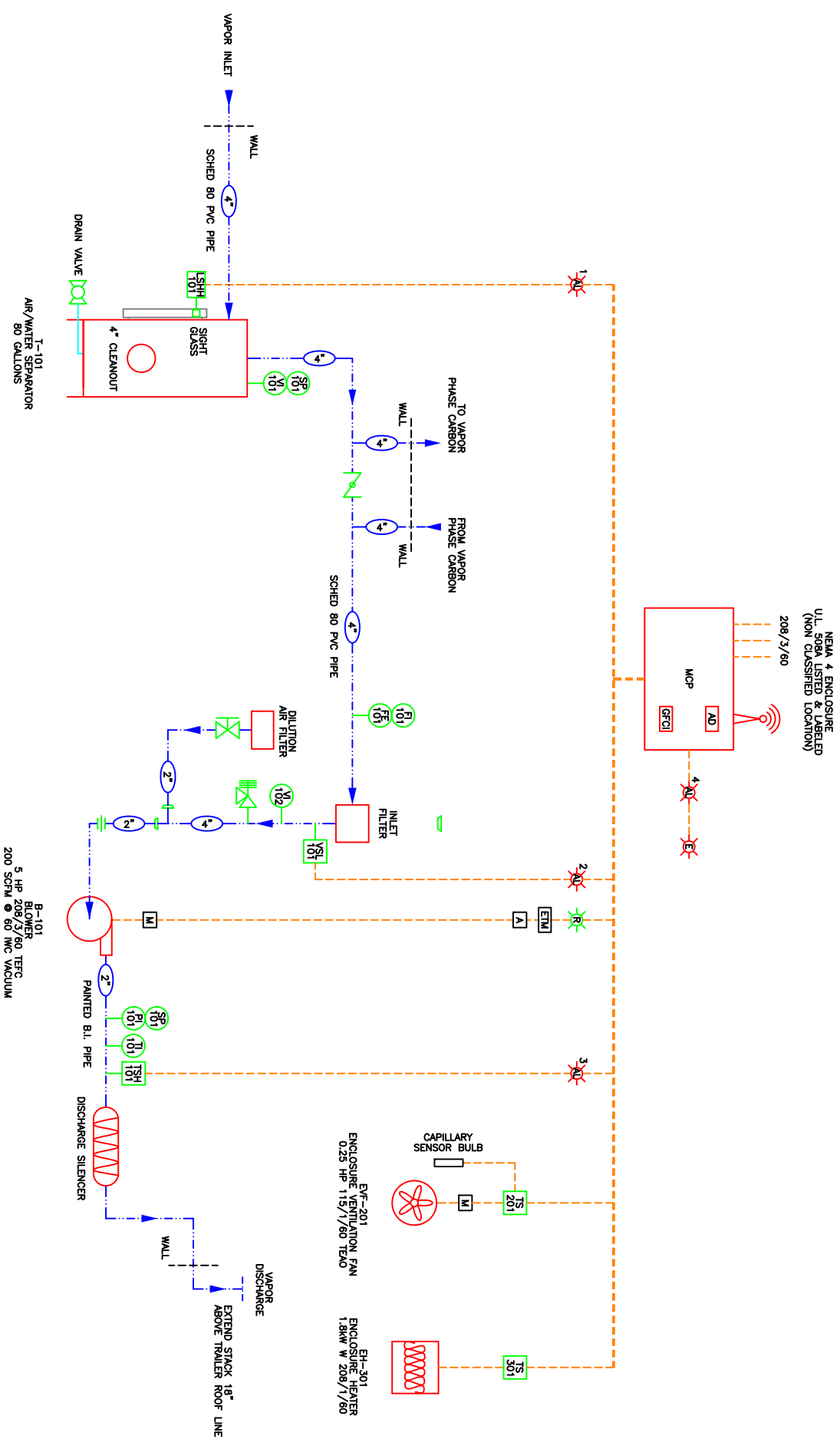
PLAN DERIVED FROM SHAW ENVIRONMENTAL
FIELD RECONNAISSANCE.




- NOTES:
1. PVC PIPE SCH. 80.
2. PROVIDE VACUUM RELIEF VALVE ON BLOWER INTAKE.
3. CONTROL PANEL REQUIRES CONTROL VOLTAGE TRANSFORMER.
4. PROVIDE EMERGENCY STOP BUTTON AT BLOWER.
5. PROVIDE WIRELESS AUTODIALER.
6. PROVIDE RUN TIME METER FOR BLOWER.
7. PROVIDE ALARM LIGHTS WITH INTERLOCKS IN PANEL.
8. PROVIDE LOCAL METER ON ELECTRICAL SERVICE BETWEEN DISCONNECT AND BREAKER PANEL.
9. ROUTE SVE PIPING ON ADJACENT WALLS AND COLUMNS OUT OF WORKING AREAS AND ON FLOORS, WALLS AND OVERHEAD FRAMING. SEAL ALL PENETRATIONS.

SUB-SLAB SVE SYSTEM, BUILDING 5
FORMER VARIAN FACILITY
BEVERLY, MASSACHUSETTS

 SHAW PARSONS CORP., INC., A CBI COMPANY 150 ROYAL STREET CAMDEN, MASSACHUSETTS (617)288-9111	SUB-SLAB SVE SYSTEM BUILDING 5 FORMER VARIAN FACILITY BEVERLY, MASSACHUSETTS			
	SUB-SLAB SVE SYSTEM, PIPING AND INSTRUMENTATION DIAGRAM			
DESIGNED BY	PF	11/20/12	CHECKED BY	--
DRAWN BY	CD	11/20/12	APPROVED BY	
SCALE:		DRAWING NO.	SHEET NO.	REVISION NO.
NONE		146898-PID	P-2	-



4	ADD UNION & REDUCING BUSHINGS TO BLOWER INLET	6/13/13	PRS				
AS BUILT	AS BUILT	2/18/13	PRS	CONFIDENTIALITY NOTE:			
3	CHANGE VAPOR DISCHARGE FROM THRU ROOF TO THRU WALL: CHANGE DISCHARGE PIPING FROM 4" TO 2". ADD DISCHARGE SILENCER	1/24/13	PRS	The information contained in this document is the property of Air Energy, Incorporated and Shaw Env. The information is confidential and any copying, distribution or dissemination without the consent of Air Energy Incorporated is strictly prohibited.			
2	REMOVE DOOR-N-DOOR NOMENCLATURE FROM MCP: ADD WIRE-LESS ANTENNA	1/17/13	PRS				
1	CHANGE ALL IS LINES TO CONTROL LINES: CHANGE U.L. LISTING FROM 698A TO 508A (NON CLASSIFIED LOCATION)	1/16/13	PRS	CHK BY	DATE		
REV.	DESCRIPTION	DATE	APPR.	APPR BY	DATE		
REVISIONS							
TITLE							
SUB-SLAB VENTING / VAPOR EXTRACTION SYSTEM							
PROCESS & INSTRUMENTATION DIAGRAM							
SHAW ENVIRONMENTAL							
FORMER VARIAN FACILITY - BEVERLY, MA							
MODEL NO.							
AC-TSVE-208V							
SCALE							
SITE							
DWG NO.							
32001-T41-P							
SHEET							
1 OF 1							
REV							
4							

LEGEND	
A	AMP METER
AD	AUTO DIALER (WIRELESS)
ETM	ELAPSED TIME METER
FE	FLOW ELEMENT
FI	FLOW INDICATOR 
GRCI	GROUND FAULT CIRCUIT INTERRUPTER
LSHM	LEVEL SWITCH HIGH HIGH
M	MOTOR
MCP	MASTER CONTROL PANEL
PI	PRESSURE INDICATOR
SP	SAMPLE PORT
TI	TEMPERATURE INDICATOR
TS	TEMPERATURE SWITCH
TSH	TEMPERATURE SWITCH HIGH
VI	VACUUM INDICATOR
VSL	VACUUM SWITCH LOW

1. AIR/WATER SEPARATOR HIGH HIGH LEVEL.
2. SVE BLOWER LOW VACUUM
3. SVE BLOWER DISCHARGE HIGH TEMPERATURE
4. EMERGENCY STOP

APPENDIX I

BUILDING 5 SVE OPERATION & MAINTENANCE MANUAL



Operation & Maintenance Manual

Vapor Extraction System

Project

Former Varian Facility
Beverly, MA

Prepared for:

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Former Varian Facility – Beverly, MA

Vapor Extraction System

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Section 1

Operation & Maintenance Procedures

OPERATION & MAINTENANCE PROCEDURES

Vapor Extraction System

Former Varian Facility – Beverly, MA



GENERAL DESCRIPTION:

The following text describes the operation, maintenance and troubleshooting for a Vapor Extraction System as manufactured by Air Energy, Inc. South Easton, MA.

The components of the system are assembled inside a 6' wide by 12' long mobile trailer. Also included with the system is the Master Control Panel (MCP) mounted on an interior wall of the mobile trailer.

System Contents:

Installed in the mobile trailer are the following:

- Soil Vapor Extraction and Moisture Separator Package
- Master Control Panel

The system integrates a regenerative SVE blower for the treatment process. All equipment is installed inside the mobile trailer.

The SVE blower applies its vacuum on an 80 gallon moisture separator. The vapor pulled from the extraction well(s) will be drawn through the top of the moisture separator, out the side wall of the trailer through a set of vapor phase carbon vessels and back into the trailer and through the blower and exhaust out the side of the mobile trailer. A by-pass is provided in the event the carbon is not used.

Various process controls and instrumentation are present along the vapor lines. Refer to the process and instrumentation diagram for identification and location of these devices.

INSTALLATION PREPARATIONS:

Locate the mobile trailer to facilitate ease of piping and electrical conduit runs. The system should be positioned on a firm, level surface such as a concrete pad. If the system will not be put immediately into service, leave covers on piping influent/effluent ports. If the system is to be immediately put into service (and if not already installed) remove covers to influent and effluent ports, attach intake filters, piping to extraction well(s) and discharge air piping.

Power connections will be made at the Master Control Panel (120/208VAC, 3 ph 4-wire) at the main circuit disconnect. A neutral terminal is provided for connection of a dedicated neutral line. Connection of system components will be made at the terminals provided, refer to the control

panel drawings for connection points. ***ONLY A QUALIFIED, LICENSED ELECTRICIAN SHOULD MAKE ANY ELECTRICAL CONNECTIONS.***

NOTE:

ENSURE A SUFFICIENT AND STABLE POWER SUPPLY IS PROVIDED TO THE EQUIPMENT. CONTACT QUALIFIED PERSONNEL SUCH AS YOUR LOCAL POWER COMPANY. INADEQUATE AND / OR UNSTABLE POWER SUPPLIES WILL NOT ALLOW THE EQUIPMENT TO OPERATE AS DESIGNED AND CAN LEAD TO DAMAGE TO THE EQUIPMENT AND OTHER UNDESIRABLE RESULTS.

PROCESS DESCRIPTION:

NOTE:

EACH COMPONENT IN THIS SYSTEM HAS A HAND-OFF-AUTO OR AN OPEN-CLOSED-AUTO SELECTOR SWITCH LOCATED AT THE MASTER CONTROL PANEL. IT IS IMPORTANT TO NOTE THAT IF THE COMPONENT IS OPERATED IN ANYTHING OTHER THEN THE AUTO POSITION, NONE OF THE PROCESS SENSORS WILL DISABLE THE COMPONENT OR RELATED COMPONENTS IF ACTIVATED. TO ENSURE PROPER, UNATTENDED OPERATION, PLACE THE SELECTOR SWITCHES IN THE AUTO POSITION. THE BELOW PROCEDURES ARE WRITTEN AS IF THE SYSTEM IS OPERATING IN THE AUTO MODE.

Soil Vapor Extraction System

Refer to the following procedures for the start-up process. After operational parameters are met, a vacuum is applied to the extraction well(s) via the Soil Vapor Extraction (SVE) system.

The vapor stream will enter the moisture separator. If there is any entrained liquid in the influent air, it will be dropped from the air stream by a change in velocity thereby accumulating in the bottom of the vessel. Air

is drawn through the top of the moisture separator, then through a particulate filter and through the blower (B-101). The SVE system then exhausts the vapors from its discharge port to an appropriate discharge point.

A low vacuum sensor (VSL-101) is installed in the SVE system intake line. If the low vacuum sensor detects a loss of vacuum, power to the SVE blower will be interrupted and a red (SVE Blower Low Vacuum) indicator will be illuminated at the control panel. The indicator stays illuminated until the condition is cleared and the reset button is pressed.

A high temperature sensor (TSH-101) is installed in the SVE discharge line. If the discharge temperature reaches the high temperature sensors set point, the power to the SVE blower will be interrupted and a red (SVE Blower High Temperature) indicator will be illuminated at the control panel. The indicator stays illuminated until the condition is cleared and the reset button is pressed.

SOIL VAPOR EXTRACTION SYSTEM PROCESS SENSORS

Sensor	Device Effected	Function	Alarm
VSL-101	SVE Blower B-101	<p><u>Low Vacuum Alarm</u> - Vacuum being sensed in the influent process piping has fallen below the sensor's set point. The devices listed are disabled in the AUTO mode and alarm is generated. System will not restart until the cause of the low vacuum condition is found, remedied and the RESET button is pressed. This alarm will in turn disable the sparge compressor IF the unit is operating in the AUTO mode.</p>	Yes
TSH-101	SVE Blower B-101	<p><u>High Temperature Alarm</u> - Temperature being sensed in the discharge piping has reached this sensors upper set point. The devices listed are disabled in the AUTO mode and alarm is generated. System will not restart until the cause of the high temperature condition is found, remedied and the RESET button pressed.</p>	Yes

NOTE:

AUTOMATIC OPERATION OF THIS COMPONENT WILL BE INTERRUPTED IF THE EMERGENCY STOP BUTTON IS PRESSED. THE SYSTEM CANNOT RESTART UNTIL THE RESET BUTTON IS PRESSED AT THE MASTER CONTROL PANEL

Moisture Separator System

Any liquid that has dropped out of the air stream will accumulate in the bottom of the moisture separator. A single stem, one-float level sensor (LSHH-101) High High level is installed in the sight glass located on the side of the 80 gallon moisture separator tank (T-101). Once enough liquid has accumulated in the moisture separator to reach the high high level, power to the SVE blower is interrupted and the alarm is generated. A red (Moisture Separator High High Level) alarm indicator is illuminated at the control panel. The indicator stays illuminated until the condition is cleared and the reset button is pressed.

NOTE:

AUTOMATIC OPERATION OF THIS COMPONENT WILL BE INTERRUPTED IF THE EMERGENCY STOP BUTTON IS PRESSED. THE SYSTEM CANNOT RESTART UNTIL THE RESET BUTTON IS PRESSED AT THE MASTER CONTROL PANEL

MOISTURE SEPARATOR TANK LEVEL SENSOR

Sensor	Device Effected	Function	Alarm
LSHH-101	SVE Blower B-101	Level Sensor High-High Alarm - Liquid level in tank has reached a critical high level. The device listed is disabled in the AUTO mode and alarm is generated. System will not restart until liquid level is below this level sensor and the RESET button is pressed.	Yes

Master Control Panel

The MCP operates the entire system automatically in response to the sensors located throughout the system. The enclosure, indicators and operators are all rated NEMA 4 or equivalent. Mounted inside the MCP enclosure are the motor starters, control relays, and connection terminals require for automatic operation. A licensed electrician should make the power connections between the MCP and the equipment not provided connected from the factory. Refer to the control panel drawings for connection points.

Installed on the front door of the MCP are operators and indicators. One (1) Hand-Off-Auto selector switch is provided. The selector switch controls the SVE blower. One (1) green Run indicator is supplied associated with the above selector switch. This indicator will illuminate when the SVE blower is being controlled is activated.

Three (3) red Alarm indicators are provided. These indicators will illuminate when an alarm condition has been achieved at its sensing point.

These lights individually indicate:

1. Moisture Separator High Level Alarm
2. SVE Blower Low Vacuum Alarm
3. SVE Blower High Temperature Alarm

Additionally an Alarm Reset button is supplied to clear an alarm condition at the MCP. To clear the condition that has caused the alarm, press the reset button. If normal operating conditions are present and the selector switches are in the "AUTO" position the system will restart automatically.

If it is undesirable for the equipment to restart automatically after clearing the alarm condition, place the selector switches in the "OFF" position prior to clearing the alarm at the MCP.

One (1) elapsed time meter is installed on the MCP enclosure door. This time meter displays the amount of time that the SVE blower motor has operated.

One (1) ammeter is also installed on the MCP enclosure door. This ammeter measures and displays the amperes of the SVE blower motor.

The MCP is also equipped with a Universal Cellular Dialer that will alert up to eight (8) designated individuals that an alarm condition has occurred. The recipient will receive a text message alarm notice when an event

occurs. Refer to the manufacturers supplied information for detailed instructions on programming the universal cellular dialer.

Installed on the enclosure's front door of the MCP is a main power disconnect switch. The main power disconnect switch must be in the OFF positions to open the inner swing out door.

NOTE:

WHEN OPENING ANY ENCLOSURE IT IS STRONGLY RECOMMENDED THAT ALL POWER BE DISCONNECTED AND LOCKED OUT AND TAGGED PER APPLICABLE CODES PRIOR TO OPENING THE ENCLOSURE. IF POWER MUST BE PRESENT WHILE THE ENCLOSURE IS OPEN FOR TESTING OR TROUBLESHOOTING PURPOSES, EXTREME CAUTION MUST BE TAKEN. INDIVIDUALS WILL BE EXPOSED TO HIGH VOLTAGE SOURCES WHILE THE DOORS ARE OPEN.

START SEQUENCE:

NOTE:

THE FOLLOWING SEQUENCE ASSUMES ELECTRICAL, INFLUENT AND EFFLUENT PIPING CONNECTIONS HAVE BEEN MADE AND ALL MOTORS HAVE BEEN CHECKED FOR PROPER ROTATION AND EQUIPMENT SUPPLIED BUT NOT INSTALLED HAS BEEN CONNECTED. IN ADDITION, ENSURE ALL CONDUIT SEALS, IF REQUIRED HAVE BEEN SEALED WITH THE APPROPRIATE SEALING COMPOUND AND HAVE BEEN ALLOWED TO DRY.

1. Ensure all selector switches are in the OFF positions at the MCP.
2. While no power is supplied to the MCP, open the outer and inner doors and place the circuit breakers in the ON position.
3. Apply power to the MCP.

4. Program the Universal Cellular Dialer with the appropriate dial out telephone number(s).
5. Completely open the dilution air valve at the SVE blower and then turn the selector switch for the SVE blower to the AUTO position. The SVE blower will start.
6. Adjust the dilution air valve to the desired settings

The system will run automatically.

SHUTDOWN SEQUENCE:

Normal Shutdown: A normal shutdown would be one that the operator initiates for regular maintenance procedures.

1. Turn the SVE blower selector switch to the OFF position. The SVE blower will stop.
2. Disconnect and lock out / tag out power to the system at the service panel

Emergency Shutdown: An emergency shutdown is one that the operator initiates when the equipment must stop immediately. perform per the following:

1. Press the emergency stop button. The SVE blower will stop operating.
2. Turn the SVE blower selector switch to the OFF position.
3. Disconnect and lock out / tag out power to the system at the service panel.
4. Attend to the condition that initiated the emergency shutdown.

MAINTENANCE:

NOTE:

IF MAINTENANCE PROCEDURES NEED TO BE PERFORMED, ENSURE THAT THE POWER IS DISCONNECTED AND LOCKOUT AND TAGGED PRIOR TO STARTING THE MAINTENANCE.

NOTE:

AIR ENERGY, INC. RECOMMENDS THE USER FOLLOW THE MAINTENANCE PROCEDURES OUTLINED IN THE MANUFACTURERS SUPPLIED LITERATURE.

NOTE:

MAINTENANCE SCHEDULES OUTLINE BELOW OR BY THE MANUFACTURER MAY NEED TO BE PERFORMED MORE OFTEN DEPENDING ON THE SITE CONDITIONS.

Soil Vapor Extraction System

In addition to the maintenance procedures outlined in the Soil Vapor Extraction System Section:

Monthly, check the SVE inlet filter for cleanliness. Clean or replace if necessary.

- Monthly, check the dilution air filter for cleanliness. Clean or replace if necessary.
- Monthly, check the bottom of the moisture separator for accumulation of any solids that may have entered with the air stream. Clean and dispose of any solids appropriately.

- Monthly, check piping for leaks. Tighten as necessary.

System Process

Monthly, check the Critical Safety Device (**) overrides, alarm sensor integrity including:

- Moisture separator level sensor LSHH-101**
- SVE vacuum sensor VSL-201**
- SVE temperature sensor TSH-201**
- Emergency stop pushbutton**

NOTE:

AFTER TESTING THE ABOVE OVERRIDES AND AFTER THE SENSOR IS RETURNED TO THE NORMAL OPERATING POSITION THE RESET BUTTON AT THE MCP WILL NEED TO BE PRESSED.

NOTE:

WHEN TESTING THESE CRITICAL SAFETY DEVICES, THE AUTODIALER WILL ATTEMPT TO DIAL OUT WHEN THE DEVICE IS TRIGGERED.

TROUBLESHOOTING:

NOTE:

FOR MORE TROUBLE SHOOTING PROCEDURES REFER TO THE MANUFACTURERS INFORMATION SUPPLIED ELSEWHERE IN THIS MANUAL.

NOTE:

ANY TROUBLESHOOTING PROCEDURES WHICH REQUIRES THE OPENING OF ANY ELECTRICAL ENCLOSURE, OR WORKING IN AN AREA WHERE THE ACCIDENTAL START OF EQUIPMENT MAY CAUSE INJURY, MAKE SURE TO DISCONNECT AND LOCK / TAG OUT ALL POWER TO THE SYSTEM PRIOR TO THE START OF TROUBLE SHOOTING.

SVE blower associated troubleshooting:

Problem:

- SVE blower does not operate in HAND or AUTO position.

Check:

- Thermal overload at the motor starter is tripped. Determine why thermal tripped, correct condition.

Problem:

- Elevated discharge pressure of SVE

Check:

- Restriction of discharge line; clear restriction.

Moisture separator associated troubleshooting:

Problem:

- Moisture separator liquid level sensor High-High continuously being tripped.

Check:

- Ensure moisture separator level sensor is clean and in good mechanical condition; i.e. float can move freely along shaft
- Ensure proper operation of the moisture separator level sensor, system is disabled when float is raised.
- Ensure the flow entering the moisture separator is within the design parameters.
- Ensure the moisture separator is clean and any accumulated sediment that may have entered the system is removed.

RECOMMENDED SPARE PARTS:

SOIL VAPOR EXTRACTION SYSTEM

Item Description	Part Number	Recommended Qty.
Inlet Filter Element SVE Blower	Solberg # 235P	1
Dilution Filter Element Dilution Air	Solberg # 231P	1

MASTER CONTROL PANEL

Item Description	Part Number	Recommended Qty.
Bulb, Control Panel Green Run Indicator	AB 800F-MN5G	2
Bulb, Control Panel Red Alarm Indicator	AB 800F-MN5R	2

Section 2

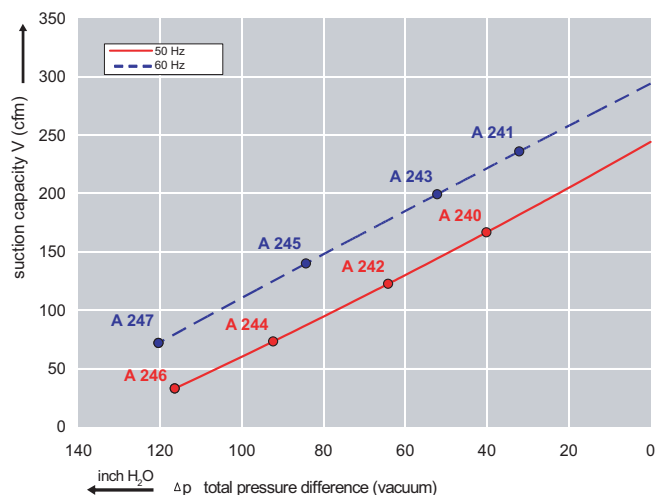
Vapor Extraction System

Features:

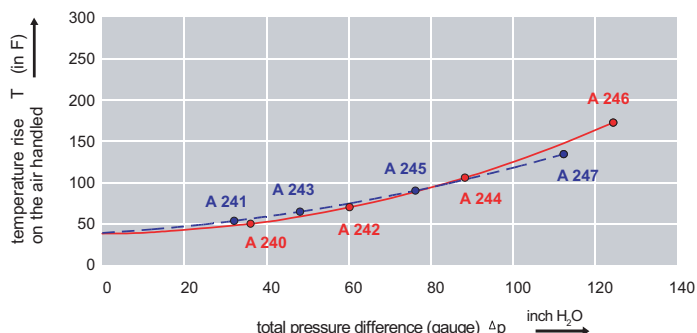
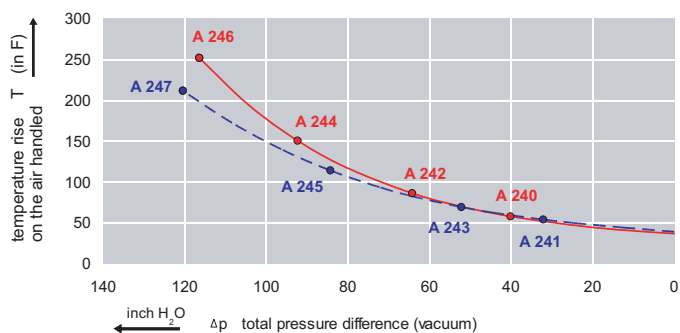
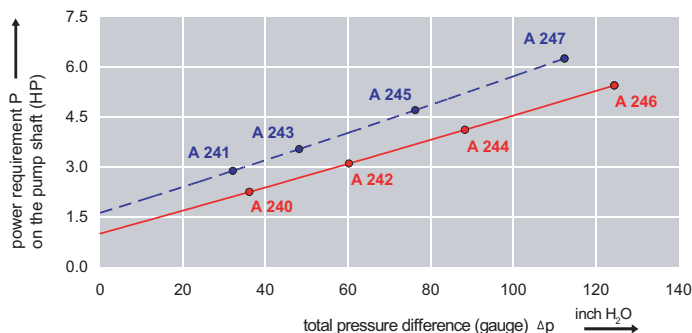
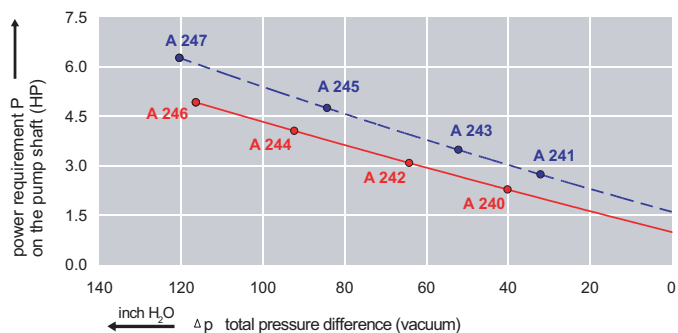
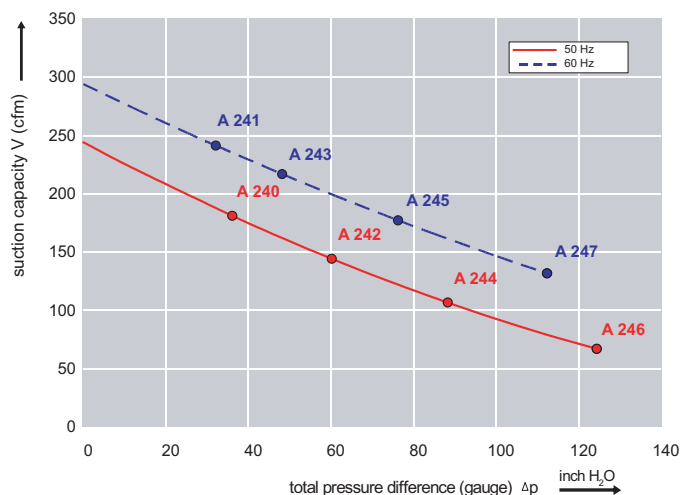


- Cooler running, outboard bearing provides maintenance-free operation
- Environmentally friendly oil-free technology
- Extremely quiet operation
- All motors are standard TEFC with Class F insulation, UL recognized, CE Compliant
Explosion-Proof motors available
- Custom construction blowers are available
- Rugged die cast aluminum construction

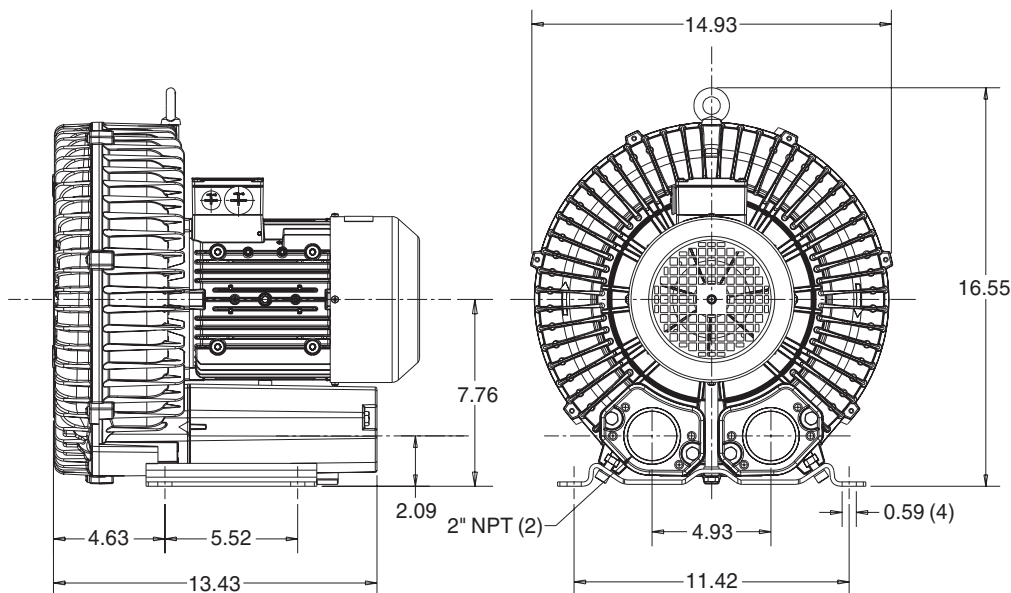
Performance curve for Vacuum pump



Performance curve for Compressor



Dimensions: (inches)



Recommended Accessories:

Relief valve:

VC61Z (Vacuum)
PC61Z (Pressure)

Filter:

ATF-200-15124/1
(Vacuum)
AFS-30-200-10
(Pressure)

Specifications subject to change without notice. Please contact factory for specification updates.

Selection & Ordering Data - Type 3BA1630

Curve No.	Order No.	Fre- quency	Rated power	Input voltage		Input current		Permissible total differential pressure		Sound pressure level	Weight
		Hz	HP	V		A		Vacuum inch H2O	Compressor inch H2O	dB(A)	lbs
3~ 50/60 Hz IP55 insulation material class F											
A 240	3BA1630-7AT06	50	2.14	200D ... 240D	345Y ... 415Y	8.5D	4.9Y	-40	36	70	59
A 241	3BA1630-7AT06	60	2.75	220D ... 250D	415Y ... 460Y	7.5D	4.4Y	-32	32	73	59
A 242	3BA1630-7AT16	50	2.95	200D ... 240D	345Y ... 415Y	9.7D	5.6Y	-64	60	70	66
A 243	3BA1630-7AT16	60	3.42	220D ... 250D	415Y ... 460Y	9.0D	5.3Y	-52	48	73	66
A 244	3BA1630-7AT26	50	4.02	200D ... 240D	345Y ... 415Y	12.5D	7.2Y	-92	88	70	77
A 245	3BA1630-7AT26	60	4.62	220D ... 250D	415Y ... 460Y	12.0D	6.5Y	-84	76	73	77
A 246	3BA1630-7AT36	50	5.36	200D ... 240D	345Y ... 415Y	15.6D	9.0Y	-116	124	70	95
A 247	3BA1630-7AT36	60	6.17	220D ... 250D	415Y ... 460Y	15.2D	8.5Y	-120	112	73	95

Suitable for 208 Volt Operation

All curves are rated at 14.7 psia and 68°F ambient conditions and are reported in SCFM referenced to 68°F and 14.696 psia sea level conditions. Curve values are nominal, actual performance may vary by up to 10% of the values indicated. For inlet temperatures above approximately 80°F or for handling gases other than air, please contact your Airtech sales representative for assistance.



Operating and Maintenance Instructions
3BA Regenerative Blowers



INSTALLATION & OPERATING MANUAL 3BA REGENERATIVE BLOWERS

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1. Pump Ranges

These operating instructions cover the Airtech 3BA side channel vacuum pumps and compressors supplied with standard TEFC motors. Other configurations are available including V-belt driven units, units with explosion proof motors, mechanical seals, magnetic drives, coatings and modifications for high pressure service. Airtech can provide any combination of modifications to meet your application requirements. Such blowers, however, are outside the scope of this manual.

Description

All regenerative blowers are dynamic compression devices and utilize a non-contacting impeller to accelerate the gas and a specially designed housing to compress the gas. Cooling is accomplished by using the motor fan to blow air over the housing. In larger models, the housing is specially designed with cooling fins to allow a wider range of operation. Both the inlet and outlet ports have built-in silencers and mesh screens. Both the inlet and outlet have an inside connection thread corresponding to DIN ISO 228. On larger units, multiple suction and discharge connection configurations may be available.

The wetted parts are constructed of Aluminum on all models. The blower shares a bearing with the motor. The seal between the bearing and the motor is not gas tight in most models, therefore these blowers are not recommended for handling of toxic or explosive gases. (Contact Airtech Vacuum, Inc. for additional options if explosive or toxic gases will be handled.)

A full range of accessory items are available, including vacuum or pressure relief valves, check valves, suction filters, motor starters, vacuum/pressure cross-over valves, and in-line filters.

Application/Installation Environment

CAUTION! These blowers are designed for use in general industry. Suitable personnel protection according to OSHA requirements is provided, but the equipment should not be operated in residential settings.

Airtech blowers can be operated as either vacuum pumps or compressors. They are suitable for use with air having a relative humidity up to 90 percent, but not generally suitable for handling corrosive or erosive gases. Special versions for toxic or aggressive gases may be available. Use of the standard blower in aggressive environments may cause damage to the blower or exposure to gases being handled in the local environment.

generally suitable for handling corrosive or erosive gases. Special versions for toxic or aggressive gases may be available. Use of the standard blower in aggressive environments may cause damage to the blower or exposure to gases being handled in the local environment.

CAUTION! Dangerous (flammable or explosive) or aggressive (corrosive) gases should not be handled by the standard blower.

Handling of flammable or aggressive gases and vapors may be possible by using a specially configured or modified blower. Contact factory for additional information. The standard blower is not suitable for operation in explosive environments as defined by NFPA 70. Contact factory for assistance.

CAUTION! The ambient and suction temperatures should be between 40 and 105 F. For temperatures outside this region, please contact the factory.

The maximum permissible pressure difference for vacuum or pressure is dependant on the motor rating (See Tables 1 to 4 for detailed information by model number.) and power supply frequency. The figures in Tables 1 to 4 are computed assuming an ambient temperature of 77 F (25 C) and a local barometric pressure of 1013 mbar (sea level). Operation at an ambient temperature of 104 F (40C) is the maximum permissible, and will result in a reduction of 10 percent on maximum vacuum or pressure attainable by the unit. For temperatures between 77 F and 104 F, reduce the maximum pressure reduction is a linear function of temperature.

Table 1. Three-phase, Single Stage, 50 Hertz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1300-7AT06	.33/.25	200-240/345-415	2.1/1.2	48/82	-100/100	53
2BA1300-7AT16	.54/.4	200-240/345-415	2.6/1.5	48/82	-120/130	53
3BA1400-7AT06	.94/.7	200-240/345-415	3.8/2.2	84/142	-120/120	63
2BA1400-7AT16	1.15/.85	200-240/345-415	4.2/2.4	84/142	-160/160	63
3BA1400-7AT26	1.75/1.3	200-240/345-415	5.7/3.3	84/142	-170/200	63
3BA1500-7AT06	1.15/.85	200-240/345-415	4.2/2.4	120/204	-100/100	64
3BA1500-7AT16	1.75/1.3	200-240/345-415	5.7/3.3	120/204	-170/170	64
3BA1500-7AT26	2.15/1.6	200-240/345-415	7.5/4.3	120/204	-200/190	64
3BA1500-7AT36	2.96/2.2	200-240/345-415	9.7/5.6	120/204	-220/270	64
3BA1600-7AT06	2.15/1.6	200-240/345-415	8.5/4.9	188/320	-160/150	69
3BA1600-7AT16	2.96/2.2	200-240/345-415	9.7/5.6	188/320	-190/190	69
3BA1600-7AT26	4.04/3.0	200-240/345-415	12.5/7.2	188/320	-260/270	69
3BA1600-7AT36	5.4/4.0	200-240/345-415	13.0/7.5	188/320	-290/360	69
3BA1630-7AT06	2.15/1.6	200-240/345-415	8.5/4.9	240/408	-160/150	69
3BA1630-7AT16	2.96/2.2	200-240/345-415	9.7/5.6	240/408	-190/190	69
3BA1630-7AT26	4.04/3.0	200-240/345-415	12.5/7.2	240/408	-260/270	69
3BA1630-7AT36	5.4/4.0	200-240/345-415	15.6/9.0	240/408	-260/290	69
3BA1800-7AT06	5.4/4.0	200-240/345-415	15.6/9.0	280/476	-200/200	70
3BA1800-7AT16	7.4/5.5	200-240/345-415	23/13.3	280/476	-300/300	70
3BA1800-7AT26	10/7.5	200-240/345-415	29/16.7	280/476	-320/430	70
3BA1830-7AT06	5.4/4	200-240/345-415	15.6/9	400/680	-150/140	76
3BA1830-7AT16	7.4/5.5	200-240/345-415	23/13.3	400/680	-200/190	76
3BA1830-7AT26	10/7.5	200-240/345-415	29/16.7	400/680	-270/260	76
3BA1900-7AT06	10.8/8	200-240/345-415	31.5/18.2	568/965	-190/190	74
3BA1900-7AT16	16.8/12.5	200-240/345-415	48.5/28	568/965	-290/280	74
3BA1900-7AT36	25/18.5	200-240/345-415	64.5/37	568/965	-362/462	74
3BA1930-7AT16	16.8/12.5	200-240/345-415	48.5/28	744/1264	-290/280	71
3BA1930-7AT36	25/18.5	200-240/345-415	64.5/37	744/1264	-310/310	71
3BA1930-7AT36	25/18.5	200-240/345-415	64.5/37	744/1264	-310/310	71
3BA7310-0AT167	.75/.55	200-240/345-415	2.8/1.6	40/68	-250/250	57
3BA7410-0AT167	1.5/1.1	200-240/345-415	5.4/3.1	50/84	-300/380	58
3BA7510-0AT168	2/1.5	200-240/345-415	7.5/4.3	70/120	-370/650	64
3BA7510-0AT268	3/2.2	200-240/345-415	9.7/5.6	70/120	-310/430	64
3BA7610-0AT168	3/2.2	200-240/345-415	9.7/5.6	96/163	-310/430	65
3BA7610-0AT368	4.4/3.3	200-240/345-415	13/7.5	96/163	-500/750	65

Table 2. Three-phase, Single-stage, 60 Hz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m ³ /hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1300-7AT06	.39/.29	220-250/415-460	1.74/1.0	60/102	-100/100	56
2BA1300-7AT16	.67/.5	220-250/415-460	2.6/1.5	60/102	-150/160	56
3BA1400-7AT06	1.12/.83	220-250/415-460	3.75/2.15	105/179	-130/130	64
3BA1400-7AT16	1.28/.95	220-250/415-460	4.35/2.5	105/179	-160/160	64
3BA1400-7AT26	2/1.5	220-250/415-460	5.5/3.2	105/179	-210/200	64
3BA1500-7AT06	1.28/.95	220-250/415-460	4.35/2.5	150/255	-80/70	70
3BA1500-7AT16	2/1.5	220-250/415-460	5.5/3.2	150/255	-150/140	70
3BA1500-7AT26	2.7/2.05	220-250/415-460	7.5/4.4	150/255	-220/210	70
3BA1500-7AT36	3.4/2.55	220-250/415-460	9.0/5.3	150/255	-260/290	70
3BA1600-7AT06	2.7/2.05	220-250/415-460	7.5/4.4	235/400	-160/150	72
3BA1600-7AT16	3.4/2.55	220-250/415-460	9.0/5.3	235/400	-190/190	72
3BA1600-7AT26	4.6/3.45	220-250/415-460	12.0/6.5	235/400	-240/230	72
3BA1600-7AT36	6.1/4.6	220-250/415-460	15.2/8.5	235/400	-320/310	72
3BA1630-7AT06	2.7/2.05	220-250/415-460	7.5/4.4	300/510	-160/150	72
3BA1630-7AT16	3.4/2.55	220-250/415-460	9.0/5.3	300/510	-190/190	72
3BA1630-7AT26	4.6/3.45	220-250/415-460	12.0/6.5	300/510	-240/230	72
3BA1630-7AT36	6.1/4.6	220-250/415-460	15.2/8.5	300/510	-260/260	72
3BA1800-7AT06	6.1/4.6	220-250/415-460	15.2/8.5	350/595	-160/160	74
3BA1800-7AT16	8.4/6.3	220-250/415-460	20/11.2	350/595	-300/280	74
3BA1800-7AT26	11.5/8.6	220-250/415-460	27.5/15	350/595	-350/400	74
3BA1830-7AT06	6.2/4.6	220-250/415-460	15.2/8.5	500/850	-90/90	79
3BA1830-7AT16	8.4/6.3	220-250/415-460	20/11.2	500/850	-180/180	79
3BA1830-7AT26	11.5/8.6	220-250/415-460	27.5/15	500/850	-270/260	79
3BA1900-7AT06	12.1/9	220-250/415-460	31.5/18.2	710/1207	-150/140	79
3BA1900-7AT16	19.5/14.5	220-250/415-460	50/29	710/1207	-270/260	79
3BA1900-7AT36	28.7/21.3	220-250/415-460	68/39	710/1207	-382/422	79
3BA1930-7AT16	19.5/14.5	220-250/415-460	50/29	930/1581	-270/260	75
3BA1930-7AT36	28.7/21.3	220-250/415-460	68/39	930/1581	-300/280	75
3BA7210-0AT167	1.1/.83	220-250/415-460	3.75/2.15	35/60	-270/320	62
3BA7310-0AT167	1.1/.83	220-250/415-460	3.75/2.15	48/82	-260/250	62
3BA7410-0AT167	2/1.5	220-250/415-460	5.5/3.2	60/102	-340/370	62

When operating at altitudes above 3280 feet (1000 m) above mean sea level, contact Airtech Inc.

CAUTION! Operation of the unit outside the recommended range of pressures and ambient conditions will result in shorted operating life.

Table 3. 3 Phase, Two/Three Stage, 50 Hertz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1310-7AT26	.94/.7	200-240/345-415	3.8/2.2	48/81.6	-120/120	55
3BA1410-7AT36	2.15/1.6	200-240/345-415	7.5/4.3	84/142.8	-200/190	66
3BA1410-7AT46	2.96/2.2	200-240/345-415	9.7/5.6	84/142.8	-320/420	66
3BA1510-7AT46	4.04/3.0	200-240/345-415	12.5/7.2	121.6/206.7	-340/410	72
3BA1510-7AT56	5.39/4.0	200-240/345-415	17.4/10	121.6/206.7	-390/440	72
3BA1610-7AT36	2.9/2.2	200-240/345-415	9.7/5.6	188/319.6	-190/190	73
3BA1610-7AT26	4.04/3.0	200-240/345-415	12.5/7.2	188/319.6	-260/270	73
3BA1610-7AT36	5.39/4.0	200-240/345-415	13.0/7.5	188/319.6	-290/360	73
3BA1610-7AT46	7.41/5.5	200-240/345-415	23/13.3	188/319.6	-420/500	73
3BA1610-7AT56	10.1/7.5	200-240/345-415	29/16.7	188/319.6	-420/610	73
3BA1640-7AT36	5.39/4.0	200-240/345-415	13.0/7.5	280/476	-290/360	74
3BA1640-7AT46	7.41/5.5	200-240/345-415	23/13.3	280/476	-420/500	74
3BA1640-7AT56	10.1/7.5	200-240/345-415	29/16.7	280/476	-420/610	74
3BA1810-7AT16	7.4/5.5	200-240/345-415	23/13.3	280/476	-420/500	74
3BA1810-7AT26	10.1/7.5	200-240/345-415	29/16.7	280/476	-320/430	74
3BA1810-7AT36	14.8/11	200-240/345-415	29/16.7	280/476	-430/600	74
3BA1810-7AT46	20.2/15	200-240/345-415	56.5/32.5	280/476	-460/670	74
3BA1840-7AT26	10.1/7.5	200-240/345-415	29.0/16.7	280/476	-320/430	74
3BA1840-7AT36	14.8/11.0	200-240/345-415	48.5/28.0	280/476	-430/600	74
3BA1910-7AT16	16.8/12.5	200-240/345-415	48.5/28	624/1061	-290/280	74
3BA1910-7AT36	26.95/20.0	200-240/345-415	69/40	624/1061	-443/502	74
3BA19437AT26	20.1/15	200-240/345-415	59/34	1200/2040	-160/170	75
3BA19437AT36	26.8/20	200-240/345-415	69/40	1200/2040	-250/230	75
3BA19437AT46	33.5/25	200-240/345-415	90/52	1200/2040	-310/280	75
3BA7220-0AT567	2/1.5	200-240/345-415	7.5/4.3	28/48	-370/650	58
3BA7320-0AT467	1.5/1.1	200-240/345-415	5.4/3.1	40/68	-300/380	58
3BA7320-0AT567	2/1.5	200-240/345-415	7.5/4.3	40/68	-480/450	59
3BA7420-0AT267	2/1.5	200-240/345-415	7.5/4.3	50/84	-480/450	61
3BA7420-0AT567	4.4/3.3	200-240/345-415	13/7.5	50/84	-500/750	61
3BA7520-0AT268	3/2.2	200-240/345-415	9.7/5.6	70/120	-470/460	64
3BA7620-0AT368	4.4/3.3	200-240/345-415	13/7.5	96/163	-500/750	68
3BA7620-0AT468	5.4/4	200-240/345-415	14/8.1	96/163	-370/650	67
3BA7620-0AT568	7.5/5.5	200-240/345-415	19.9/11.5	96/163	-520/750	68
3BA7630-0AT668	10.1/7.5	200-240/345-415	29/16.7	96/163	-420/610	77

Table 4. 3 Phase, Two/Three Stage, 60 Hertz

Model	Rated Power HP/kW	Voltage	Motor Current (Amps)	Open Flow Capacity CFM/m3/hr	Maximum Pressure (mbar)	Sound Pressure Level (dBA)
3BA1310-7AT26	1.11/.83	220-250/415-460	3.75/2.15	60/102	-130/130	61
3BA1410-7AT36	2.7/2.05	220-250/415-460	7.5/4.4	105/179	-220/210	69
3BA1410-7AT46	3.4/2.55	220-250/415-460	9.0/5.3	105/179	-350/440	69
3BA1510-7AT46	4.6/3.45	220-250/415-460	12.0/6.5	152/258	-380/360	74
3BA1510-7AT56	6.1/4.6	220-250/415-460	15.2/8.5	152/258	-410/480	74
3BA1610-7AT36	3.4/2.55	220-250/415-460	9.0/5.3	235/400	-190/190	76
3BA1610-7AT26	4.6/3.45	220-250/415-460	12.0/6.5	235/400	-240/230	76
3BA1610-7AT36	6.4/4.8	220-250/415-460	16.5/9.8	235/400	-320/310	76
3BA1610-7AT46	8.4/6.3	220-250/415-460	20/11.2	235/400	-440/440	76
3BA1610-7AT56	11.5/8.6	220-250/415-460	27.5/15.0	235/400	-440/670	76
3BA1640-7AT36	6.1/4.6	220-250/415-460	15.2/8.5	350/595	-320/310	78
3BA1640-7AT46	8.4/6.3	220-250/415-460	20.0/11.2	350/595	-440/440	78
3BA1640-7AT56	11.5/8.6	220-250/415-460	27.5/15.0	350/595	-440/670	78
3BA1810-7AT16	8.4/6.3	220-250/415-460	20.0/11.2	350/595	-440/440	78
3BA1810-7AT26	11.5/8.6	220-250/415-460	27.5/15.0	350/595	-350/400	78
3BA1810-7AT36	17/12.6	220-250/415-460	50.2/29.0	350/595	-460/600	78
3BA1810-7AT46	23.3/17.3	220-250/415-460	60.0/34.5	350/595	-490/750	78
3BA1840-7AT26	11.5/8.6	220-250/415-460	27.5/15.0	350/595	-350/400	78
3BA1840-7AT36	17/12.6	220-250/415-460	50.2/29.0	350/595	-460/600	78
3BA1910-7AT16	19.5/14.5	220-250/415-460	50.0/29.0	780/1326	-270/260	84
3BA1910-7AT36	31/23	220-250/415-460	72 /42	780/1326	-443/433	84
3BA19437AT26	23.4/17.5	220-250/415-460	63/36.5	1440/2447	-120/110	84
3BA19437AT36	30.8/23	220-250/415-460	72/42	1440/2447	-190/180	84
3BA19437AT46	38.8/28.9	220-250/415-460	90/52	1440/2447	-265/230	84
3BA7220-0AT567	2.7/2.05	220-250/415-460	7.5/4.4	35/60	-500/740	62
3BA7320-0AT467	2/1.5	220-250/415-460	5.5/3.2	48/82	-340/370	63
3BA7320-0AT567	2.7/2.05	220-250/415-460	7.5/4.4	48/82	-430/410	63
3BA7420-0AT267	2.7/2.05	220-250/415-460	7.5/4.4	60/102	-430/410	66
3BA7420-0AT567	5.1/3.8	220-250/415-460	13.5/7.8	60/102	-510/850	66
3BA7520-0AT268	3.4/2.55	220-250/415-460	9/5.3	84/143	-500/450	70
3BA7620-0AT368	5.1/3.8	220-250/415-460	13.5/7.8	115/196	-510/850	71
3BA7620-0AT468	6.1/4.6	220-250/415-460	15.2/8.5	115/196	-480/500	71
3BA7620-0AT568	8.4/6.6	220-250/415-460	22.5/12.6	115/196	-520/820	72
3BA7630-0AT668	11.5/8.6	220-250/415-460	27.5/15	115/196	-440/670	80

Operation of any blower is possible at 87 Hertz without modification. When using a VFD to operate the blower at this frequency, refer to the nameplate for limits on vacuum and pressure, current draw and motor performance.

If your specific model number is not listed above, please consult the nameplate on the unit for electrical data. If the model you are installing is listed above, please confirm the data on the nameplate. Data in Tables 1 through 4 is subject to change and is approximate. Be sure to confirm necessary operating data what that on the nameplate before commissioning the unit.

CAUTION! Do not operate any 3BA blower above 87 Hz without consultation with the factory. Failure of the blower motor is possible when operating out of range. Consult with the factory for assistance.

Expected temperature rise of the handled gas at maximum allowable pressure differential and when operating at sea level is indicated below:

Single Stage – Approximate Temperature Rise

Blower Model	Maximum Rise at 50 Hz speed		Maximum Rise at 60 Hz speed	
	Degrees F	Degrees C	Degrees F	Degrees C
3BA1100-7..0.	115	64	136	76
3BA1200-7..0.	65	36	101	56
3BA1300-7..0.	90	50	77	43
3BA1300-7..1.	90	50	140	78
3BA1300-7..2.	90	50	158	88
3BA1400-7..0.	99	55	86	48
3BA1400-7..1.	129	72	122	68
3BA1400-7..2.	149	83	167	93
3BA1500-7..0.	86	48	72	40
3BA1500-7..1.	115	64	97	54
3BA1500-7..2.	138	77	122	68
3BA1500-7..3.	203	113	180	100
3BA1500-7..6.	248	138	248	138
3BA1600-7..0.	81	45	68	38
3BA1600-7..1.	145	81	104	58
3BA1600-7..2.	171	95	176	98
3BA1600-7..3.	225	125	185	103
3BA1600-7..6.	248	138	194	108
3BA1600-7..7.	248	138	248	138
3BA1800-7..0.	104	58	104	58
3BA1800-7..1.	153	85	185	103
3BA1800-7..2.	248	138	221	123
3BA1900-7..0.	97	54	95	53
3BA1900-7..1.	182	101	155	86
3BA1900-7..3.	230	128	212	118
3BA1943-7..2.	85	47	75	42
3BA1943-7..3.	130	72	100	56
3BA1943-7..4.	180	100	140	78
3BA7210-0..1..	126	70	142	79
3BA7310-0..1..	142	79	142	79
3BA7310-0..2..	178	99	187	104
3BA7410-0..1..	194	108	214	119
3BA7510-0..1..	199	111	232	129
3BA7510-0..2..	248	138	234	130
3BA7610-0..1..	244	136	255	142
3BA7610-0..3..	244	136	255	142

Two/Three Stage – Approximate Temperature Rise

Blower Model	Maximum Rise at 50 Hz speed		Maximum Rise at 60 Hz speed	
	Degrees F	Degrees C	Degrees F	Degrees C
3BA1310-7..2.	127	71	165	92
3BA1410-7..3.	154	86	149	83
3BA1410-7..4.	181	101	180	100
3BA1510-7..4.	190	106	176	98
3BA1510-7..5.	194	108	201	112
3BA1610-7..1.	92	51	86	48
3BA1610-7..2.	129	72	118	66
3BA1610-7..3.	176	98	167	93
3BA1610-7..4.	221	123	190	106
3BA1610-7..5.	246	137	266	148
3BA1610-7..7.	176	98	167	93
3BA1610-7..8.	176	98	248	138
3BA1810-7..1.	113	63	80	45
3BA1810-7..2.	185	103	140	78
3BA1810-7..3.	248	138	248	138
3BA1910-7..1.	119	66	115	64
3BA1910-7..2.	203	113	169	94
3BA1910-7..3.	248	138	274	152
3BA7220-0..2..	131	73	171	95
3BA7220-0..5..	165	92	230	128
3BA7320-0..5..	178	99	255	142
3BA7420-0..2..	192	107	176	98
3BA7420-0..5..	250	139	243	135
3BA7520-0..2..	192	107	216	120
3BA7520-0..7..	257	143	230	128
3BA7620-0..3..	255	142	259	144
3BA7620-0..5..	255	142	262	146
3BA7630-0..6..	248	138	248	138

Tightening Torque Specifications

For non-electrical connections

Thread	Ft-lbs maximum torque	Nm maximum torque
M4	2.43	3.3
M5	3.25	4.4
M6	6.49	8.8
M8	19.47	26.4
M10	34.10	46.2
M12	56.76	77

For electrical connections

Thread	Ft-lbs torque	Nm torque
M4	0.6 to 0.9	0.8 to 1.2
M5	1.3 to 1.8	1.3 to 1.8

For metal threaded glands/unions

Thread	Ft-lbs maximum torque	Nm maximum torque
M12x1.5	3 to 4.5	4 to 6
M16x1.5	3.7 to 5.5	5 to 7.5
M20x1.5	4.4 to 6.6	6 to 9
M32x1.5	5.9 to 8.9	8 to 12
M40x1.5	5.9 to 8.9	8 to 12

For plastic threaded glands/unions

Thread	Ft-lbs maximum torque	Nm maximum torque
M12x1.5	1.5 to 2.6	2 to 3.5
M16x1.5	2.2 to 3	3 to 4
M20x1.5	3 to 3.7	4 to 5
M32x1.5	3.7 to 5.2	5 to 7
M40x1.5	3.7 to 5.2	5 to 7

Operating above the indicated maximum pressure or vacuum would overload the motor and/or overheat the unit. In addition to the maximum allowable pressure difference, careful consideration should be given to matching the motor protection devices (provided by others) to the expected current draw. In no case should the blower be operated with inadequate motor overload protection.

Since regenerative blowers are dynamic compression devices, the performance limits shown in Tables 1 to 4 are applicable only for a gas with the same specific gravity, dynamic viscosity and chemical characteristics as air. For gases with different physical properties than air, the limits will be different from those shown in the tables. Please contact Airtech for assistance in determining the proper blower size and configuration if handling gases other than air.

A vacuum relief valve or pressure relief valve should always be installed at the suction or discharge of the regenerative blower. This will prevent operation outside the applicable ranges shown in Tables 1 to 4. If the relief valves were not specified in the ordering process, please contact Airtech for details, price and availability of the needed valves before commissioning the unit. Failure to use the proper relief valve may result in failure of the blower due to operation outside the applicable limits; any such failure is outside the scope of Airtech's standard warranty.

WARNING! Be sure to install the necessary personnel protection devices if unexpected shut-down of the unit presents danger of death or injury.

2. Installation

As illustrated in Figure 1, the Airtech 3BA blower can be installed in any physical configuration.

CAUTION! Regenerative blowers can have surface temperatures in excess of 120 F. To avoid burns or other physical injury, take care to avoid contact with the surfaces of the blower during and immediately after operation.

To ensure adequate cooling of the blower during operation, install the blower with the minimum clearance as indicated in the table below.

Minimum installation clearances, 3BA blowers

Range	Distance from fan guard to closest obstruction. (inches/mm)	Distance from cover (opposite of fan) to closest obstruction. (inches/mm)
3BA11 through 3BA14	1.4/34	0.79/20
3BA15 through 3BA19	2.1/53	1.57/40
3BA72 and 3BA73	1.3/34	1.18/30
3BA74 through 3BA76	2.1/54	1.18/30

Please note that it may be desirable, where possible, to allow for larger clearances to allow access for maintenance or repair personnel. The noted clearances are to ensure adequate air flow for cooling only and are a minimum requirement.

Failure to allow for the noted clearances may result in premature failure of the blower due to lack of cooling, even if all other precautions are taken as recommended. For specific advice about installations requiring closer clearances, please contact Airtech, Inc. for recommendations.

Airtech regenerative blowers can be mounted in any configuration, either horizontally or vertically mounted. It is not usually necessary to bolt the smaller blowers to a rigid surface during operation, though this may be desirable to reduce pipe vibration, movement and noise. Larger models should be bolted in place, especially when installed vertically, to prevent possible rotation, damage or injury due to start-up torque.

CAUTION! For installations at altitudes greater than 3250 Feet above sea level there will be a loss in capacity. Please contact your factory representative for assistance in determining the extent of the loss of capacity likely at your specific location.

WARNING! Be sure to follow all local codes and regulations with respect to installation and operation of the blower. The blower motor should be wired to a branch circuit disconnect and all other safety devices recommended by the relevant sections of NFPA 70, National Electrical Code, and in accordance with all applicable state and local regulations and requirements.

Installation Procedure

Perform the installation exactly in accordance with the following steps:

1. For vacuum operation, connect the suction pipe to connection A, and for pressure operation connect the pressure pipe to connection B (See Figure 1). Install startup screens before startup to protect pump from debris.

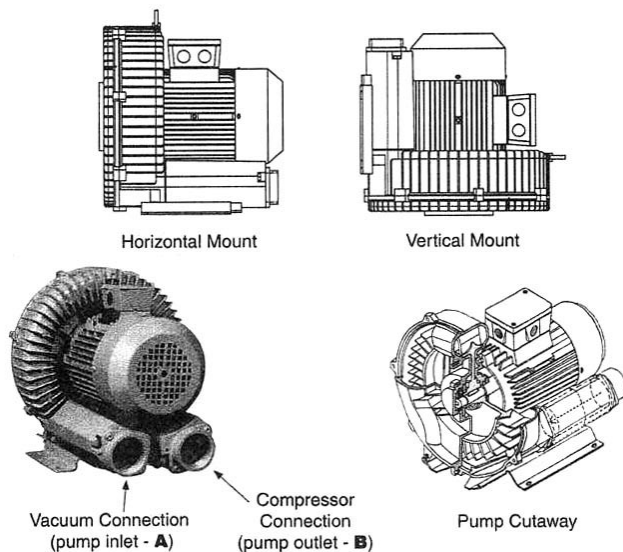


Figure 1

CAUTION! Design your piping system to avoid unnecessary pressure loss, which may significantly affect the operation of any regenerative blower. Contact your Airtech representative for assistance in designing and configuring an appropriate piping system for your application.

For alternation between vacuum and pressure in any application, changeover valves are available. Use of the changeover valve allows the same connection to be used for both vacuum and pressure.

2. The electrical data shown in Tables 1 to 4 should be confirmed by examination of the motor data plate on your 3BA blower. The motors feature Class F insulation as a standard and are UL recognized for applications in both Canada and the United States (CUL). Motors are IEC design IP55, equal to a NEMA TEFC motor design. The connection diagram for the motors can be found in the inside of the terminal box cover. Be sure to confirm that your electrical supply has sufficient capacity to operate the blower according to the nameplate requirements.

3. A magnetic motor starter should always be used to connect the motor to the power supply. It is advisable to use thermal overload motor starters to provide

maximum protection for the motor and wiring. All cabling used on starters should be secured with good quality cable clamps.

We recommend that the motor starters used feature a time delay trip on high amperage to avoid nuisance trips on start-up. When the unit is started cold, over amperage may be experienced for a short time due to the higher resistance of the windings at lower temperatures.

If using a change over or solenoid valve, ensure that the voltage connected to the valve matches that shown on the valve instructions or nameplate. Most valves are rated for 110 Volts 60Hz or 220 Volts 50 Hz. Connection of these valves to higher voltages may result in immediate valve failure.

WARNING! The electrical installation should be made by a qualified electrician and in complete compliance with all NFPA 70 (National Electrical Code) requirements along with all state and local code requirements. The main disconnect and motors starters are assumed to be provided by others.

4. Install the necessary relief valves and confirm their proper operation.

3. Start-up

CAUTION! Do not start the blower motor more than 10 times in one hour. If multiple and frequent start-ups are required by your application, install a minimum run timer in the motor control circuit to avoid decreased motor life and possible fire due to over-starting of the motor.

1. Before operation, confirm the correct direction of rotation by jogging (switching rapidly on and off) the motor and observing the motor fan rotation in the same direction as the arrow. If the direction of rotation is incorrect, lock out the power and switch two leads (three phase) or rewire (single phase) to effect the opposite rotation direction. Recheck the direction of rotation before proceeding.

2. Do not operate the blower at pressure or vacuum ranges that exceed those shown in Tables one through four for the model being installed. This can be achieved by use of the recommended relief valve shown in Table 5.

Note: Relief valves that have been factory pre-set have a label indicating the set pressure and an arrow indicating the direction of flow. The arrow will point into the pipe when installed in vacuum applications and out of the pipe when installed in pressure applications. Do not re-set the relief valve if it has been pre-set from the factory.

In the event the relief valve setting needs to be reset, adjust the set screw to increase or decrease the tension on the spring. Place the blower in operation and note the current draw of the motor. When the current draw of the motor is near the maximum noted on the motor nameplate, tighten the locking nut on the valve and proceed.

3. When checking the current draw of the motor with an ammeter, be sure to confirm the voltage at the motor junction box. Low voltage conditions may result in difficulty starting or in unexpected motor failure or motor starter trips.

Potential Risks for Operators

Noise emission: Free field noise limits are indicated in Tables one through four. Hearing protection is not normally required at the expected noise generation levels in the table; however, local conditions may result in higher ambient noise. If this is the case and local noise exceeds OSHA recommended levels for expected exposure time (typically 85 dBA for eight hours), hearing protection should be used.

4. Maintenance and Servicing

WARNING! Be sure the power supply is disconnected and locked out before attempting to do any maintenance on the unit. It is critical that the unit be locked out from starting during maintenance as severe injury or death could result from exposure to high voltage or rotating parts.

CAUTION! Allow the blower to cool to a surface temperature of less than 100 F before attempting maintenance. Prolonged exposure to temperatures above 120F can cause severe burns.

Clean the blower surfaces periodically to avoid build up of dust or other debris. Build up of debris can cause overheating and premature failure of the blower.

If an inlet filter is being used, ensure that it remains clean during operation by examining the filter cartridge for debris build up. Replace dirty or clogged filter cartridges.

On pressure units, periodically clean the inlet mesh screen to avoid loss of capacity. If an external inlet filter is used, the filter element should be cleaned monthly or as frequently as required by local conditions. Excessive pressure drop will develop from use of clogged or dirty filters. This pressure drop will degrade blower performance and increase operating temperatures, leading possibly to premature pump failure.

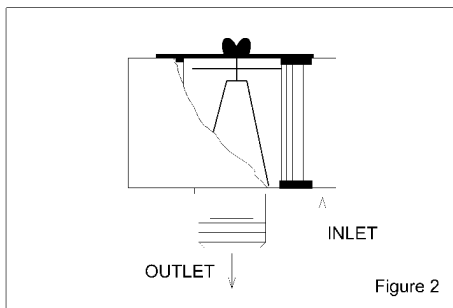


Figure 2

To replace the filter, remove the wing nut and cover. Remove the element and either clean with compressed air or replace. Reassemble in reverse order.

For vacuum applications, the optional in-line vacuum filter must be cleaned regularly, depending on local conditions. Cleaning can be achieved by blowing out with compressed air. If cleaning is not possible, replace the cartridge. Access the cartridge by unhooking the relevant clips and removing the cover.

CAUTION! Do not attempt to check the filter cartridge during operation of the blower. Only check the cartridge after disconnecting the power from the blower and locking out the power to prevent an unexpected start.

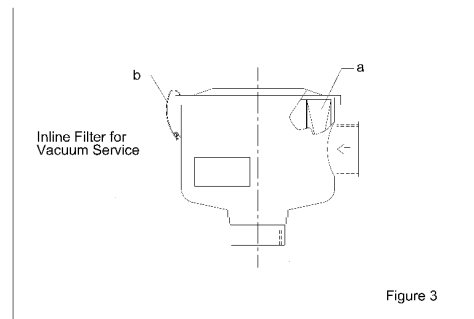


Figure 3

Bearings require regreasing with Exxon/Esso UNIREX N3 or equal grease after approximately 20,000 operating hours (normal conditions) or between 2 and 3 years after installation and commissioning. Do not mix grease types.

Troubleshooting Chart

Fault	Cause	Remedy	Responsible Party
Motor does not start, no noise.	Two or more power legs interrupted	Check fuses, terminals, etc.. for source of interruption and correct.	Electrician
Motor does not start, humming noise.	One power supply lead interrupted	Check fuses, terminals, etc.. for source of interruption and correct.	Electrician
	Impeller is jammed.	Open blower cover, remove debris, clean.	Service Technician
		Check impeller clearance and reset if necessary.	
	Defective Impeller	Replace impeller.	Service Technician
	Defective Bearing	Replace defective bearing.	Service Technician
Trip of motor starter at start-up	Incorrect starter setting	Ensure starter setting is correct (check current on nameplate)	Electrician
	Winding short-circuit	Megger motor	Electrician
	Motor overloaded due to operation of pump at excessive differential pressures.	Inspect filters, mufflers and connection pipes and clean as required. Check relief valve operation. Reset or replace as necessary.	Operator
	Impeller Jammed	See above fault Motor does not start, humming noise, cause jammed impeller.	Operator
Excessive Power Consumption	Lime or other deposits	Decalcify or clean unit as required (see Maintenance Chart)	Operator
No Vacuum or Pressure.	Severe leak in system	Close off pump and run deadheaded to confirm pump is operating properly. If so, find and fix leak in the system.	Operator
	Wrong direction of rotation	Check air flow direction and change direction of rotation if necessary.	Operator Electrician

Insufficient Vacuum	System too small	Use larger system	Operator
	Inlet piping too long or too small.	Increase pipe diameter to reduce pressure loss in inlet piping. Contact Airtech for assistance in determining correct pipe size.	Operator
	Leak at connection to vacuum system.	Check for leaks and repair if necessary.	Operator
	Density of gas handles different from air.	Consider increased limits on operation due to density differences. Consult Airtech, Inc. for assistance.	Airtech Engineering
	Change in impeller geometry due to erosion	Clean impeller and examine for wear. Replace if necessary.	Service Technician
	Inlet filter clogged.	Change filter element; remove clog.	Operator
	Vacuum relief valve incorrectly set.	Reset or replace vacuum relief valve. Contact Airtech for assistance.	Operator
	Seal defective.	Replace seal.	Service Technician
Abnormal flow noises.	Flow speed too high.	Clean pipes or use larger pipes to connect unit to process.	Operator
	Muffler soiled.	Clean muffler inserts, replace if necessary.	Operator
Abnormal running noise	Ball bearing defective or insufficient lubrication on bearing.	Re-grease or replace bearing as required.	Service Technician
Compressor leaky	Seals on muffler defective.	Tighten muffler connection. Replace gasket if necessary.	Operator
	Seals in motor area defective	Replace as necessary.	Service Technician

Repair on-site

WARNING! Before attempting an on-site repair, ensure that a qualified electrician has disconnected the motor from the power supply so that accidental starting of the motor is impossible.

After a repair and before re-installation be sure to follow the instructions noted in this manual under “Installation and Operation.”

Lifting

For smaller units (less than 65 lbs/ 30 kgs), it may be possible to lift the units manually. When doing so, be sure to understand the weight of the unit being lifted and to follow good lifting safety procedures.

Model	Weight Lbs/kgs	Model	Weight Lbs/kgs
3BA1300-7AT06	20/9	3BA1310-7AT26	33/15
2BA1300-7AT16	22/10	3BA1410-7AT36	55/25
3BA1400-7AT06	29/13	3BA1410-7AT46	59.5/29
3BA1400-7AT26	37.5/17	3BA1510-7AT46	86/39
3BA1500-7AT06	40/18	3BA1510-7AT56	97/44
3BA1500-7AT16	46.5/21	3BA1610-7AT26	104/47
3BA1500-7AT26	51/23	3BA1610-7AT36	119/54
3BA1500-7AT36	55/25	3BA1610-7AT46	163/74
3BA1600-7AT06	57.5/26	3BA1610-7AT56	172/78
3BA1600-7AT16	64/29	3BA1640-7AT36	128/58
3BA1600-7AT26	75/34	3BA1640-7AT46	172/78
3BA1600-7AT36	90.5/41	3BA1640-7AT56	181/82
3BA1800-7AT06	128/58	3BA1810-7AT16	250/113
3BA1800-7AT16	143/65	3BA1810-7AT26	260/118
3BA1800-7AT26	150/68	3BA1810-7AT36	316/143
3BA1900-7AT06	265/120	3BA1810-7AT46	341/155
3BA1900-7AT16	314/142	3BA1840-7AT26	260/118
3BA19437AT26	417/190	3BA1840-7AT36	316/143
3BA19437AT36	463/210	3BA1910-7AT16	409/186
3BA19437AT46	509/231	3BA1910-7AT36	455/206
3BA7210-0AT167	35.3/16	3BA7220-0AT567	61.7/28
3BA7310-0AT167	35.3/16	3BA7320-0AT567	66.1/30
3BA7410-0AT167	50.7/23	3BA7420-0AT267	72.7/33
3BA7510-0AT168	57.3/26	3BA7420-0AT567	86/39
3BA7510-0AT268	63.9/29	3BA7520-0AT268	88.2/40
3BA7610-0AT168	70.5/32	3BA7620-0AT368	106/48
3BA7610-0AT368	77.2/35	3BA7620-0AT568	143/65
		3BA7630-0AT668	207/94

When lifting 3BA15 through 3BA19 (but not 3BA1943 units) or the 3BA75 through the 3BA76, use the eye bolt provided (eye bolts are not included on smaller units). One attachment point should be sufficient. Ensure that the crane is rated for the weight being lifted.

For the 3BA1943, use the eye bolt and the holes in the feet of the blower to lift and maintain a balanced load.

Storage

The 3BA units should be stored in a clean, dry environment. If stored in an area with a humidity of greater than 80 percent, store in a closed container with desiccant drying agents to avoid damage.

Disposal

Dispose in accordance with all local health and safety regulations.

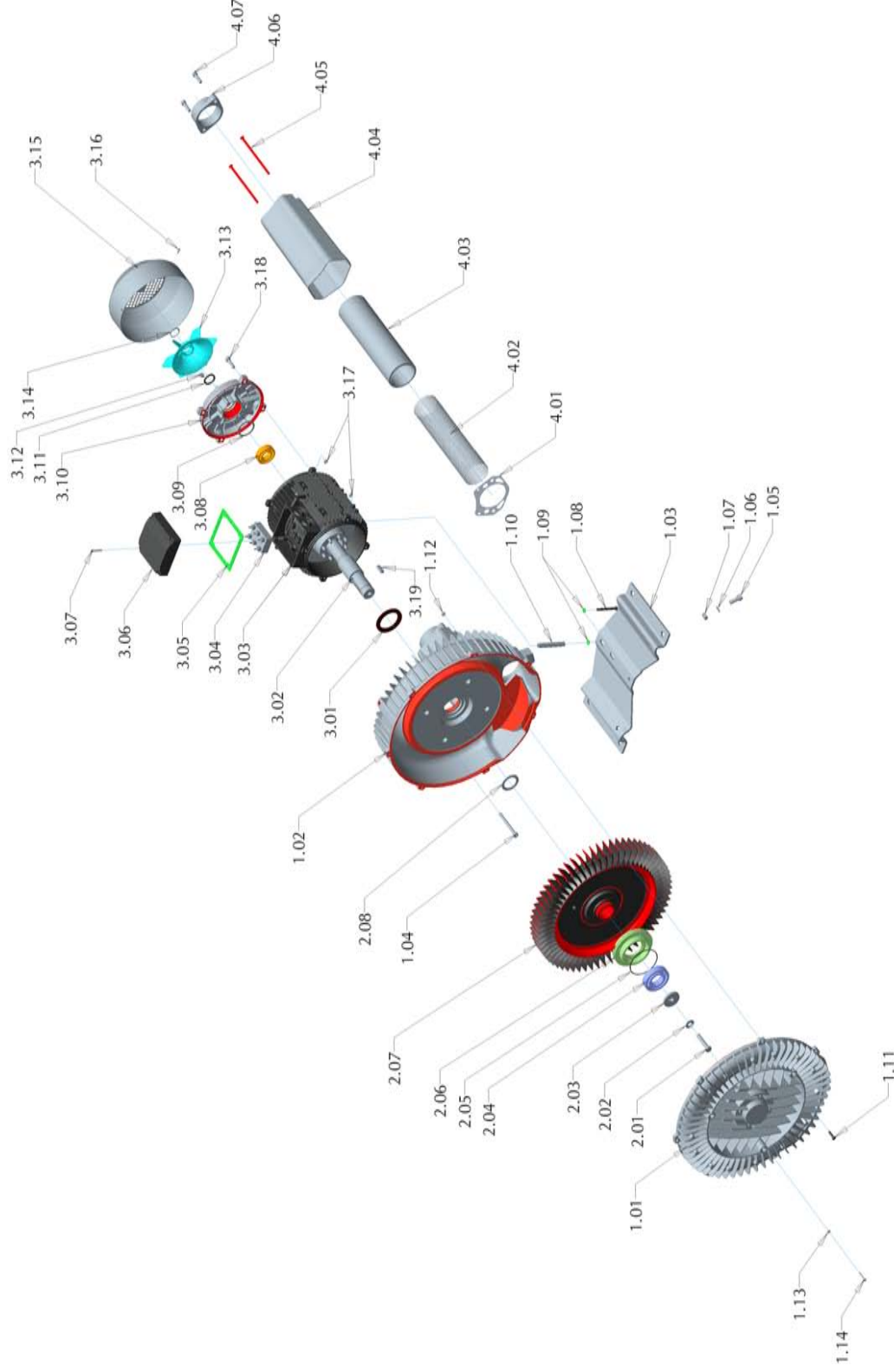
Spare parts list are available from your local Airtech service center. Please contact your local Airtech representative for assistance.

For additional assistance, please contact:

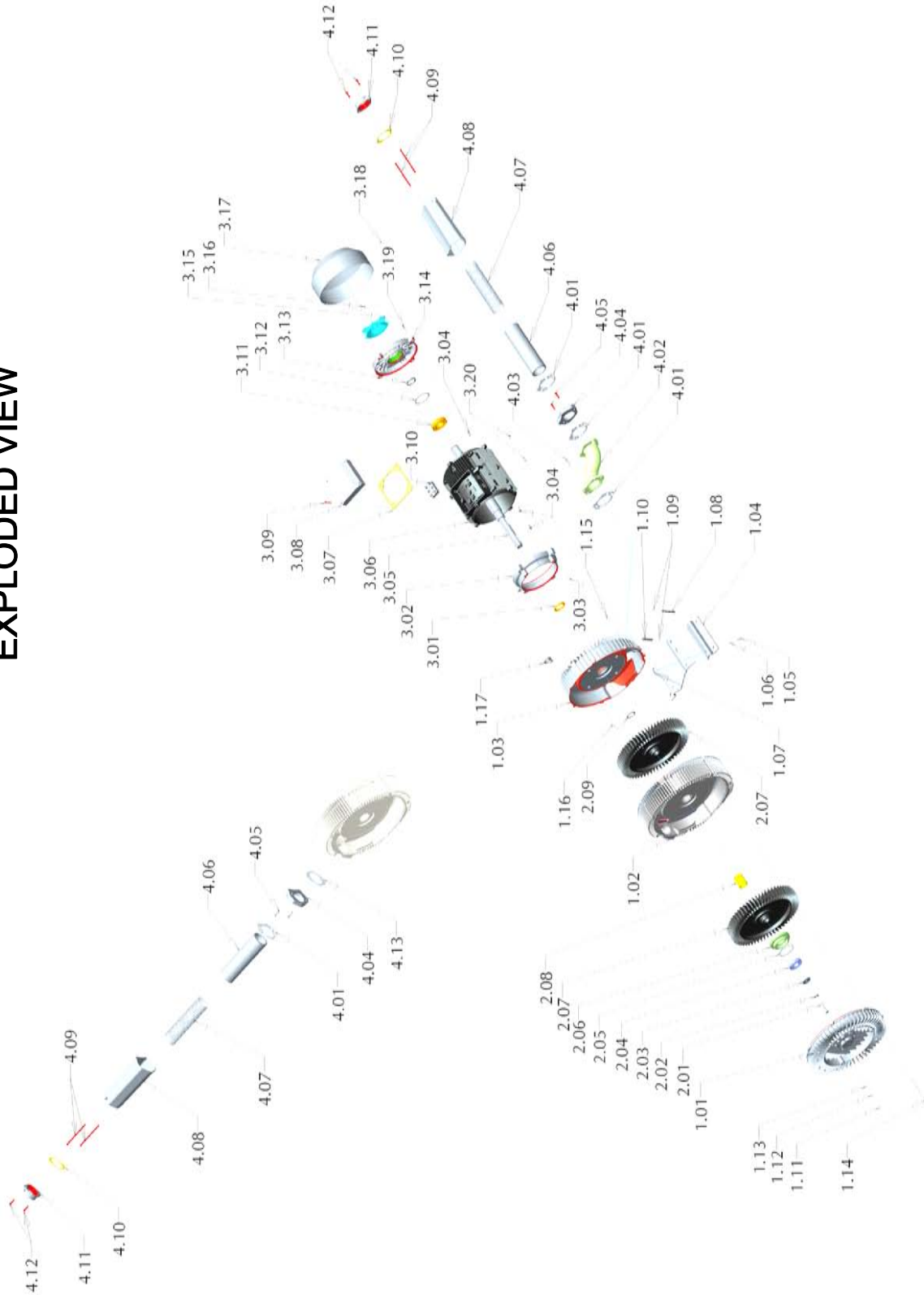
Airtech, Inc.,
150 South Van Brunt Street
Englewood, NJ, 07631
Phone: 1-201-569-1173
Fax: 201-569-1696.

3BA1 SINGLE STAGE EXPLODED VIEW

No. Qty	Description
1.01 1	Cover
1.02 1	Housing
1.03 1	Mounting Plate
1.04 4	Motor Mounting Screw
1.05 2	Mounting Plate Washer
1.06 2	Mounting Plate Nut
1.07 1	Stator Support Screw
1.08 2	Stator Support Washer
1.10 1	Stator Mounting Sleeve
1.11 8	Cover Mounting Nut
1.12 8	Cover Mounting Screw
1.13 4	Bearing Cover Washer
1.14 4	Bearing Cover Screw
2.01 1	Shaft Screw
2.02 1	Shaft Lock Washer
2.03 1	Disc
2.04 1	Bearing
2.05 1	Bearing Cover O-Ring
2.06 1	Bearing Cover
2.07 1	Impeller
2.08 1	Disc
3.01 1	Seal
3.02 1	Motor Rotor
3.03 1	Stator
3.04 1	Terminal Block
3.05 1	Motor Terminal Box Gasket
3.06 1	Cover For Terminal Box
3.07 4	Terminal Box Cover Screw
3.08 1	Rear Bearing
3.09 1	Bearing Preloading Ring
3.10 1	End Shield
3.11 1	Tolerance Ring
3.12 1	Shaft Key
3.13 1	External Fan
3.14 1	Retaining Ring
3.15 1	Fan Cowl
3.16 4	Fan Cowl Screw
3.17 8	Stator Nut
3.18 4	End Shield Screw
3.19 1	Parallel Key
4.01 2	Silencer Gasket
4.02 2	Silencer Insert
4.03 2	Silencer Insert Filler
4.04 4	Silencer Casing
4.05 4	Silencer Screw
4.06 2	Flange
4.07 4	Flange Screw

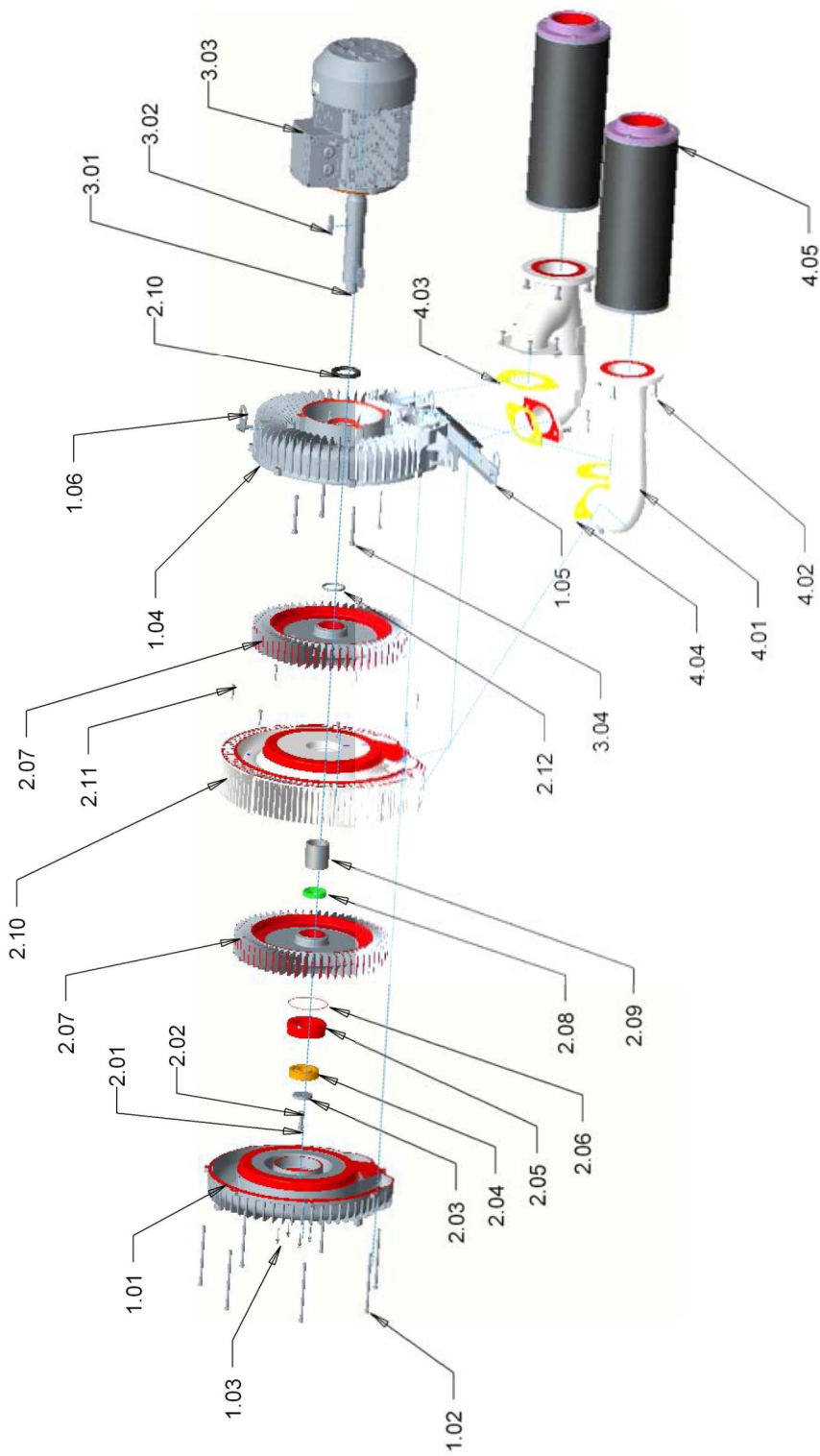


3BA1 TWO STAGE EXPLODED VIEW



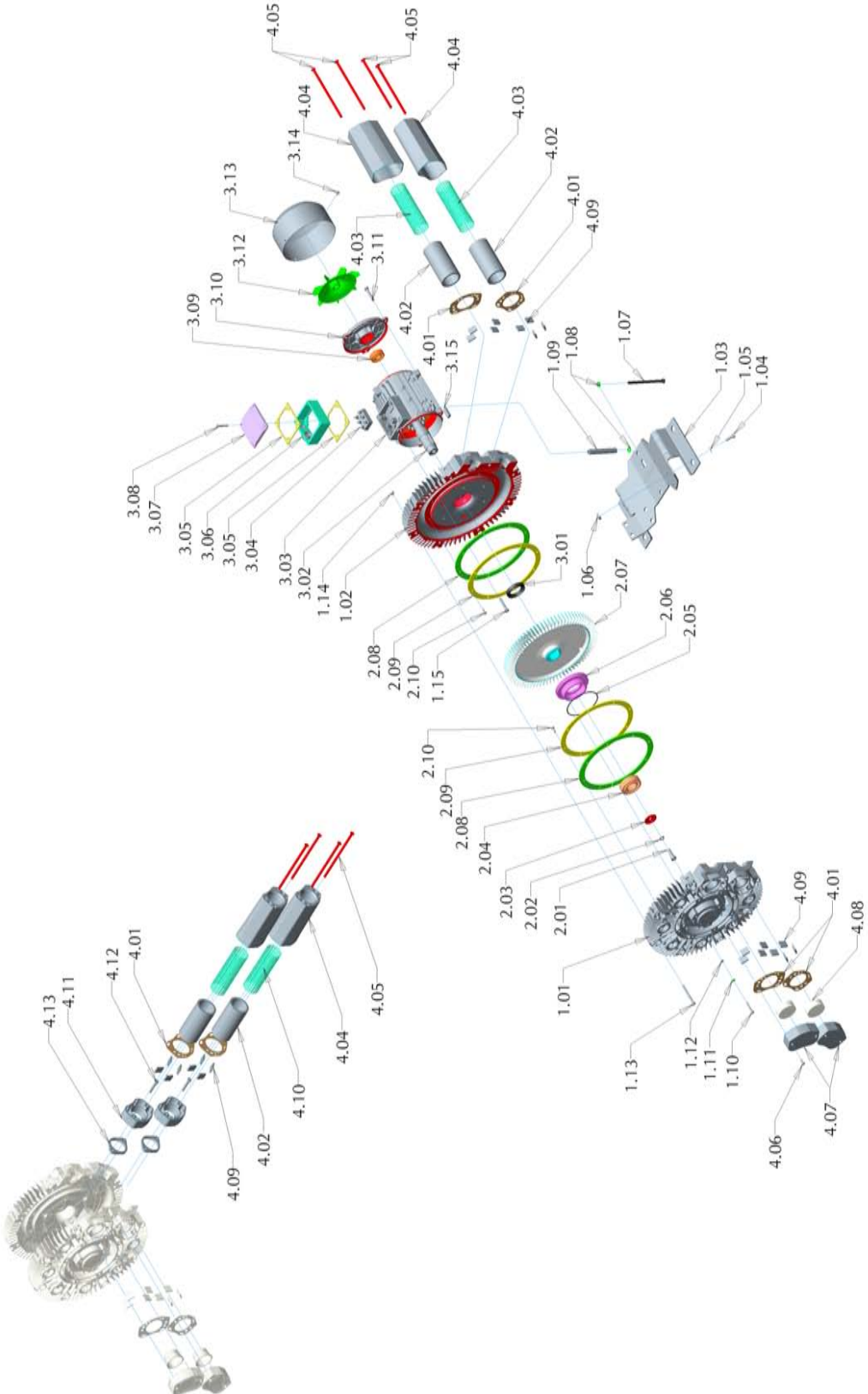
3BA1943 TWO STAGE EXPLODED VIEW

No.	Qty.	Description
1.01	1	Front Housing
1.02	7	Cover Mounting Screw
1.03	4	Bearing Cover Screw
1.04	1	Rear Housing
1.05	1	Lifting Bar
1.06	1	Lifting holder
2.01	1	Shaft Screw
2.02	1	Shaft Lock Washer
2.03	1	Disc
2.04	1	Bearing
2.05	1	Bearing Housing
2.06	1	Bearing Cover O-Ring
2.07	2	Impeller
2.08	1	Rotary Shaft Seal
2.09	1	Sleeve
2.10	1	Center Casing
2.11	7	Center Casing Cover Screw
2.12	1	Sealing Ring
3.01	1	Shaft
3.02	1	Shaft Key
3.03	1	Motor
3.04	4	Motor Screw
4.01	2	Elbow Pipe
4.02	20	Elbow Pipe Screw
4.03	2	Gasket
4.04	2	Gasket
4.05	1	Silencer Housing



3BA7 SINGLE STAGE EXPLODED VIEW

No.	Qty.	Description
1.01	1	Cover
1.02	1	Housing
1.03	1	Mounting Plate
1.04	4	Plate Mounting Screw
1.05	4	Mouting Plate Washer
1.06	4	Mounting Plate Nut
1.07	1	Stator Support Screw
1.08	2	Stator Support Washer
1.09	1	Stator Support Sleeve
1.10	3	Bearing Cover Screw
1.11	3	Bearing Screw Washer
1.12	3	Bearing Ring Seal
1.13	8	Cover Mounting Screw
1.14	8	Cover Mounting Nut
1.15	3	Motor Mounting Screw
2.01	1	Shaft Screw
2.02	1	Shaft Lock Washer
2.03	1	Disc
2.04	1	Bearing
2.05	1	Bearing Cover O-Ring
2.06	1	Bearing Cover
2.07	1	Impeller
2.08	2	Teflon Seal
2.09	2	Retaining Ring
2.10	16	Inner Seal Screw
3.01	1	Shaft Seal Ring
3.02	1	Motor Rotor
3.03	1	Stator
3.04	1	Terminal Block
3.05	2	Motor Terminal Box Gasket
3.06	1	Terminal Box
3.07	1	Cover For Terminal Box
3.08	4	Terminal Box Cover Screw
3.09	1	Rear Bearing
3.10	1	End Shield
3.11	3	End Shield Screw
3.12	1	External Fan
3.13	1	Fan Cowl
3.14	4	Fan Cowl Screw
3.15	1	Parallel Key
4.01	4	Silencer Gasket
4.02	2	Silencer Insert Filler
4.03	2	Silencer Insert
4.04	2	Silencer Casing
4.05	4	Silencer Screw
4.06	4	Flange Cap
4.07	2	Flange Cap
4.08	2	Flange Filler
4.09	16	Filler
4.10	2	Silencer Insert
4.11	2	Flange Screw
4.12	4	Flange Screw
4.13	2	Flange Gasket



	No.	Qty.	Description
1	1.01	1	Cover
	1.02	1	Center Section
	1.03	1	Housing
	1.04	1	Mounting Plate
	1.05	4	Plate Mounting Screw
	1.06	4	Mouting Plate Washer
	1.07	4	Mounting Plate Nut
	1.08	1	Stator Support Screw
	1.09	1	Stator Support Lock Washer
	1.10	2	Stator Support Washer
	1.11	1	Stator Support Sleeve
	1.12	3	Bearing Cover Screw
	1.13	3	Bearing Screw Washer
	1.14	3	Bearing Ring Seal
	1.15	8	Cover Mounting Screw
	1.16	8	Cover Mounting Nut
	1.17	4	Motor Mounting Screw
	1.18	1	Lifting Ring Nut
	1.19	1	Lifting Ring
	1.20	2	Blower Cold
	1.21	4	Blower Cowl Screw
	2.01	1	Shaft Screw
	2.02	1	Shaft Lock Washer
	2.03	1	Disc
	2.04	1	Bearing
	2.05	1	Bearing Cover O-Ring
	2.06	1	Bearing Cover
	2.07	2	Impeller
	2.08	1	Rotary Shaft Seal
	2.09	1	Sleeve
	2.10	1	Disk
	2.11	1	Shaft Seal Ring
	2.12	4	Teflon Seal
	2.13	4	Retaining Ring
	2.14	32	Inner Seal Screw
	3.01	1	Motor Rotor
	3.02	1	Stator
	3.03	2	Motor Terminal Box Gasket
	3.04	1	Terminal Box
	3.05	1	Cover For Terminal Box
3.06	8	Terminal Box Screw	
3.07	1	Terminal Block	
3.08	1	Terminal Block Screw	
3.09	1	Rear Bearing	
3.10	1	End Shield Disk	
3.11	1	End Shield	
3.12	4	End Shield Screw	
3.13	1	External Fan	
3.14	1	Fan Cowl	
3.15	4	Fan Cow Screw	
3.16	2	Parallel Key	
4.01	4	Silencer Gasket	
4.02	2	Silencer Insert Filler	
4.03	2	Silencer Insert	
4.04	2	Silencer Casing	
4.05	4	Silencer Screw	
4.06	4	Flange Screw	
4.07	2	Flange Cap	
4.08	2	Flange Filler	
4.09	16	Filler	



Airtech, Inc. ("Company") Warranty Statement

Company warrants that on the date of shipment to Purchaser the goods will be of the kind and quality described herein, merchantable, and free of all defects in workmanship and materials.

If within one year from the date of initial operation, but not more than eighteen months from date of shipment by the Company, of any item of the goods, Purchaser discovers that such item was not as warranted above and promptly notifies Company in writing thereof, Company shall remedy such defect by, at the Company's option, adjustment, repair or replacement of the item and any affected part of the good. Purchaser shall assume all responsibility and expense for removal, reinstallation and freight in connection with the foregoing remedy. The same obligations and conditions shall extend to replacement items furnished by the Company hereunder. Company shall have the right of disposal of items replaced by it. Purchaser shall grant Company access to the goods at all reasonable times in order for Company to determine any defect in the goods. In the event that adjustment, repair or replacement does not remedy the defect, the Company and Purchaser shall negotiate in good faith an equitable adjustment in the contract price.

The Company's responsibility does not extend to any item of the goods which has not been manufactured and sold by the Company. Such item shall be covered only by the express warranty, if any, by the manufacturer thereof. The Company and its suppliers shall also have no responsibility if the goods have been improperly stored, handled or installed, or if the goods have not been operated or maintained according to their ratings or according to the instructions in Company or supplier furnished manuals, or if unauthorized repairs or modifications have been made to the goods.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES (EXCEPT TITLE) INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, AND CONSTITUTES THE ONLY WARRANTY OF COMPANY WITH RESPECT TO THE GOODS.

The forgoing states Purchaser's exclusive remedy against Company and its suppliers for any defect in the good or for failure of the goods to be as warranted, whether Purchaser's remedy is based on contract, warranty, failure of such remedy to achieve its essential purpose, tort (including negligence), strict liability, indemnity, or any other legal theory, and whether arising out of warranties, representations, instructions, installations, or defects from any cause.

Neither Company nor its suppliers shall be liable, whether in contract, warranty, failure of a remedy to meet its essential purpose, tort (including negligence), strict liability, indemnity or any other legal theory, for loss of use, revenue or profit or for cost of capital or of substitute use or performance or for indirect, liquidated, incidental or consequential damages or for any other loss or cost of a similar type, or for claims by Purchaser for damages of Purchaser's customers.

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2", 2 1/2" & 5", 6"

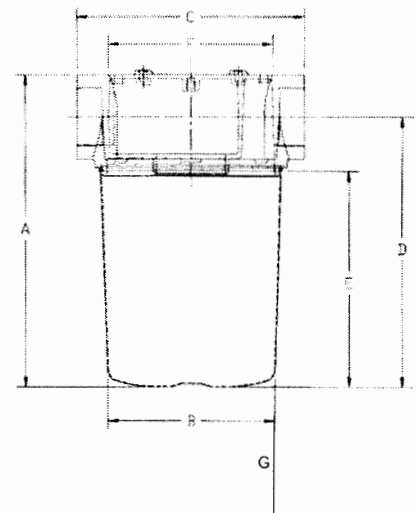
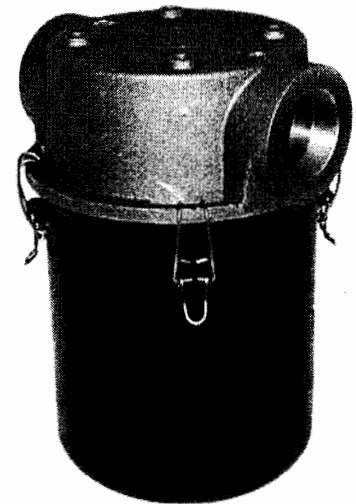


COMING SOON!

- Compact Design
- Multi-Stage Filtration
- Quick Change Out
- Vacuum Tested

BENEFITS

- ♦ Compact design for space restrictions; **Minimal** service area needed
- ♦ **Integrated Inlet Baffle**
- ♦ Inlet is above the element to **Extend** element life and maintenance intervals
- ♦ "T" style design **Minimizes** piping requirements
- ♦ "Drop-Down" housing for easy servicing and containment of particles
- ♦ Cast aluminum head **Resists** corrosion
- ♦ Pressure differential ports standard for monitoring
- ♦ Casting has 4 unthreaded tap holes for mounting bracket
- ♦ Versatile: Contact SMI for pressure applications
- ♦ **Vacuum level:** Typically 1×10^{-3} mmHg (1.3×10^{-3} mbar)
- ♦ Swing Bolts on 5" & 6" sizes for additional strength



Dimension tolerance $\pm 1/8"$

OPTIONS (Inquires Encouraged)

- ♦ Various media alternatives
- ♦ See Through Bottom for Visual Inspection (Now available for 3" & 4" sized CT, contact Solberg for info on other sizes)

		with Polyester Element	with Paper Element	FPT Inlet & Outlet	DIMENSIONS - inches							Rated Flow SCFM		Approx. Wt. lbs
					A	B	C	D	E	F	G	Nominal Rating	Element Rating	
New	I	CT-851-200C	CT-850-200C	2"	13	7 5/8	9	10 7/8	9	5 5/8	2	175	290	16
	I	CT-851-250C	CT-850-250C	2 1/2"	13	7 5/8	9	10 7/8	9	5 5/8	2	210	290	15
	I	CT-235P-300C	CT-234P-300C	3"	18 13/16	9 7/8	13 1/2	16 13/16	13 1/8	10	14	300	570	20
	I	CT-235P-400C	CT-234P-400C	4"	18 13/16	9 7/8	13 1/2	16 13/16	13 1/8	10	14	520	570	26
	S	CT-275P-500C	CT-274P-500C	5"	20 1/2	16	19	15 3/4	10	14 3/4	20	800	1100	38
New	I	CT-275P-600C	CT-274P-600C	6"	20 1/2	16	19	15 3/4	10	14 3/4	20	1100	1100	45

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"FS" Series 1/2" - 3" MPT

APPLICATIONS

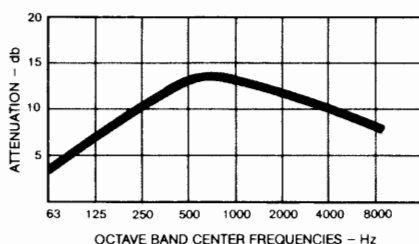
- Industrial & Severe Duty
- Piston Compressors
- Screw Compressors
- Blowers - Side Channel & PD Type
- Hydraulic Breathers - fine filtration
- Engines
- Construction\Contractor Industry
- Workshop
- Medical\Dental Industry
- Pneumatic Conveying
- Waste Water Aeration
- Sparging

FEATURES & SPECIFICATIONS

- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron
- Fully drawn weatherhood - no welds to rust or vibrate apart
- Tubular silencing design - tube is positioned to maximize attenuation and air flow while minimizing pressure drop
- Durable carbon steel construction with baked enamel finish and powder coated weatherhood
- Interchangeable elements: Polyester, Paper
- Low pressure drop center bracket and outlet pipe design
- Temp (continuous): min -15°F (-26°C) max 220°F (104°C)
- Filter change out differential: 10"-15" H₂O Over Initial Delta P
- Pressure drop graphs available upon request

FILTER SILENCERS
FS, MBFS, QB, 2G, SLCR Series

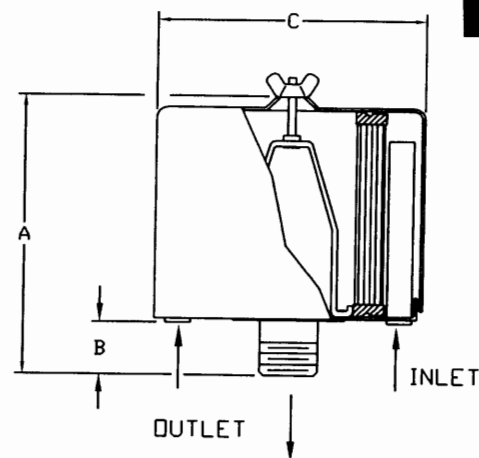
TYPICAL NOISE ATTENUATION - FS SERIES



- Noise attenuation may vary due to the wide range of applications and machines

OPTIONS (Inquiries Encouraged)

- Various media available
- 1/8" & 1/4" tap holes
- Pressure Drop Indicator
- Available in **Stainless Steel**
- Epoxy coated housings
- Hot dipped galvanized housings
- Special connections, NPT



Dimension tolerance $\pm 1/8"$

I = Industrial Duty S = Severe Duty

		with Polyester Element	with Paper Element	MPT Outlet	DIMENSIONS - inches			Rated Flow SCFM			No. of Tubes	Approx. Wt. lbs
					A	B	C	Piston	Screw, Blower, Fan	Element Rating		
I		FS-15-050	FS-14-050	1/2"	4	1 1/2	6	10	10	35	1	2
I		FS-15-075	FS-14-075	3/4"	4	1 1/2	6	20	25	35	2	2
I		FS-15-100	FS-14-100	1"	4	1 1/2	6	25	35	35	3	2
S		FS-19P-100	FS-18P-100	1"	6 5/8	1 5/8	6	35	55	100	3	3
I		FS-19P-125	FS-18P-125	1 1/4"	6 5/8	1 5/8	6	55	70	100	5	3
I		FS-19P-150	FS-18P-150	1 1/2"	6 5/8	1 5/8	6	70	85	100	5	4
I		FS-31P-200	FS-30P-200	2"	7 1/4	2 1/4	10	85	135	195	5	8
S		FS-231P-200	FS-230P-200	2"	12 1/4	2 1/4	10	135	135	300	7	14
I		FS-31P-250	FS-30P-250	2 1/2"	7 1/4	2 1/2	10	100	195	195	5	8
S		FS-231P-250	FS-230P-250	2 1/2"	12 1/2	2 1/2	10	195	195	300	9	15
I		FS-231P-300	FS-230P-300	3"	13	3	10	200	300	300	9	15

Solberg - Where the Best is in Store for You!

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SOLBERG



Filter Silencers and Inlet Filters Maintenance Manual

www.solbergmfg.com

Note: Please read the maintenance instructions given by the OEM for the machinery first. The OEM's manual should be adhered to in order to protect the equipment. Solberg Manufacturing, Inc has made every effort to make sure that these instructions are accurate but is not responsible for any typos, slight variations or for human errors that may occur.

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Rev: MMIFS-1146

Maintenance Manual

Solberg Air Inlet Filters and Filter Silencers

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****For Further Information Please Call: 630-773-1363***



Section A

INTRODUCTION

The purpose of this manual is instruction on the proper assembly and care of Solberg inlet air filters.

WARNING

This manual must be read and thoroughly understood before using and caring for this air filter. Failure to comply could result in explosion, product/system contamination or personal injury.

This manual should be used as a supplement to the user's understanding of the proper care needed to maintain a safe and dependable air filter. It is the responsibility of the user to interpret and explain all instructions to persons who do not read or understand English BEFORE they are allowed to maintain and use this filter.

This manual should be readily available to all operators responsible for operation and maintenance of the inlet air filters.

We thank you for selecting products from Solberg Manufacturing, Inc. We are confident that our superior filter designs will meet your application requirements.

Section B

GENERAL INFORMATION

1. Identification of Solberg Inlet Air Filters.

All Solberg inlet air filters should have an identification label/nameplate that gives the following information:

**Assembly Model #
Replacement Element #**

(The exception is OEM supplied units. In this case, please enter the OEM part numbers below.)

Fill in the actual nameplate data from your new Solberg inlet filter(s):

Page 3

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Rev: MMIFS-1146*

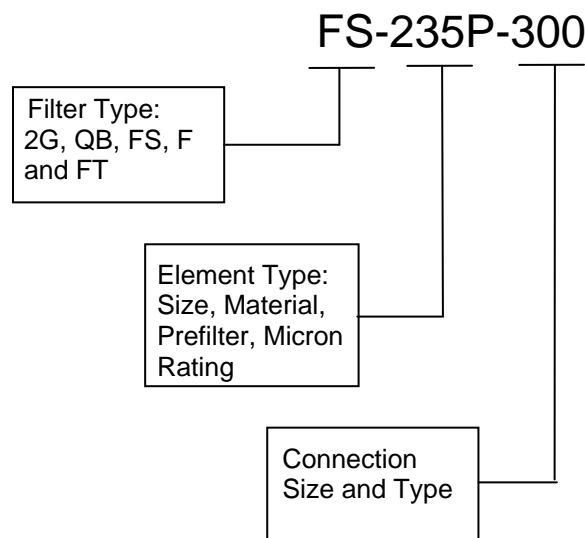


SOLBERG

No.	Filter Model Number	Replacement Element	Initial Delta P Readings
1			
2			
3			
4			
5			

Table 1

The model number designates the filter type, the original element configuration and housing connection size. For example, the following part number identifies the filter as being a 'FS' design filter with a 235 element with prefilter and 3" MPT connection size:



2. Filtration Rules of Thumb

General: For peak output performance from a compressor, blower, vacuum pump, engine, or any other machine that consumes air, one must have clean, unrestricted air. Proper filtration can help stabilize the working environment within rotating equipment even when the external conditions may be quite severe. A critical component in creating the right working conditions is filter sizing. With the properly sized filter, equipment will run smoothly over its entire expected operating life.

A major factor in filtration and filter sizing is air velocity through the filter media. Generally, the slower the velocity of air through a media the higher the filter efficiency and, conversely, the lower the pressure drop. Therefore, the primary



goal in filter sizing is to optimize the velocity of air through the media (sometimes called face velocity).

Rule of Thumb #1: Always begin with the filter cartridge requirements when sizing a filter. Once the appropriate element has been selected then move on to the housing requirements.

Rule of Thumb #2: Always ask or specify a filter based on a micron rating **with filtration efficiencies**. As an example, stating a requirement for a 1-micron filter is misleading because no efficiency rating has been specified. A 1-micron filter at 95% efficiency may be less efficient than a 5-micron filter at 99% efficiency. For proper air system performance in light and industrial duty environments, a filter with a minimum of 99% filtration efficiency at 5 microns is required.

Rule of Thumb #3: Size your filter correctly by understanding the impact air velocity through a media has on efficiency and pressure drop. Maintain the suggested Air-to-Media ratios listed below based on the external environment listings and Filtration efficiency needs.

Filtration Efficiency Requirements (99%+ efficiency)	Environmental Conditions	Air to Media Ratio	
<i>Industrial Grade 2-micron Paper</i>	Industrial Duty (clean, office/warehouse-like)	30 CFM/ft ²	(51m ³ /h)/cm ²
	Severe Duty (workshop, factory-like)	15 CFM/ft ²	(25.5m ³ /h)/cm ²
	Extreme Duty (Foundry, Construction-like)	10 CFM/ft ²	(17m ³ /h)/cm ²
<i>Industrial Grade 5-micron Polyester</i>	Industrial Duty (clean, office/warehouse-like)	50 CFM/ft ²	(85m ³ /h)/cm ²
	Severe Duty (workshop, factory-like)	40 CFM/ft ²	(68m ³ /h)/cm ²
	Extreme Duty (Foundry, Construction-like)	25 CFM/ft ²	(42.5m ³ /h)/cm ²
<i>Industrial Grade 1-micron Polyester</i>	Severe Duty (Foundry, Construction-like)	10 CFM/ft ²	(17m ³ /h)/cm ²
<i>Industrial Grade 0.3-micron HEPA Glass @ 99.97% Efficiency</i>	Industrial Duty (Pre-filtered Applications)	10 CFM/ft ²	(17m ³ /h)/cm ²
	Severe Duty (workshop, factory-like)	7 CFM/ft ²	(12m ³ /h)/cm ²
	Extreme Duty (Foundry, Construction-like)	5 CFM/ft ²	(8.5m ³ /h)/cm ²

Table 2

Rule of Thumb #4: Pressure drop is also caused by the dirt holding capacity of the element. As the element fills up with dirt, the pressure drop increases. It is



important to document the pressure drop across a given filter when it is new and then clean or replace it when the pressure drop increases by 10" to 15" / 250-280mm H₂O over the original reading.

Rule of Thumb #5: The inlet connection greatly influences the overall pressure drop of the filter system. To minimize the restriction contributed by an inlet filter, a velocity of 6,000 ft/min (10200m³/h) or less is suggested through the outlet pipe. The table below lists the suggested flows based on pipe size:

Pipe Size (inches)	Max Airflow		Pipe Size (inches)	Max Airflow		Pipe Size (inches)	Airflow	
1/4"	6 CFM	10m ³ /h	1 1/4"	60 CFM	102m ³ /h	6"	1,100 CFM	1870m ³ /h
3/8"	8 CFM	14m ³ /h	1 1/2"	80 CFM	136m ³ /h	8"	1,800 CFM	3060m ³ /h
1/2"	10 CFM	17m ³ /h	2"	135 CFM	230m ³ /h	10"	3,300 CFM	5610m ³ /h
3/4"	20 CFM	34m ³ /h	2 1/2"	195 CFM	332m ³ /h	12"	4,700 CFM	7990m ³ /h
1"	35 CFM	60m ³ /h	3"	300 CFM	510m ³ /h	14"	6,000 CFM	10200m ³ /h
			4"	520 CFM	884m ³ /h			
			5"	800 CFM	1360m ³ /h			

Table 3 **Note: This information is for general use only. A qualified engineer must properly design each system.*

3. Element Specifications

Temperature Range: -15° to 220°F / -26° to 105°C

Filter Change-Out Differential: 10" to 15" / 250-380mm H₂O Over Initial Delta P

Media	Micron Rating
Standard Paper	99+% @ 2 micron
Standard Polyester	99+% @ 5 micron
"S" Series Wire Mesh	Epoxy Coated Wire Mesh
"Z" Series Polyester	99+% @ 1 micron
"HE" Series HEPA	99.97% @ 0.3 microns
"U" Series Polyester	99+% @ 25 micron
"W" Series Polyester	99+% @ 100 micron
"S2" Series	Stainless Steel Wire Mesh
"AC" & "ACP" Series	N/A
"Y" Series Polypropylene	99+% @ 5 micron

Table 4

Temperature Range: -15° to 385°F / -26° to 196°C

Filter Change-Out Differential: 10" to 15" / 250-380mm H₂O Over Initial Delta P



Media	Micron Rating
"MX" & "MXD" Series – Nomex Cloth	99+% @ 5 micron

Table 5

4. Element Cleaning - Inlet Filtration

Solberg elements should be cleaned or replaced, once the pressure drop reaches 15 to 20-inches water column (380 - 500mm WC) above the initial pressure drop of the installation.

The decision to clean the element rather than replace it is left to the discretion of the operator. Any damage which results from by-pass or additional pressure drop created by element cleaning is the sole responsibility of the operator.

WARNING

The overall performance of a filter element is altered once cleaned.

The initial pressure drop after cleaning will be greater than the original, clean pressure drop of the element.

After each subsequent cleaning, the initial pressure drop will continue to increase.

Under all circumstances, the initial pressure drop of the element needs to be maintained at less than 20-inches water column (500mm WC).

Cleaned elements that exceed 20-inches water column (500mm WC) at start-up should be replaced with new elements.

With many types of equipment, the maximum pressure drop allowed will be dictated by the ability of the equipment to perform to its rated capacity. Under all circumstances, the operator should avoid exceeding the manufacturer's recommended maximum pressure drop for their specific equipment.

- A. **Polyester Element:** The polyester element may be washed in warm soapy water, vacuumed, gently blown out or replaced. The element



should be dry before reinstallation. The element should be replaced after a maximum of three cleanings.

- B. **Paper Element:** The paper element may be lightly blown with low pressure air. It is disposable and in most cases should be replaced with a new element.
- C. **Polyurethane Prefilter:** The prefilter may be washed as a sponge or replaced to give the element a longer service life.
- D. **Epoxy Coated Wire Mesh and Stainless Steel Wire Mesh Elements:** Cleaning instructions similar to polyester, except mild solvents may be used.
- E. **Activated Carbon Element:** Not cleanable
- F. **Polypropylene Element:** Cleaning instructions similar to polyester
- G. **Nomex Cloth Element:** Cleaning instructions similar to polyester

If you are not confident that the integrity of the element was maintained during cleaning, it is recommended that a new element be installed. Also, spare parts such as gaskets, wing nuts and washers can be supplied upon request.

Section C

PROCEDURES

1. Installation.

- A. Maximum operating temperature for most Solberg inlet air filter products is 220°F / 105°C. Temperatures in excess of this could cause damage to elements, media and elastomers. High temperature products are available.
- B. Direction of flow is typically from the outside of the element to the inside of the element. Most products have arrows indicating direction of flow on the inlet and outlet ports.
- C. Ensure that pipe/flange connections are adequately sealed so the potential for leaks is reduced to a minimum.

2. Disconnecting canister top from canister base.

- A. FS-04-06-10 (or 05-07-11): Twist top housing to open. Use care to support bottom housing while removing top housing. Fitting damage can occur if fitting is torqued in the wrong direction.
- B. Small QB/FS/F/FT: Remove weather hood or top plate by loosening hex nut or wing nut and lifting off.



- C. Large 2Q/QB/FS/F/FT: Remove cover by loosening hex nut or wing nut and lifting off.

3. Removing element for service/maintenance.

- A. Carefully remove retaining hex head/wing-nut and washer over top plate, and then remove element. Note: Model "04-06-10" elements should be free when housing tops are removed.
- B. Clean sealing surfaces of housing, top plates and element endcaps so that they are free of dirt or any other particulate.

WARNING

Failure to comply with these instructions may result in system or equipment contamination.

4. Securing Element.

- A. Place new or cleaned element evenly on base plate. Be sure element seats properly on base and there is no dirt or particulate present on sealing surfaces. With multiple element stacks place elements in line with base element and ensure elements seat properly.
- B. Place top plate (if necessary) on element by centering on tap bolt.
- C. Secure washer and wing nut to end cap (or top plate) and tap bolt. Element must be tightly secured. Note: Do NOT over tighten!

WARNING

Defective installation may cause system or pump contamination. Use only genuine Solberg replacement parts.



5. Securing canister top to canister base.

- A. Make sure all surfaces are free from dust and other particulate.
- B. Small QB/FS/F/FT: Replace top plate and/or weather hood if necessary. Feed threaded rod into corresponding bolthole and tighten. Note: Do NOT over tighten!
- C. Large 2G/QB/FS/F/FT: Replace cover. Feed threaded rod into corresponding bolt hole(s) and tighten. Note: Do NOT over tighten!
- D. FS-04-06-10 (or 05-07-11): Reassemble top housing to bottom housing by aligning tabs and turning into place.

6. Equipment Startup.

- A. Be sure to read the instructions on installation or element replacement as listed above before starting equipment.

WARNING

If at any time the operator is unable to verify the integrity of the element or any housing feature, the factory or a regional representative should be contacted prior to start-up.

- B. Please check the listed steps prior to startup.

- 1. Check element to make sure it is seated properly on element base or sealing surface.

WARNING

Failure to seat the element properly may result in contaminant by-pass resulting in damage to equipment.

- 2. Check element top plate or cover to make sure it is seated properly on element.
- 3. Check housing cover (if applicable) that it is installed correctly onto housing.



4. Be sure all fasteners and hardware (if applicable) have been tightened.

WARNING

If the air flow is reversed through a Solberg filter unit, be sure to check the element and housing internals for damage. Failure to do so may result in damage to equipment.

Section D

MAINTENANCE RECOMMENDATIONS

1. Pressure drop readings are recommended to have an effective air filter. Always document initial pressure drop during start-up when element is clean. Replacement cartridge is needed when system experiences 10" to 15" / 250-380mm H²O above drop above the initial reading. Refer to page 4 for initial values.
2. Always check replacement cartridge gaskets to insure they are adhered uniformly along the end caps during handling. If not, contact Solberg Manufacturing, Inc. immediately. Do not modify or change!
3. Always check inlets/outlets, element base and its components when replacing element to insure cleanliness. Wipe clean if necessary.
4. Operate only when a proper seal exists.

SPARE PARTS LIST:

Contact your Solberg Representative for spare part model numbers.



Models 215V ~~and 337~~



Model 215V is Non-code Vacuum ~~and Model 337~~ is ASME Section VIII, Air/Gas Vacuum, 'UV' National Board Certified, Safety Valves

KUNKLE

Features

- **Large nozzle design** provides high capacity.
- **Flat bronze valve seats are lapped** for optimum performance.
- **Warn ring offers easy adjustability** for precise opening with minimum pre-open or simmer and exact blowdown control.
- **Pivot between disc and spring** corrects misalignment and compensates for spring side thrust.

Model Descriptions

- **Model 337 has 'pull-ring' lift device** for easy manual testing.
- **Every valve is 100% tested/inspected** for pressure setting, blowdown and leakage.
- **All adjustments are factory sealed** to prevent tampering or disassembly.

Option

- SS trim. (nozzle and disc) (Variation 03)

Applications

- Protection of low to medium pressure high volume blowers, compressors and pneumatic conveying systems.
- Bulk hauling trailers/equipment.
- Light gauge tanks.
- Protection of high volume vacuum pumps and conveying systems.



Vacuum Limits

Model 215V:

2-inch HG
to 29-inch HG
[67.7 to 982 mbarg]
-20° to 406°F [-29° to 208°C]

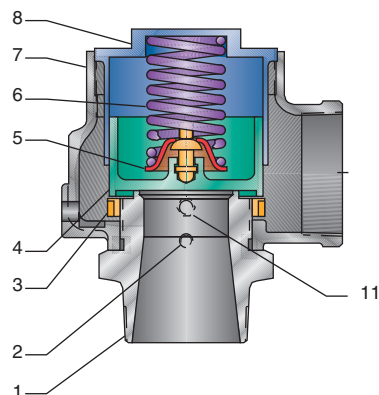
~~Pressure and Temperature Limits~~

~~Model 337:~~

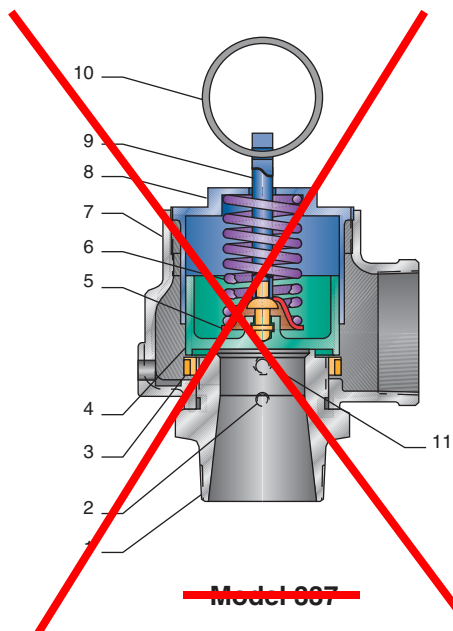
~~1 to 60 psig [0.07 to 4.1 barg]~~
~~20° to 400°F [-29° to 200°C]~~

Models 215V ~~and 337~~

Parts and Materials



Model 215V



~~**Model 337**~~

Models 215V and 337

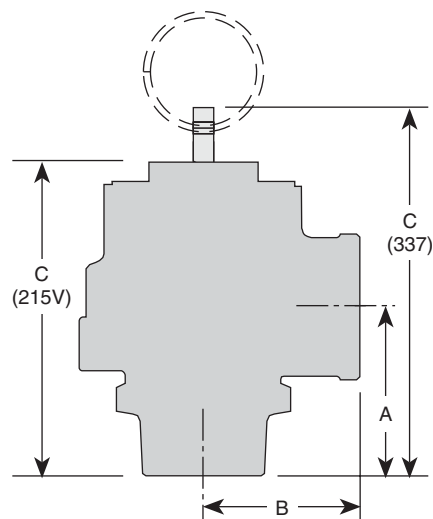
No.	Part Name	215V	337
1	Nozzle ¹	Bronze, SB62	Bronze, SB62
2	Set Screw	Steel A108-1018 Brass Plated	Steel A108-1018 Brass Plated
3	Regulator Ring	Bronze B584 Alloy 84400	Bronze B584-C84400
4	Disc ¹	Bronze B584 Alloy 84400	Bronze B584-C84400
5	Spring Step	Steel A-109 Coated ³	Steel A109 Coated³
6	Spring	SS, A313 TY 302	SS A313-302
7	Body	Cast Iron, Zinc Plated, B633	Iron A-126 CL A or B
8	Compression Screw	Bronze, B-584 Alloy 84400	Bronze B584-C84400
9	Stem ²	N/A	Brass B16
10	Lift Ring ²	N/A	SS A313-302
11	Regulator Ring Set Screw	N/A	Brass B16

Notes

1. Disc and nozzle available in SSA-479 TY 316.
2. Stem and lift ring available on Model 337 only.
3. Corrosion preventative coating.

Specifications

Size Inlet and Outlet	Dimensions, in [mm]				Weight lb [kg]
	A	B	C 215V	C 337	
2" [50.8 mm]	3 1/4 [82.5]	3 [76.2]	6 1/2 [165.1]	7 [177.8]	8 [3.6]
2 1/2" [63.5 mm]	3 3/4 [95.0]	3 1/2 [88.9]	7 1/2 [191.6]	8 [203.2]	12 [5.4]
3" [76.2 mm]	4 1/4 [107.9]	4 [101.6]	8 1/2 [215.9]	9 [228.6]	20 [4.1]



Model 337

Models 215V and 337

Model 215V

Non-code Vacuum Air (SCFM) - Flow Coefficient

Relief Set (in, HG)	Valve Inlet and Outlet Size		
	2"	2 1/2"	3"
	Orifice Area, in ² 1.84	Orifice Area, in ² 2.79	Orifice Area, in ² 4.04
2	229	347	503
5	338	512	742
10	415	630	912
15	426	646	936
20	426	646	936

Non-code Vacuum Air [Metric, Nm³/h]

Relief Set [mbarg]	Valve Inlet and Outlet Size		
	5.08 cm	6.35 cm	7.62 cm
	Orifice Area [11.86 cm ²]	Orifice Area [17.97 cm ²]	Orifice Area [26.05 cm ²]
50	328	498	722
100	450	682	988
150	533	807	1170
200	593	899	1303
250	638	966	1400
300	669	1014	1470
350	690	1046	1516
400	701	1062	1540
450	704	1067	1546
500	704	1067	1546
550	704	1067	1546
600	704	1067	1546
650	704	1067	1546
700	704	1067	1546
750	704	1067	1546

Model 337

Non-code¹ and ASME Section VIII Air (English, SCFM)

Set Pressure (psig)	Valve Inlet and Outlet Size		
	2"	2 1/2"	3"
1	240	364	527
5	531	805	1166
10	741	1127	1628
15	948	1436	2081
20	1092	1656	2399
25	1237	1875	2718
30	1382	2095	3036
35	1542	2337	3386
40	1701	2578	3736
45	1860	2820	4086
50	2020	3061	4436
55	2179	3303	4786
60	2338	3544	5136

Note

1. No code stamp or 'NB' on nameplate below 15 psig set.

Non-code¹ and ASME Section VIII Air [Metric, Nm³/h]

Set Pressure [barg]	Valve Inlet and Outlet Size		
	50 mm	63 mm	80 mm
0.5	1049	1589	2303
1.0	1457	2208	3200
1.5	1888	2861	4147
2.0	2235	3387	4910
2.5	2613	3959	5739
3.0	2995	4538	6579
3.5	3377	5117	7418
4.0	3760	5696	8258

Note

1. No code stamp or 'NB' on nameplate below 1.1 barg set.

Models 215V ~~and 337~~

Model Number/Order Guide

Model Number Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Example	2	1	5	V	—	H	0	1	A	Q	E	0	0	0	6
Model															
215V															
337															
Inlet Size															
H - 2-inch [50.8 mm]															
2 1/2-inch [63.5 mm]															
3-inch [76.2 mm]															
Variation (01 through 99)															
01 - Bronze Disc and Nozzle															
03 - SS Disc and Nozzle															
09 - BOP Connections															
Design Revision															
Indicates non-interchangeable revision. Current Design is at Revision 'A'															
Valve Service															
R - Air ASME Section VIII (Model 337 only)															
Q - Vacuum (Model 215V only)															
N - Non-code Air/Gas (Model 337 only)															
Spring Material															
E - SS Type 316															
M - SS (20 psi thru 60 psi set) type 17-7															
Set Pressure															
Model 337, 1 psig [0.7 barg] (0001) through 60 psig [4.1 barg] (0000)															
Model 215V, 2-inch HG [68 mbarg] (0002) through 29-inch HG [982 mbarg] (0029) vacuum															

Facility Phone: 828-669-3700

tyco / Valves & Controls

www.kunklevalve.com

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KUNKLE PRESSURE RELIEF VALVES

Installation and Operating Instructions

Pre-Installation Handling

This pressure relief valve is designed to protect equipment from overpressure. The valve should be handled with care, not subjected to heavy shock loads, and protected to prevent contamination from getting inside. It should be installed correctly per A.S.M.E. Boiler & Pressure Vessel Code requirements. Failure to do so could result in property damage or serious injury to personnel. When hoisting the valve into position for installation, care should be exercised so that lifting straps do not contact the valve lift lever.

Installation

Always wear proper safety equipment, including safety glasses and ear protection.

1. Mount the valve in a vertical position so that the valve body is self-draining. If a body drain port is provided, make sure it is open when required by the ASME code. Do not plug any bonnet vent openings. The inlet piping should be as short as possible, with no elbows, and equal to or greater than the size of the pressure relief valve inlet connection. This will help to limit the inlet pressure drop to 3% or less when the valve is relieving.
2. When discharge piping is connected to valve outlet, make sure it is self draining if a body drain port is not used. The valve should not be connected to any discharge pipe that contains pressure before the valve opens or to any pipe where the pressure build-up is greater than 10% of the set pressure when the valve is open and relieving.

Discharge piping, other than a short tailpipe, must be supported. For steam service, a drip pan elbow or flexible connection between the valve and the pipe should be used to prevent excessive pipe stress, due to thermal expansion, from being imposed on the valve body.

3. For threaded valves, to prevent sealing compound from entering and damaging the valve, apply a small amount of pipe thread sealing compound to external threads only. Do not put any sealing compound on the first thread or on any internal threads. To do so may cause the sealing compound to enter the valve and cause seat leakage.

Do not use the valve body or bonnet for installing the valve in threaded connections. Use the wrench flats provided to tighten the valve to the connecting pipe, and do not overtighten. To do so may cause valve leakage.

4. For flanged valves, use new gaskets and tighten the mounting studs evenly.

Operation

1. Maintain a system operating pressure at least 5 psig or 10% below the set pressure of the valve, whichever is greater. Operating too close to the valve set pressure will cause seat leakage and will shorten the time between valve maintenance.
2. Do not use the safety valve as a control valve to regulate system operating pressure. Excessive operation will cause the seat to leak and will require more frequent valve maintenance.
3. ASME Section I and VIII valves equipped with lift levers are designed to be operated only when the system pressure is 75% of set pressure or greater. ASME Section IV valves may be operated at any set pressure. When hand operating the valve, hold it open long enough to purge any foreign matter from the seat area. If a cable or wire is attached to the lift lever for remote actuation, make sure the direction of pull is the same as it would be if the lever were pulled directly by hand.

Maintenance

Maintenance should be performed on a regular basis. An initial inspection interval of 12 months is recommended. Depending on the service conditions and the condition of the valve, the inspection interval may be decreased or increased. Use only Kunkle parts for repair. Depending on the local jurisdictional requirements where the valve is installed, repairs may have to be made by a repair facility holding a VR stamp.

WARNING!

Removal of the seal wires or any attempt to adjust, repair or modify this product by non-qualified or non-authorized persons voids the product guarantee and may cause serious damage to equipment, personal injury, and death. Kunkle Valve is not liable for any damage resulting from misuse or misapplication of its products.

Kunkle Valve Division

Phone: 828-669-5515

953 Old US 70, Black Mountain, NC 28711

Rev B 01/14/2002

Fax: 828-669-4017

Procedure to Reset Kunkle Vacuum Relief Valves

To field reset a Kunkle vacuum relief valve, first turn off the vacuum pump that the valve serves. After the equipment completely stops, you can begin to work on the valve. Note that it is potentially dangerous to adjust the valve while the vacuum pump is in operation.

The valve setting is maintained by compressing a spring which is located within the valve body. This spring is compressed by turning the bronze valve cap clockwise until the necessary compression is obtained.

Begin by clipping the seal on the lock wire holding the two nameplate screws in place. Remove the nameplate screws. You must remove these screws in order to turn the valve body cap. Now rotate the valve body cap on full turn. Replace the nameplate screws. Clear all loose items away from the inlet of the valve. Turn on the vacuum pump and induce the desired relief valve setting vacuum level on the system. If the valve opens you have not sufficiently increased compression. Shut off the pump, remove the nameplate screws and turn the valve cap again one full turn. Follow the test procedure as above. Repeat until the desired set point is obtained. Once the final set point has been reached, replace the nameplate screws and reseal with a new lock wire seal.

In no case should the set point of the valve be increased in excess of the vacuum pumps maximum design capability or to the point that the motor exceeds its nameplate horse power rating (including service factor).

Noise Reduction Accessories

Weatherproof All-Metal Sound Attenuating Enclosures for Rotron Blowers

Frameless sound attenuating enclosures are a proven way to reduce regenerative blower mechanical noise when additional mufflers are just not enough. Additional enclosure options are available.

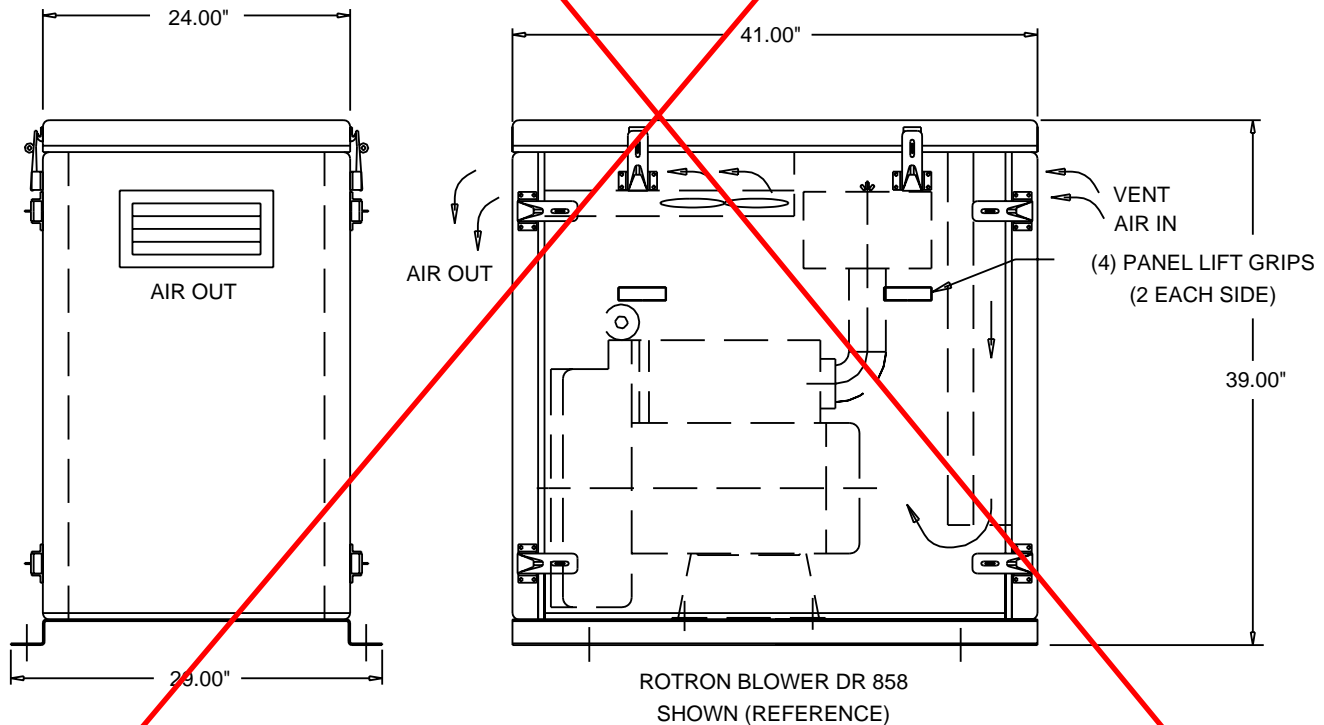
Model No.	Part No.	Blower Size	Dimensions
SAE24W72F	551607	656, 707, 808, 858	24"W x 39"H x 41"L
SAE30W72F	551608	909, 979, P9, S9	30"W x 48"H x 50"L
SAE34W72F	551609	14, P13, S13	34"W x 47"H x 55"L
SAE36W72F	551610	P15, S15	36"W x 52"H x 60"L

FEATURES:

- Excellent noise reduction (~10 dBa)
- Resistance to elements and aesthetic appearance
- Compact size for ease of installation
- Easy access for routine maintenance (removable roof and sidewalls)

SPECIFICATIONS:

- Roof, floor and walls: Galvanized 16 ga carbon steel sheet metal
- Louvers and/or hood: Riveted aluminum
- Hardware: Chrome plated aluminum handles with stainless steel fasteners
- Latches: Over center galvanized with adjustable tension and padlock eye
- Sound attenuating material: 2" Rigid polyester foam with mylar facing (rated UL-94)
- Exterior finish: Polyurethane enamel
- Enclosure ventilation: 1/3 HP, 230/460V, 3 phase 50/60 Hz fan
- Fan guard: Nickel plated wire type



Part No. 551607 with Blower DR858 shown as reference

Blower Model Reference Key	
A = SPIRAL	E = DR/EN/CP 656, 6, 623, S7
B = DR/EN/CP 068, 083, 101, 202	F = DR/EN/CP 707, 808, 858, S9, P9 (Inlet Only)
C = DR/EN/CP 303, 312, 313, 353	G = DR/EN/CP 823, S13, P13 (Inlet Only)
D = DR/EN/CP 404, 454, 513, 505, 555, 523	H = DR/EN/CP 909, 979, 1223, 14, S15, P15 (Inlet Only)

AMETEK Rotron Industrial Products strives to maintain a complete inventory of accessories to complement the Rotron Regenerative Product Line. If there is an Accessory

Product that is not listed in this Accessory Guide, please do not hesitate to contact AMETEK Rotron Industrial's Application Engineering Department directly with your requirements.

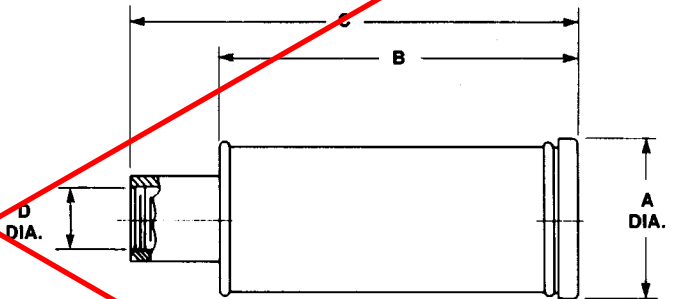
Inlet/Outlet Muffler (Single Connection)

Mufflers lower blower noise in areas where reduced sound levels are required.

SPECIFICATIONS:

HOUSING – Steel

MEDIA – Acoustical Material



Part Number	Reference Blower Model	Connection	Dimensions (Inches)			
		Inlet	A	B	C	D
523627	B	1.0 NPT	4.00	10.93	13.98	1.00
516838	B	1.0 SO	1.90	5.16	6.23	1.00
523626	C	1.25 NPT	4.00	10.93	14.07	1.25
523625	D	1.50 NPT	4.00	10.93	14.57	1.50
523624	E	2.00 NPT	4.00	10.93	12.16	2.00
523623	E	2.00 NPSC	4.00	10.93	12.43	2.00
523622	E	2.00 NPT	4.00	15.75	16.95	2.00

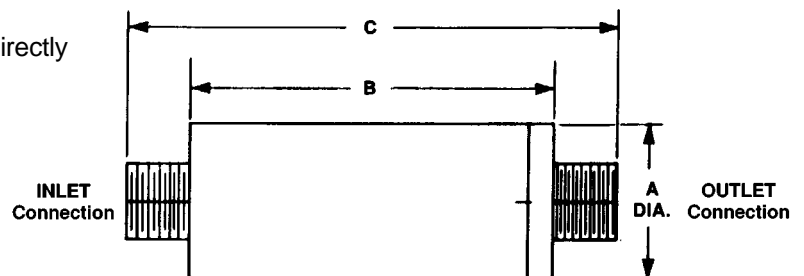
Inline Muffler (Dual Connection)

Inline Mufflers are utilized for noise reduction in applications where piping systems are connected directly to both ends of the muffler.

SPECIFICATIONS:

HOUSING – Steel

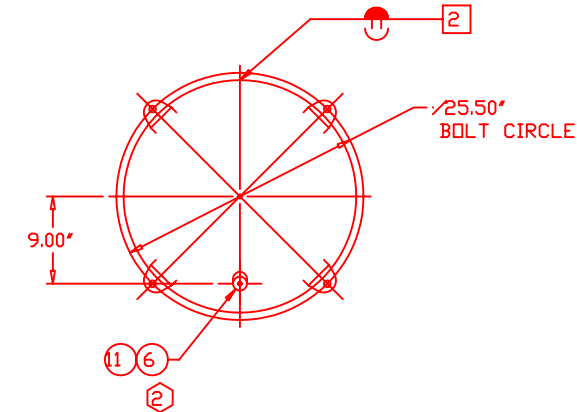
MEDIA – Acoustical Material



Part Number	Reference Blower Model	Connection		Dimensions (Inches)		
		Inlet	Outlet	A	B	C
550888	D	1.5 NPT-M	2.0 NPT-F	4.00	12.75	15.5
522948	E	2.0 NPT-M	2.0 NPSC-F	4.00	15.75	18.45
520900	E	2.00 NPSC F	2.0 NPSC F	4.38	15.75	18.45
551377	E	2.00 NPT-M	2.00 NPT-M	4.00	15.75	18.15
516185	F	2.50 NPT-M	2.50 NPT-F	6.12	11.75	16.12
511569	G	3.00 NPT-M	3.0 NPT-F	7.00	18.00	22.25
515210	G	4.00 NPT-M	4.0 NPT-F	10.00	24.00	30.00
551565	G	4.00 NPT-M	4.0 NPT-M	10.00	24.00	30.00
516264	H	4.00 NPT-M	4.0 NPT-F	8.00	22.00	27.75
516265	H	6.00 NPT-M	6.0 NPT-F	12.00	30.00	36.75

Section 3

Air/Water Separator

[illegible]

DESIGN & CALCULATIONS COMPLY WITH
A.S.M.E. CODE SECTION VIII DIV. 1

DWG. CHECKED BY.....
 DWG. APPROVED BY.....

DATE _____

NO.	DATE	REVISION	QCM	NO.	DATE	REVISION	QCM	HEAD THK: .131 MIN.	MAT'L SA414-G	EFF 85%
7	5/12/00	CHANGE PAINT SPEC.	BW	1	5/4/89	ADDED C.I. PLUG	GJ	SHELL THK: .159 NOM.	MAT'L SA414-G	EFF 70%
8	10/30/00	46" WAS 48" TALL		2	5/6/89	WAS COUPLING	GJ	NAT'L BD. YES		
				3	8/7/91	WAS C.I. PLUG	CC	STAMP: "U" STAMP	MAWP 200 PSI AT 450	
				4	11/18/91	GENERAL REVISION	CC	CRN: L4034.5C	MDMT -20 °F AT 200	
				5	3/26/97	REVISED & REDRAWN	BW	REF: SFI STOCK	TEST: HYDRO AT 260	
				6	1/07/00	UPDATE TO 99 ADDENDA	BW		PNEU. AT 260	

DAKVILLE,ONT.		ABINGDON,VA
DRAWN BY: RGD	P/N	A10045
DATE 3/25/89		

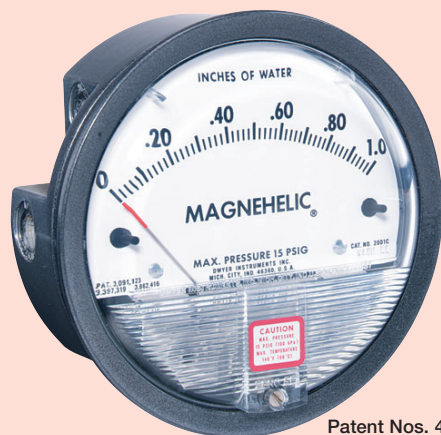
Section 4

Instrumentation

Series
2000

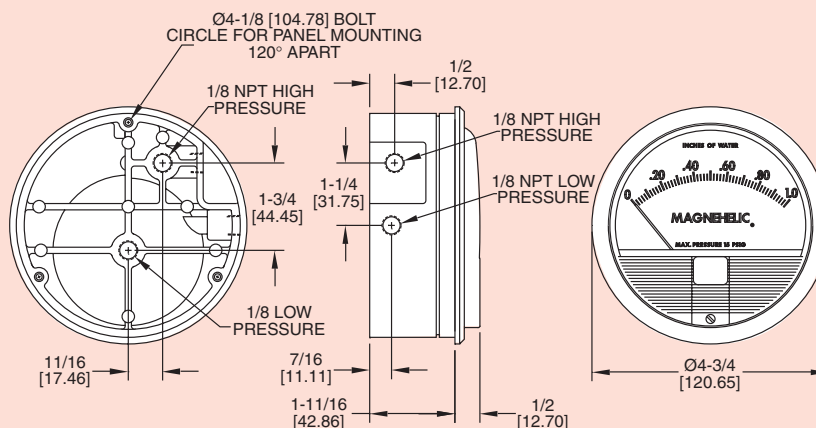
Magnehelic® Differential Pressure Gages

Indicate positive, negative or differential. Accurate within 2%.



Patent Nos. 4,030,365
5,012,678

Standard Magnehelic® Pressure Gage has a large, easy-to-read 4" dial.



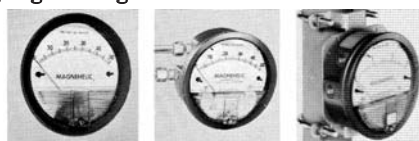
Dimensions, Standard Series 2000 Magnehelic® Pressure Gages.
(Slightly different on medium and high pressure models)

Select the Dwyer Magnehelic® gage for high accuracy — guaranteed within 2% of full scale — and for the wide choice of 81 models available to suit your needs precisely. Using Dwyer's simple, frictionless Magnehelic® movement, it quickly indicates low air or non-corrosive gas pressures — either positive, negative (vacuum) or differential. The design resists shock, vibration and over-pressures. No manometer fluid to evaporate, freeze or cause toxic or leveling problems. It's inexpensive, too.

The Magnehelic® is the industry standard to measure fan and blower pressures, filter resistance, air velocity, furnace draft, pressure drop across orifice plates, liquid levels with bubbler systems and pressures in fluid amplifier or fluidic systems. It also checks gas-air ratio controls and automatic valves, and monitors blood and respiratory pressures in medical care equipment.

NOTE: Do Not use with Hydrogen gas. Dangerous reactions will occur.

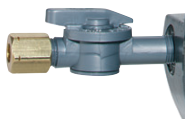
MOUNTING. A single case size is used for most models of Magnehelic® gages. They can be flush or surface mounted with standard hardware supplied. With the optional A-610 Pipe Mounting Kit they may be conveniently installed on horizontal or vertical 1/4" - 2" pipe. Although calibrated for vertical position, many ranges above 1" may be used at any angle by simply re-zeroing. However, for maximum accuracy, they must be calibrated in the same position in which they are used. These characteristics make Magnehelic® gages ideal for both stationary and portable applications. A 4 1/8" hole is required for flush panel mounting. Complete mounting and connection fittings plus instructions are furnished with each instrument.



Flush ...Surface...or Pipe Mounted

VENT VALVES

In applications where pressure is continuous and the Magnehelic® gage is connected by metal or plastic tubing which cannot be easily removed, we suggest using Dwyer A-310A vent valves to connect gage. Pressure can then be removed to check or re-zero the gage.



HIGH AND MEDIUM PRESSURE MODELS

Installation is similar to standard gages except that a 4 1/8" hole is needed for flush mounting. The medium pressure construction is rated for internal pressures up to 35 psig and the high pressure up to 80 psig. Available for all models. Because of larger case, the medium pressure and high pressure models will not fit in a portable case size. Weight 1 lb., 10 oz. Installation of the A-321 safety relief valve on standard Magnehelic® gages often provides adequate protection against infrequent overpressure.

SPECIFICATIONS

Service: Air and non-combustible, compatible gases. (Natural Gas option available.)

Wetted Materials: Consult Factory.

Housing: Die cast aluminum case and bezel, with acrylic cover, Exterior finish is coated gray to withstand 168 hour salt spray corrosion test.

Accuracy: +/- 2% of full scale (±3% on - 0 and ±4% on - 00 ranges), throughout range at 70°F. (21.1°C)

Pressure Limits: -20" Hg. to 15 psig.† (-0.677 bar to 1.034 bar); MP option; 35 psig (2.41 bar), HP option; 80 psig (5.52 bar).

Overpressure: Relief plug opens at approximately 25 psig (1.72 kPa), standard gages only.

Temperature Limits: 20 to 140°F.* (-6.67 to 60°C).

Size: 4" (101.6 mm) Diameter dial face.

Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.

Process Connections: 1/8" female NPT duplicate high and low pressure taps - one pair side and one pair back.

Weight: 1 lb. 2 oz. (510g), MP & HP 2 Lb. 2 oz. (963g).

Standard Accessories: Two 1/8" NPT plugs for duplicate pressure taps, two 1/8" pipe thread to rubber tubing adapter and three flush mounting adapters with screws. (Mounting and snap ring retainer substituted for 3 adapters in MP & HP gage accessories.)

*Low temperature models available as special option.

†For applications with high cycle rate within gage total pressure rating, next higher rating is recommended. See Medium and High pressure options at lower left.

OPTIONS AND ACCESSORIES

Transparent overlays

Furnished in red and green to highlight and emphasize critical pressures.



Adjustable signal flag

Integral with plastic gage cover. Available for most models except those with medium or high pressure construction. Can be ordered with gage or separate.



LED Setpoint Indicator

Bright red LED on right of scale shows when setpoint is reached. Field adjustable from gage face, unit operates on 12-24 VDC. Requires MP or HP style cover and bezel.



Portable units

Combine carrying case with any Magnehelic® gage of standard range, except high pressure connection. Includes 9 ft. (2.7 m) of 3/8" I.D. rubber tubing, standhang bracket and terminal tube with holder.



Air filter gage accessory package

Adapts any standard Magnehelic® for use as an air filter gage. Includes aluminum surface mounting bracket with screws, two 5 ft. (1.5 m) lengths of 1/4" aluminum tubing two static pressure taps and two molded plastic vent valves, integral compression fittings on both tips and valves.

Quality design and construction features

Bezel provides flange for flush mounting in panel.

Clear plastic face is highly resistant to breakage. Provides undistorted viewing of pointer and scale.

Precision litho-printed scale is accurate and easy to read.

Red tipped pointer of heat treated aluminum tubing is easy to see. It is rigidly mounted on the helix shaft.

Pointer stops of molded rubber prevent pointer over-travel without damage.

"Wishbone" assembly provides mounting for helix, helix bearings and pointer shaft.

Jeweled bearings are shock-resistant mounted; provide virtually friction-free motion for helix. Motion damped with high viscosity silicone fluid.

Zero adjustment screw is conveniently located in the plastic cover, and is accessible without removing cover. O-ring seal provides pressure tightness.

O-ring seal for cover assures pressure integrity of case.

Blowout plug of silicone rubber protects against overpressure on 15 PSIG rated models. Opens at approximately 25 PSIG.

Die cast aluminum case is precision made and iridite-dipped to withstand 168 hour salt spray corrosion test. Exterior finished in baked dark gray hammerloid. One case size is used for all standard pressure options, and for both surface and flush mounting.

Silicone rubber diaphragm with integrally molded O-ring is supported by front and rear plates. It is locked and sealed in position with a sealing plate and retaining ring. Diaphragm motion is restricted to prevent damage due to overpressures.

Calibrated range spring is flat spring steel. Small amplitude of motion assures consistency and long life. It reacts to pressure on diaphragm. Live length adjustable for calibration.

Samarium Cobalt magnet mounted at one end of range spring rotates helix without mechanical linkages.

Helix is precision made from an alloy of high magnetic permeability. Mounted in jeweled bearings, it turns freely, following the magnetic field to move the pointer across the scale.

SERIES 2000 MAGNEHELIC® — MODELS AND RANGES STOCKED MODELS in bold

The models below will fulfill most requirements. Page 5 also shows examples of special models built for OEM customers. For special scales furnished in ounces per square inch, inches of mercury, metric units, etc., contact the factory.

Dual Scale English/Metric Models		
Model Number	Range, In. W.C.	Range, Pa or kPa
2000-0D	0-0.5	0-125 Pa
2001D	0-1.0	0-250 Pa
2002D	0-2.0	0-500 Pa
2003D	0-3.0	0-700 Pa
2004D	0-4.0	0-1.0 kPa
2006D	0-6.0	0-1.5 kPa
2008D	0-8.0	0-2.0 kPa
2010D	0-10	0-2.5 kPa

Model Number	Range Inches of Water	Model Number	Range Zero Center Inches of Water	Dual Scale Air Velocity Units			Model Number	Range, CM of Water	Model Number	Range, Pascals
				Model Number	Range in W.C.I Velocity, F.P.M.					
2000-00†	0-.25	2300-0†	.25-0-.25	2000-00AV	0-.25/300-2000		2000-15CM	0-15	2000-60 Pa†	0-60
2000-0†	0-.50	2301	.5-0-.5	2000-0AV	0-.50/500-2800		2000-20CM	0-20	2000-125 Pa†	0-125
2001	0-1.0	2302	1-0-1	2001AV	0-1.0/500-4000		2000-25CM	0-25	2000-250 Pa	0-250
2002	0-2.0	2304	2-0-2	2002AV	0-2.0/1000-5600		2000-50CM	0-50	2000-500 Pa	0-500
2003	0-3.0	2310	5-0-5	2010AV	0-10/2000-12500		2000-80CM	0-80	2000-750 Pa	0-750
2004	0-4.0	2320	10-0-10	For use with pitot tube.			2000-100CM	0-100	Zero Center Ranges	
2005	0-5.0	2330	15-0-15	Model Number		Range MM of Water	2000-150CM	0-150	2300-250 Pa	125-0-125
2006	0-6.0	Model Number	Range PSI				2000-200CM	0-200	2300-500 Pa	250-0-250
2008	0-8.0			2201	0-1	2000-6MM†	0-6	Zero Center Ranges		Model Number
2010	0-10	2202	0-2					2000-10MM	0-10	
2015	0-15	2203	0-3	2000-25MM	0-25	2300-10CM	5-0-5			2000-1 kPa
2020	0-20	2204	0-4			2000-50MM	0-50	2300-30CM	15-0-15	2000-1.5 kPa
2030	0-30	2205	0-5	2000-80MM	0-80			†These ranges calibrated for vertical scale position.		
2040	0-40	2210*	0-10			2000-100MM	0-100			
2050	0-50	2215*	0-15	Zero Center Ranges				2000-4 kPa	0-4	
2060	0-60	2220*	0-20	2300-20MM†	10-0-10	2000-5 kPa	0-5			
2080	0-80	2230**	0-30			2000-8 kPa	0-8			
2100	0-100	*MP option standard **HP option standard			Special Purpose Ranges		2000-10 kPa	0-10		
2150	0-150						2000-15 kPa	0-15		
Accessories				Options — To order, add suffix: I.E. 2001-ASF ASF (Adjustable Signal Flag) HP (High Pressure Option) LT (Low Temperatures to -20°F) MP (Med. Pressure Option) SP (Setpoint Indicator)		Scale No. 2401 Scale No. 2402 Square Root Blank Scale Specify Range Specify Range		2000-20 kPa	0-20	
								2000-25 kPa	0-25	
Scale Overlays — Red, Green, Mirrored or Combination, Specify Locations						Model 2000-00N. range -.05 to +.20" W.C. For room pressure monitoring		2000-30 kPa	0-30	
								Zero Center Ranges		
								2300-1 kPa	.5-0-.5	
								2300-3 kPa	1.5-0-1.5	

Accessories

A-310A, 3-Way Vent Valve.....
A-321, Safety Relief Valve.....
A-432, Portable Kit.....
A-605, Air Filter Kit.....
A-610, Pipe Mount Kit

Options

— To order, add suffix: I.E. 2001-ASF
 ASF (Adjustable Signal Flag)
 HP (High Pressure Option)
 LT (Low Temperatures to -20°F)
 MP (Med. Pressure Option)
 SP (Setpoint Indicator)

Scale Overlays — Red, Green, Mirrored or Combination, Specify Locations

1011R01-0298P

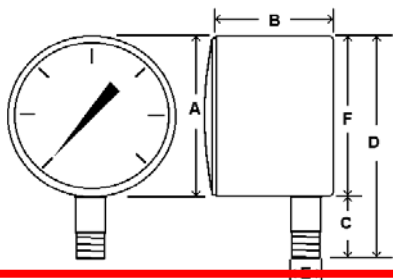
SPECIFICATIONS

- Chrome plated case
- Black steel case (u-clamp panel mnt)
- Brass internals and connection
- Dry non-fillable
- +/- 1.5 % accuracy

FEATURES

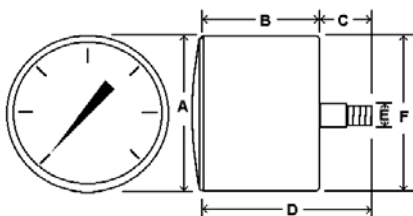
- 2 1/2" dial size with twist lock plastic lens
- zero adjustment screw on back of case
- 1/4" mnpt bottom or back connection
- Capsule type diaphragm to measure low pressures

LP1



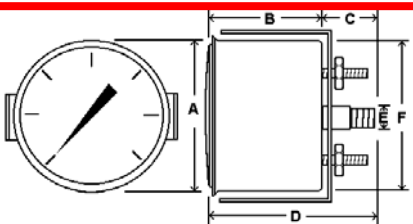
	2 1/2"		4"	
	IN	MM	IN	MM
A	2.60"	66	3.98"	101
B	1.70"	44	2.21"	56
C	.85"	22	1.56"	40
D	3.45"	87.5	5.49"	139
E	1/4"NPT		1/4" OR 1/2" NPT	
F	2.60"	66	3.98"	101

LP2



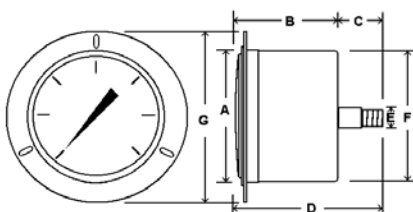
	2 1/2"		4"	
	IN	MM	IN	MM
A	2.62"	66.5	----	----
B	1.92"	49	----	----
C	.84"	21.5	----	----
D	2.75"	71	----	----
E	1/4"NPT		----	----
F	2.60"	66	----	----
G			----	----

LP3



	2 1/2"		4"	
	IN	MM	IN	MM
A	2.84"	72	----	----
B	1.88"	48	----	----
C	.84"	21.5	----	----
D	2.74"	69.5	----	----
E	1/4"NPT		----	----
F	2.60"	66.2	----	----
G	2.84	72	----	----

LP4



	2 1/2"		4"	
	IN	MM	IN	MM
A	2.61	66	----	----
B	1.89	48	----	----
C	.875	22.2	----	----
D	2.74	69.5	----	----
E	1/4"NPT		----	----
F	2.67	68	----	----
G	3.44	87.4	----	----

AVAILABLE RANGES:

200-0"wc Vacuum (2"Minor inc.)

160-0"wc Vacuum (2"Minor inc.)

100-0"wc Vacuum (1"Minor inc.)

60-0"wc vacuum (1"Minor inc.)

30-0"wc vacuum (.5"wc minor)

0-10"wc (.5"wc minor inc.)

0-15"wc (.2"wc minor inc.)

0-30"wc (.5"wc minor inc.)

20 oz./35"wc (.5"wc minor inc.)

35 oz./60"wc (1"wc minor inc.)

0-60"wc (1"wc minor inc.)

0-100"wc (2"wc minor inc.)

0-160"wc (5"wc minor inc.)

0-200"wc (5"wc minor inc.)

0-3 psi (.05 psi minor inc.)

0-5 psi (.1 psi minor inc.)

0-10 psi (.2 psi minor inc.)

NOTE: OTHER RANGES AVAILABLE UPON REQUEST, PLEASE CALL WITH ANY INQUIRIES

Quality design and construction features

Bezel provides flange for flush mounting in panel.

Clear plastic face is highly resistant to breakage. Provides undistorted viewing of pointer and scale.

Precision litho-printed scale is accurate and easy to read.

Red tipped pointer of heat treated aluminum tubing is easy to see. It is rigidly mounted on the helix shaft.

Pointer stops of molded rubber prevent pointer over-travel without damage.

"Wishbone" assembly provides mounting for helix, helix bearings and pointer shaft.

Jeweled bearings are shock-resistant mounted; provide virtually friction-free motion for helix. Motion damped with high viscosity silicone fluid.

Zero adjustment screw is conveniently located in the plastic cover, and is accessible without removing cover. O-ring seal provides pressure tightness.

O-ring seal for cover assures pressure integrity of case.

Blowout plug of silicone rubber protects against overpressure on 15 PSIG rated models. Opens at approximately 25 PSIG.

Die cast aluminum case is precision made and iridite-dipped to withstand 168 hour salt spray corrosion test. Exterior finished in baked dark gray hammerloid. One case size is used for all standard pressure options, and for both surface and flush mounting.

Silicone rubber diaphragm with integrally molded O-ring is supported by front and rear plates. It is locked and sealed in position with a sealing plate and retaining ring. Diaphragm motion is restricted to prevent damage due to overpressures.

Calibrated range spring is flat spring steel. Small amplitude of motion assures consistency and long life. It reacts to pressure on diaphragm. Live length adjustable for calibration.

Samarium Cobalt magnet mounted at one end of range spring rotates helix without mechanical linkages.

Helix is precision made from an alloy of high magnetic permeability. Mounted in jeweled bearings, it turns freely, following the magnetic field to move the pointer across the scale.

SERIES 2000 MAGNEHELIC® — MODELS AND RANGES STOCKED MODELS in bold

The models below will fulfill most requirements. Page 5 also shows examples of special models built for OEM customers. For special scales furnished in ounces per square inch, inches of mercury, metric units, etc., contact the factory.

Dual Scale English/Metric Models		
Model Number	Range, In. W.C.	Range, Pa or kPa
2000-00	0-0.5	0-125 Pa
2001D	0-1.0	0-250 Pa
2002D	0-2.0	0-500 Pa
2003D	0-3.0	0-700 Pa
2004D	0-4.0	0-1.0 kPa
2006D	0-6.0	0-1.5 kPa
2008D	0-8.0	0-2.0 kPa
2010D	0-10	0-2.5 kPa

Model Number	Range Inches of Water	Model Number	Range Zero Center Inches of Water	Dual Scale Air Velocity Units			Model Number	Range, CM of Water	Model Number	Range, Pascals
				Model Number	Range in W.C.I Velocity, F.P.M.					
2000-00†	0-.25	2300-0†	.25-0-.25	2000-00AV	0-.25/300-2000		2000-15CM	0-15	2000-60 Pa†	0-60
2000-01†	0-.50	2301	.5-0-.5	2000-0AV	0-.50/500-2800		2000-20CM	0-20	2000-125 Pa†	0-125
2001	0-1.0	2302	1-0-1	2001AV	0-1.0/500-4000		2000-25CM	0-25	2000-250 Pa	0-250
2002	0-2.0	2304	2-0-2	2002AV	0-2.0/1000-5600		2000-50CM	0-50	2000-500 Pa	0-500
2003	0-3.0	2310	5-0-5	2010AV	0-10/2000-12500		2000-80CM	0-80	2000-750 Pa	0-750
2004	0-4.0	2320	10-0-10	For use with pitot tube.			2000-100CM	0-100	Zero Center Ranges	
2005	0-5.0	2330	15-0-15	Model Number		Range MM of Water	2000-150CM	0-150	2300-250 Pa	125-0-125
2006	0-6.0	Model Number	Range PSI				2000-200CM	0-200	2300-500 Pa	250-0-250
2008	0-8.0			2201	0-1	2000-6MM†	0-6	Zero Center Ranges		Model Number
2010	0-10	2202	0-2					2000-10MM	0-10	2300-4CM
2015	0-15			2203	0-3	2000-25MM	0-25			2300-10CM
2020	0-20	2204	0-4					2000-50MM	0-50	
2025	0-25			2205	0-5	2000-80MM	0-80			†These ranges calibrated for vertical scale position.
2030	0-30	2210*	0-10					2000-100MM	0-100	
2040	0-40			2215*	0-15	Zero Center Ranges				
2050	0-50	2220*	0-20			2300-20MM†	10-0-10	2000-8 kPa	0-8	
2060	0-60			2230**	0-30					
2080	0-80							2000-15 kPa	0-15	
2100	0-100					2000-20 kPa	0-20			
2150	0-150					2000-25 kPa	0-25			
						2000-30 kPa	0-30	Zero Center Ranges		
								2300-1 kPa	.5-0-.5	1.5-0-1.5
								2300-3 kPa		
Accessories				Options — To order, add suffix: I.E. 2001-ASF				Special Purpose Ranges		
A-310A, 3-Way Vent Valve.....				ASF (Adjustable Signal Flag)				Scale No. 2401 Scale No. 2402		
A-321, Safety Relief Valve.....				HP (High Pressure Option)				Square Root Blank Scale		
A-432, Portable Kit				LT (Low Temperatures to -20°F)				Specify Range Specify Range		
A-605, Air Filter Kit				MP (Med. Pressure Option)				Model 2000-00N. range -.05 to		
A-610, Pipe Mount Kit				SP (Setpoint Indicator)				+20" W.C. For room pressure monitoring		
Scale Overlays — Red, Green, Mirrored or Combination, Specify Locations										

Accessories

A-310A, 3-Way Vent Valve.....
A-321, Safety Relief Valve.....
A-432, Portable Kit.....
A-605, Air Filter Kit.....
A-610, Pipe Mount Kit

Options

— To order, add suffix: I.E. 2001-ASF
 ASF (Adjustable Signal Flag)
 HP (High Pressure Option)
 LT (Low Temperatures to -20°F)
 MP (Med. Pressure Option)
 SP (Setpoint Indicator)

Special Purpose Ranges

Scale No. 2401 Scale No. 2402
 Square Root Blank Scale
 Specify Range Specify Range
 Model 2000-00N. range -.05 to
 +.20" W.C. For room pressure
 monitoring

Scale Overlays — Red, Green, Mirrored or Combination, Specify Locations

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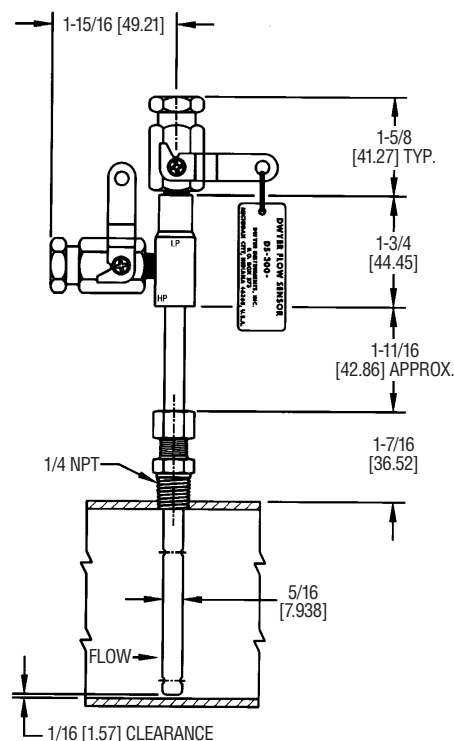
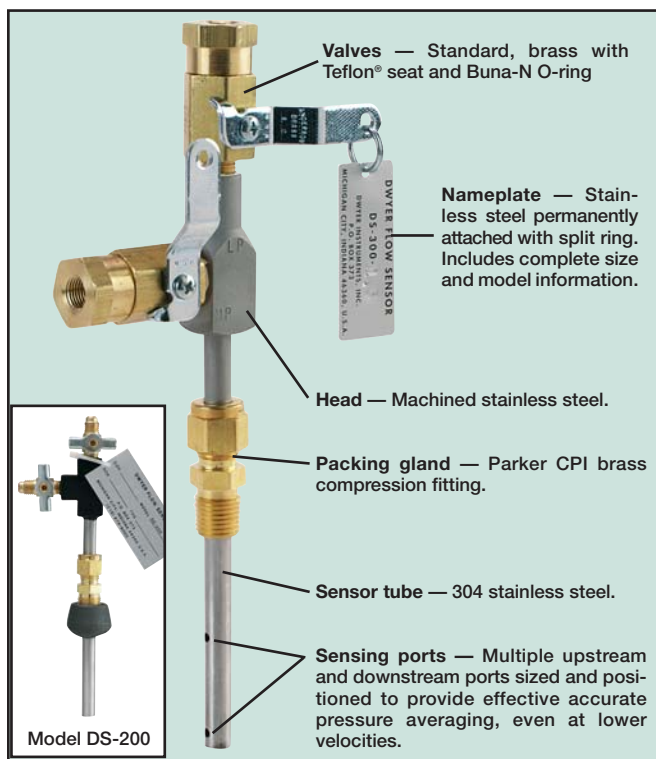


Series
DS

In-Line Flow Sensors

Use with the Dwyer Differential Pressure Gages or Transmitters

Air Velocity



Dwyer Flow Sensors are averaging Pitot tubes that provide accurate and convenient flow rate sensing for schedule 40 pipe. When purchased with a Dwyer Capsuhelic® differential pressure gage of appropriate range, the result is a flow indicating system delivered off the shelf at an economical price.

Pitot tubes have been used in flow measurement for years. Conventional pitot tubes sense velocity pressure at only one point in the flowing stream. Therefore, a series of measurements must be taken across the stream to obtain a meaningful average flow rate. The Dwyer flow sensor eliminates the need for "traversing" the flowing stream because of its multiple sensing points and built-in averaging capability.

Series DS-200 models are available in ten insertion lengths from 1" - 10". Operation is similar to DS-300 units. Basic differences are the multi-turn shut-off valves, 3/8" NPT mounting and installed 1/4" SAE 45° flared pressure connections.

Dwyer Series DS-300 flow sensors are designed to be inserted in the pipeline through a compression fitting. They are furnished with instrument shut-off valves on both pressure connections. Valves are fitted with 1/8" female NPT connections. Accessories include adapters with 1/4" SAE 45° flared ends compatible with hoses supplied with the Model A-471 Portable Capsuhelic® kit. Standard valves are rated at 200 psig (13.7 bar) and 200°F (93.3°C). Where valves are not required, they can be omitted at reduced cost. Series DS-300 flow sensors are available for pipe sizes from 1" to 10".

DS-400 Averaging Flow Sensors are quality constructed from extra strong 3/4" dia. stainless steel to resist increased forces encountered at higher flow rates with both air and water. This extra strength also allows them to be made in longer insertion lengths up to 24 inches (61 cm). All models include convenient and quick-acting quarter-turn ball valves to isolate the sensor for zeroing. Process connections to the valve assembly are 1/8" female NPT. A pair of 1/8" NPT × 1/4" SAE 45° flared adapters are included, compatible with hoses used in the Model A-471 Portable Capsuhelic® Gage

Kit. Supplied solid brass mounting adapter has a 3/4" dia. compression fitting to lock in required insertion length and a 3/4" male NPT thread for mounting in a thred-o-let (not included).

STOCKED MODELS in bold

— Select model with suffix which matches pipe size

DS-200-1"	DS-300-1"
DS-200-1 1/4"	DS-300-1 1/4"
DS-200-1 1/2"	DS-300-1 1/2"
DS-200-2"	DS-300-2"
DS-200-2 1/2"	DS-300-2 1/2"
DS-200-3"	DS-300-3"
DS-200-4"	DS-300-4"
DS-200-6"	DS-300-6"
DS-200-8"	DS-300-8"
DS-200-10"	DS-300-10"

DS-400-6"
DS-400-8"
DS-400-10"
DS-400-12"
DS-400-14"
DS-400-16"
DS-400-18"
DS-400-20"
DS-400-24"

Options and Accessories

A-160 Thredolet, 3/8" NPT, forged steel, 3000 psi
A-161 Brass Bushing, 1/8" x 3/8"
DS-200-VK Series DS Flow Sensors Valve Kit
Less Valves (DS-300) To order, add suffix -LV

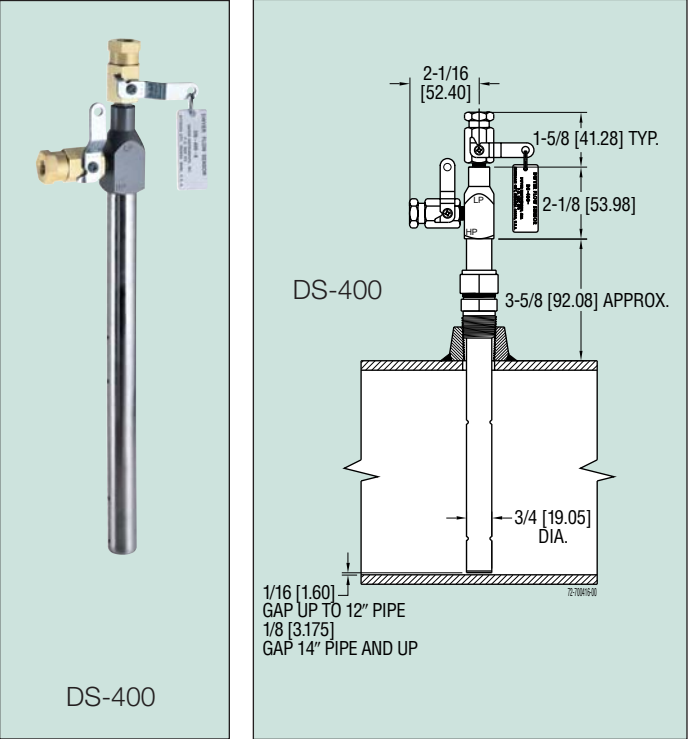
How To Order

Merely determine the pipe size into which the flow sensor will be mounted and designate the size as a suffix to Model DS-300. For example, a flow sensor to be mounted in a 2" pipe would be a Model No. DS-300-2".

For non-critical water and air flow monitoring applications, the chart below can be utilized for ordering a stock Capsuhelic® differential pressure gage for use with the DS-300 flow sensor. Simply locate the maximum flow rate for the media being measured under the appropriate pipe size and read the Capsuhelic® gage range in inches of water column to the left. The DS-300 sensor is supplied with installation and operating instructions, Bulletin F-50. It also includes complete flow conversion information for the three media conditions shown in the chart below. This information enables the user to create a complete differential pressure to flow rate conversion table for the sensor and differential pressure gage employed. Both the Dwyer Capsuhelic® gage and flow sensor feature excellent repeatability so, once the desired flow rate is determined, deviation from that flow in quantitative measure can be easily determined. You may wish to order the adjustable signal flag option for the Capsuhelic® gage to provide an easily identified reference point for the proper flow.

Capsuhelic® gages with special ranges and/or direct reading scales in appropriate flow units are available on special order for more critical applications. Customer supplied data for the full scale flow (quantity and units) is required along with the differential pressure reading at that full flow figure. Prior to ordering a special Capsuhelic® differential pressure gage for flow read-out, we recommend you request Bulletin F-50 to obtain complete data on converting flow rates of various media to the sensor differential pressure output. With this bulletin and after making a few simple calculations, the exact range gage required can easily be determined.

Large 3/4 Inch Diameter for Extra Strength in Lengths to 24 Inches



Air Velocity

GAGE RANGE (IN. W.C.)	MEDIA @ 70°F	FULL RANGE FLOWS BY PIPE SIZE (APPROXIMATE)									
		1"	1½"	1¾"	2"	2½"	3"	4"	5"	8"	10"
2	Water (GPM)	4.8	8.3	11.5	20.5	30	4	86	205	350	560
	Air @ 14.7 PSIA (SCFM)	19.0	33.0	42.0	65.0	113	18	330	760	1340	2130
	Air @ 100 PSIG (SCFM)	50.0	90.5	120.0	210.0	325	51	920	2050	3600	6000
5	Water (GPM)	7.7	14.0	18.0	34.0	47	7	138	320	560	890
	Air @ 14.7 PSIA (SCFM)	30.0	51.0	66.0	118.0	178	28	510	1100	2150	3400
	Air @ 100 PSIG (SCFM)	83.0	142.0	190.0	340.0	610	82	1600	3600	5700	10000
10	Water (GPM)	11.0	19.0	25.5	45.5	67	11	195	450	800	1260
	Air @ 14.7 PSIA (SCFM)	41.0	72.0	93.0	163.0	250	41	725	1690	3040	4860
	Air @ 100 PSIG (SCFM)	120.0	205.0	275.0	470.0	740	110	2000	4600	8100	15000
25	Water (GPM)	18.0	32.0	40.5	72.0	108	17	310	720	1250	2000
	Air @ 14.7 PSIA (SCFM)	63.0	112.0	155.0	255.0	390	64	1130	2630	4860	7700
	Air @ 100 PSIG (SCFM)	185.0	325.0	430.0	760.0	1200	180	3300	7200	13000	22000
50	Water (GPM)	25.0	44.0	57.5	100.0	152	24	435	1000	1800	
	Air @ 14.7 PSIA (SCFM)	90.0	161.0	205.0	360.0	560	90	1600	3700	6400	
	Air @ 100 PSIG (SCFM)	260.0	460.0	620.0	1050.0	1700	260	4600	10000	18500	
100	Water (GPM)	36.5	62.0	82.0	142.0	220	34	620	1500		
	Air @ 14.7 PSIA (SCFM)	135.0	230.0	300.0	505.0	800	125	2290	5000		
	Air @ 100 PSIG (SCFM)	370.0	660.0	870.0	1500.0	2300	360	6500	15000		

Model A-471 Portable Kit

The Dwyer Series 4000 Capsuhelic® differential pressure gage is ideally suited for use as a read-out device with the DS-300 Flow Sensors. The gage may be used on system pressures of up to 500 PSIG even when the flow sensor differential pressure to be read is less than 0.5" w.c. With accuracy of ±3% of full scale, the Capsuhelic® gage can be used in ambient temperatures from 32 to 200°F (0 to 93.3°C). Zero and range adjustments are made from outside the gage. The standard gage with a die cast aluminum housing can be used with the flow sensor for air or oil applications. For water flow measurements, the optional forged brass housing should be specified. The Capsuhelic® gage may be panel or surface mounted and permanently plumbed to the flow sensor if desired. The optional A-610 pipe mounting bracket allows the gage to be easily attached to any 1¼" - 2" horizontal or vertical pipe.

For portable operation, the A-471 Capsuhelic® Portable Gage Kit is available complete with tough polypropylene carrying case, mounting bracket, 3-way manifold valve, two 10' high pressure hoses, and all necessary fittings. See pages 8 and 9 for complete information on the Capsuhelic® gage.



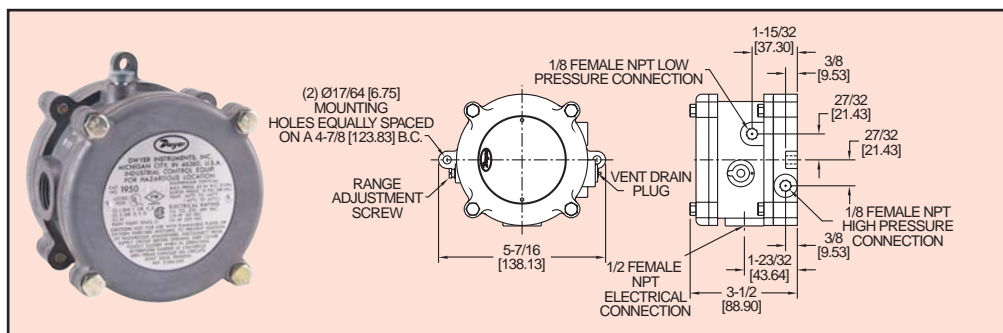
CAPSUHELIC® GAGE SHOWN INSTALLED IN A-471 PORTABLE KIT



Series
1950

Explosion-Proof Differential Pressure Switches

Compact, Low Cost, Explosion-proof and Weatherproof



Model 1950 Explosion-Proof Differential Pressure Switch combines the best features of the popular Dwyer series 1900 with an integral explosion-proof and weather-proof housing, making it an exceptional value for either application. It is CE, UL and CSA listed, FM approved for use in Class I, Div 1, Groups C and D, Class II Groups E, F, and G and Class III hazardous atmospheres (NEMA 7 & 9), Raintight (NEMA 3). Weather-proof features include a drain plug and O-ring seal in cover. Electrical connections are easily made by removing front cover. For convenience the set point adjustment screw is located on the outside of the housing. Twelve models offer set points from .03 to 20" w.c. (7.5 kPa to 5 kPa) and from .5 to 50 psi (0.035 to 3.5 bar). The unit is very light and compact — about half the weight and bulk of other explosion-proof or weather-proof switches with separate enclosures.

SPECIFICATIONS

Service: Air and non-combustible, compatible gases.

Wetted Materials: Consult Factory.

Temperature Limits: -40 to 140°F (-40 to 60°C); 0 to 140°F (-17.8 to 60°C) for 1950P-8, 15, 25, and 50. -30 to 130°F (-34.4 to 54.4°C) for 1950-02.

Pressure Limits:

Continuous: 1950's - 45" w.c. (0.11 bar); 1950P's - 35 psi (2.41 bar); 1950P-50 only - 70 psi (4.83 bar).

Surge: 1950's - 10 psi (0.69 bar), 1950P's - 50 psi (3.45 bar), 1950P-50 only - 90 psi (6.21 bar).

Enclosure Rating: IP64, NEMA 3, 7 and 9.

Switch Type: Single-pole double-throw (SPDT).

Electrical Rating: 15 A @ 125, 250, 480 VAC, 60 Hz. Resistive 1/8 HP @ 125 VAC, 1/4 HP @ 250 VAC, 60 Hz.

Electrical Connections: 3 screw type, common, normally open and normally closed.

Process Connections: 1/8" female NPT.

Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.

Set Point Adjustment: Screw type on top of housing.

Weight: 3.25 lb (1.5 kg); 1950-02 model, 4.4 lb (2 kg).

Agency Approvals: CE, UL, CSA, FM.

SERIES 1950 SWITCHES - STOCKED MODELS, OPERATING RANGES AND DEAD BANDS

Model Number	Range, Inches W.C.	Approximate Dead Band at	
		Min. Set Point	Max. Set Point
1950-02	.03 to .10	.025	.05
1950-00	.07 to .15	.04	.05
1950-0	.15 to .50	.10	.15
1950-1	.4 to 1.6	.15	.20
1950-5	1.4 to 5.5	.30	.40
1950-10	3 to 11	.40	.50
1950-20	4 to 20	.40	.60

Model* Number	Range, PSID	Approximate Dead Band at	
		Min. Set Point	Max. Set Point
1950P-2	0.5 to 2	.3	.3
1950P-8	1.5 to 8	1.0	1.0
1950P-15	3 to 15	.9	.9
1950P-25	4 to 25	.7	.7
1950P-50	15 to 50	1.0	1.5

CAUTION: For use only with air or compatible gases. Applications with hazardous atmospheres and a single positive pressure may require special venting.

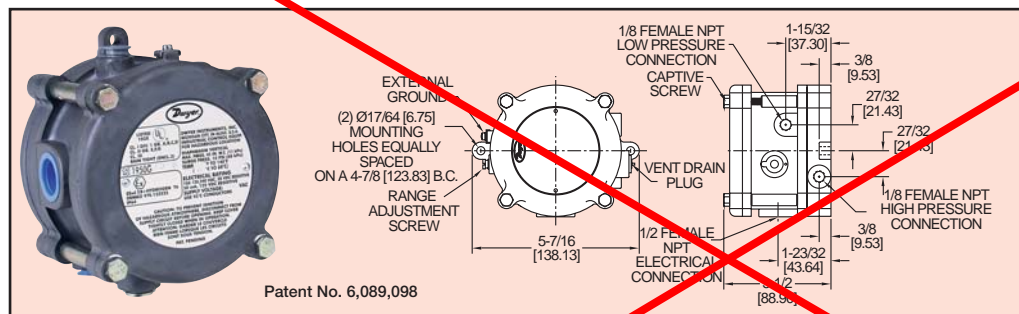
*P=PSID range models



Series
1950G

Explosion-Proof Differential Pressure Switch

Explosion-Proof, Weatherproof, Compatible with Natural Gases



Patent No. 6,089,098

The Model 1950G Explosion-Proof Switch combines the best features of the popular Dwyer Series 1950 Pressure Switch with the benefit of natural gas compatibility. Units are rain-tight for outdoor installations, and are UL listed for use in Class I, Groups A, B, C, & D; Class II, Groups E, F, & G and Class III atmospheres, ATEX (approval pending) for EExd IIB & Hydrogen T6, and CSA & FM approved for Class I, Div 1, Groups B, C, D; Class II, Div 1, Groups E, F, G and Class III atmospheres. The 1950G is very compact, about half the weight and bulk of equivalent conventional explosion-proof switches.

Easy access to the SPDT relay and power supply terminals is provided by removing the top plate of the aluminum housing. A supply voltage of 24 VDC, 120 or 240 VAC is required. A captive screw allows the cover to swing aside while remaining attached to the unit. Adjustment to the set point of the switch can be made without disassembly of the housing.

SPECIFICATIONS

Service: Air and compatible combustible gases.

Wetted Materials: Contact Factory.

Temperature Limits: 0 to 140°F (18 to 60°C).

Note: Set point drift may occur with ambient temperature changes.

Pressure Limits: 45" w.c. (11.2 kPa) continuous; 10 psig (68.95 kPa) surge.

Enclosure Rating: IP64, NEMA 3, 7 and 9.

Switch Type: 1 Form C relay (SPDT).

Electrical Rating: 10A, 120/240 VAC, 28 VDC.

Resistive 50mA, 125 VDC.

Power Requirements: 24 VDC ±10%. 120 or 240 VAC ±10% optional.

Electrical Connections: Internal Terminal Block.

Process Connections: 1/8" female NPT.

Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.

Set Point Adjustment: Screw type on top of housing.

Weight: 2 lb, 15.7 oz (1.35 kg).

Agency Approvals: CE, UL, CSA, FM, ATEX pending.

STOCKED MODELS*

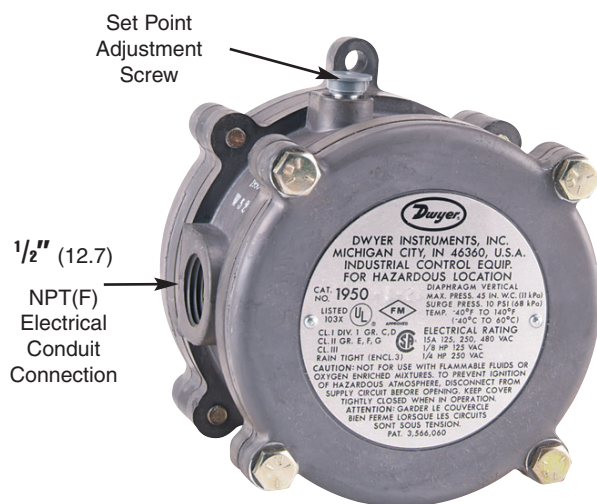
Model Number ¹	Range, Inches W.C.	Approximate Dead Band at	
		Min. Set Point	Max. Set Point
1950G-00-B-24	.07 to .15	.04	.06
1950G-0-B-24	.15 to .50	.06	.11
1950G-1-B-24	.4 to 1.6	.11	.29
1950G-5-B-24	1.4 to 5.5	.4	.9
1950G-10-B-24	3 to 11	.9	1.8
1950G-20-B-24	4 to 20	1.2	3.0

¹Note: For alternate supply voltages change 24 to 120 or 240. Example: 1950G-00-B-12² 24 VDC and 120 VAC models are stocked.



Series 1950 – Explosion-Proof Differential Pressure Switches

Specifications - Installation and Operating Instructions



Series 1950 Explosion-Proof Differential Pressure Switches combine the best features of the Dwyer Series 1900 Pressure Switch with an integral explosion-proof and weather-proof housing. Each unit is UL & CSA listed; FM approved for use in Class I, Groups C & D; Class II, Groups E, F, & G; and Class III atmospheres (NEMA 7 & 9). They are totally rain-tight for outdoor installations. Twelve models allow set-points from .03 to 20 inches w.c. and from .5 to 50 psi (3.4 to 345 kPa).

Easy access to the SPDT switch for electrical hook-up is provided by removing the top plate of the three-part aluminum housing. Adjustment to the set point of the switch can be made without disassembling the housing. The unit is very compact, about half the weight and bulk of equivalent conventional explosion-proof switches.

CAUTION

For use only with air or compatible gases. Use of the Model 1950 switch with explosive media connected to the Low pressure port (including differential pressure applications in such media) is not recommended. Switch contact arcing can cause an explosion inside the switch housing which, while contained, may render the switch inoperative. If switch is being used to sense a single positive pressure relative to atmosphere, run a line from the low pressure port to a non-hazardous area free of combustible gases. This may increase response time on -0 and -00 models.

NOTE: The last number-letter combination in the model number identifies the switch's electrical rating (number) and diaphragm material (letter). The 2F combination is standard as described in the physical data above. In case of special models, a number 1 rating is the same as 2; a number 3 or 4 rating is 10A 125, 250, 480 VAC; $\frac{1}{8}$ H.P. 125 VAC; $\frac{1}{4}$ H.P. 250 VAC; a number 5 or 6 rating is 1A 125 VAC. Letter B indicates a Buna-N diaphragm; N = Neoprene; S = Silicone; and V = Viton®.

UL and CSA Listed, FM Approved For
CL. I GR. C, D - CL. II GR. E, F, G - CL. III

Series 1950 Switches

Operating ranges and deadbands

To order specify Model Number	Operating Range: Inches, W.C.	Approximate Dead Band	
		At Min. Set Point	At Max. Set Point
1950-02	0.03 to 0.10	0.025	0.05
1950-00	0.07 to 0.15	0.04	0.05
1950-0	0.15 to 0.5	0.10	0.15
1950-1	0.4 to 1.6	0.15	0.20
1950-5	1.4 to 5.5	0.3	0.4
1950-10	3.0 to 11.0	0.4	0.5
1950-20	4.0 to 20.0	0.4	0.6
Model Number	Operating Range: PSI	Approximate Dead Band	
		Min. Set Point	Max. Set Point
1950P-2	0.5 to 2.0	0.3 PSI	0.3 PSI
1950P-8	1.5 to 8.0	1.0 PSI	1.0 PSI
1950P-15	3.0 to 15.0	0.9 PSI	0.9 PSI
1950P-25	4.0 to 25.0	0.7 PSI	0.7 PSI
1950P-50	15.0 to 50	1.0 PSI	1.5 PSI

PHYSICAL DATA

Temperature Limits: -40° to 140°F (-40° to 60°C); 1950P-8, -15, -25, -50: 0° to 140°F (-17.8° to 60°C); 1950-02: -30° to 130°F (-34.4° to 54.4°C).

Rated Pressure: 1950: 45 in. w.c. (0.1 bar); 1950P: 35 psi (2.4 bar); 1950P-50 only: 70 psi (4.8 bar).

Maximum Surge Pressure: 1950: 10 psi (0.7 bar); 1950P: 50 psi (3.4 bar); 1950P-50 only: 90 psi (6.2 bar).

Pressure Connections: $\frac{1}{8}$ " NPT(F).

Electrical Rating: 15A, 125, 250, 480 volts, 60 Hz. AC Resistive $\frac{1}{8}$ H.P. @ 125 volts, $\frac{1}{4}$ H.P. @ 250 volts, 60 Hz. AC.

Wiring Connections: 3-screw type; common, normally open and normally closed.

Conduit Connections: $\frac{1}{2}$ " NPT(F).

Set point adjustment: Screw type on top of housing, field adjustable.

Housing: Anodized cast aluminum.

Diaphragm: Molded fluorosilicone rubber, 02 model: silicone on Nylon.

Calibration Spring: Stainless Steel

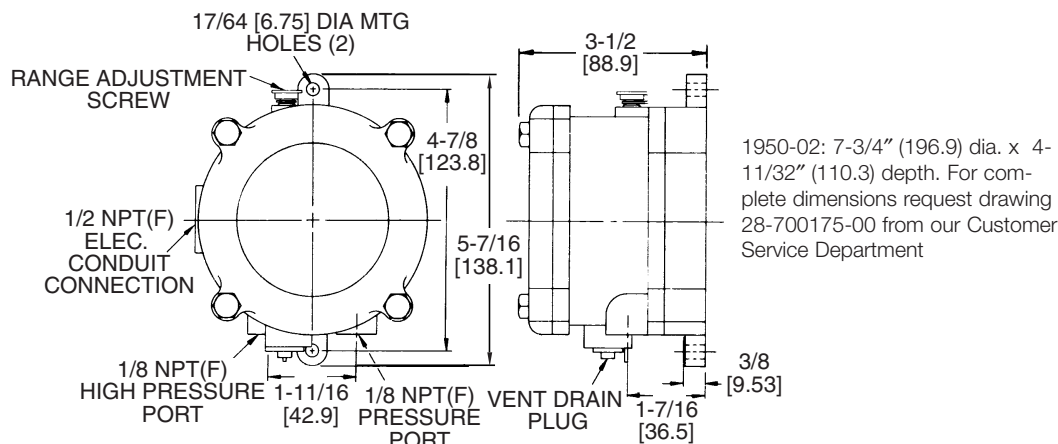
Installation: Mount with diaphragm in vertical position.

Weight: 3 $\frac{1}{4}$ lbs (1.5 kg), 02 model; 4 lbs, 7 oz. (2 kg).

RESPONSE TIME: Because of restrictive effect of flame arrestors, switch response time may be as much as 10-25 seconds where applied pressures are near set point.

Series 1950 – Explosion-Proof Differential Pressure Switches

Specifications - Installation and Operating Instructions



1950 Switch Outline Dimensions

INSTALLATION

1. Select a location free from excess vibration and corrosive atmospheres where temperatures will be within the limits noted under Physical Data on page 1. Switch may be installed outdoors or in areas where the hazard of explosion exists. See page 1 for specific types of hazardous service.

2. Mount standard switches with the diaphragm in a vertical plane and with switch lettering and Dwyer nameplate in an upright position. Some switches are position sensitive and may not reset properly unless they are mounted with the diaphragm vertical.

3. Connect switch to source of pressure, vacuum or differential pressure. Metal tubing with 1/4" O.D. is recommended, but any tubing which will not restrict the air flow can be used. Connect to the two 1/8" NPT(F) pressure ports as noted below:

- A. Differential pressures - connect pipes or tubes from source of greater pressure to high pressure port marked HIGH PRESS, and from source of lower pressure to low pressure port marked LOW PRESS.
- B. Pressure only (above atmospheric pressure) - connect tube from source of pressure to high pressure port. The low pressure port is left open to atmosphere.
- C. Vacuum only (below atmospheric pressure) - connect tube from source of vacuum to low pressure port. The high pressure port is left open to atmosphere.

4. To make electrical connections, remove the three hex head screws from the cover and after loosening the fourth captive screw, swing the cover aside. Electrical connections to the standard single pole, double throw snap switch are provided by means of terminals marked "COM" (common), "NO" (norm open), "NC" (norm closed). The normally open contacts close and the normally closed contacts open when pressure increases beyond the set point.

Switch loads for standard models should not exceed the maximum specified current rating of 15 amps resistive. Switch capabilities decrease with an increase in ambient temperature, load inductance, or cycling rate. Whenever an application involves one or more of these factors, the user may find it desirable to limit the switched current to 10 amps or less in the interest of prolonging switch life.

ADJUSTMENT: To Change the Set point

1. Remove the plastic cap and turn the slotted Adjust-ment Screw at the top of the housing clockwise to raise the set point pressure and counter-clockwise to lower the set point. After calibration, replace the plastic cap and re-check the set point.

2. The recommended procedure for calibrating or checking calibration is to use a "T" assembly with three rubber tubing leads, all as short as possible and the entire assembly offering minimum flow restriction. Run one lead to the pressure switch, another to a manometer of known accuracy and appropriate range, and apply pressure through the third tube. Make final approach to the set point very slowly. Note that manometer and pressure switch will have different response times due to different internal volumes, lengths of tubing, fluid drainage, etc. Be certain the switch is checked in the position it will assume in use, i.e. with diaphragm in a vertical plane and switch lettering and Dwyer nameplate in an upright position.

3. For highly critical applications check the set point adjustment and if necessary, reset it as noted in step A.

MAINTENANCE

The moving parts of these switches need no maintenance or lubrication. The only adjustment is that of the set point. Care should be taken to keep the switch reasonably clean. Periodically the vent drain plug should be rotated, then returned to its original position. This will dislodge deposits which could accumulate in applications where there is excessive condensation within the switch.

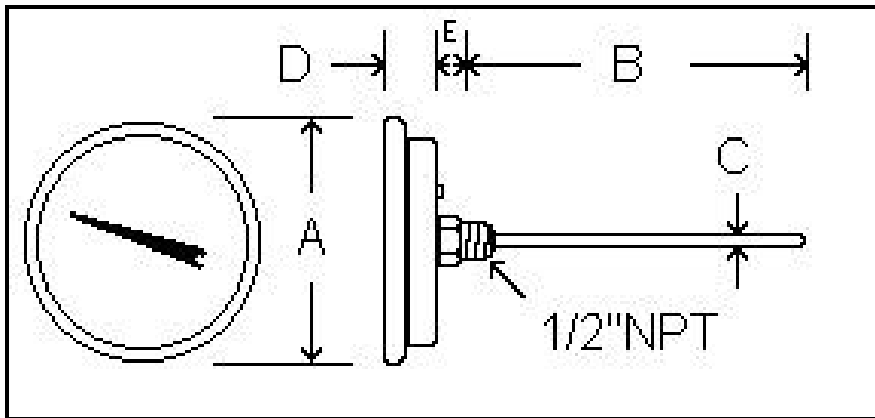
PRECISION INSTRUMENT COMPANY

BIMETAL THERMOMETER

90° BACK ANGLE TYPE

STANDARD FEATURES

- All Stainless Construction
- With Glass Lens
- Anti-Parallax Dial
- Vibration Resistant (No Needle Flutter)
- Fast Response To Temperature Change
- Hermetically Sealed (Moisture Proof)
- +/- 1 % Full Scale Accuracy
- Stem Welded To Connection
- Zero Adjustment on Back of Case



STEM LENGTH*	PART NUMBER	
	3" DIAL	5" DIAL
2 1/2"	B3B2	B5B2
4"	B3B4	B5B4
6"	B3B6	B5B6
9"	B3B9	B5B9
12"	B3B12	B5B12
15"	B3B15	B5B15
18"	B3B18	B5B18
24"	B3B24	B5B24

		A	B	C	D	E
3"	IN.	3.18"	STEM LENGTH	.25"	.60"	.38"
	MM	80.78	STEM LENGTH	6.45	15.24	9.76
5"	IN.	5.13"	STEM LENGTH	.25"	.67"	.38"
	MM	130.87	STEM LENGTH	6.45	16.95	9.76

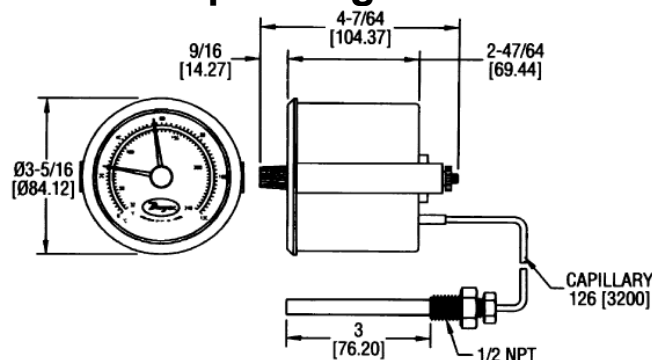
*Note:

- Other Ranges, Stem Lengths And Configurations Are Available Upon Request.
- Thermowells of all sizes and materials of construction are available also.
- Please Call With Any Inquiries.

STANDARD RANGES*	
CODE	RANGE
AA	-40/120 F & C
BB	-40/160 F & C
EE	0/150 F & C
GG	0/200 F & C
JJ	20/240 F & C
II	0/250 F & C
MM	50/300 F & C
PP	50/400 F & C
RR	50/550 F & C
SS	150/750 F & C
TT	200/1000 F & C

Series RRT Remote Reading Thermometer

Specifications – Installation and Operating Instructions



The Series RRT Remote Reading Thermometer is a liquid actuated temperature controller with SPST snap switch output. A change in the temperature triggers a change in the volume of the liquid-filled system. A bourdon tube converts the volume change into a rotary movement of the indicating pointer. The rotation of the indicating temperature pointer operates the single pole single throw snap switch as it passes the set point needle. The switch set point is fully adjustable across the entire temperature range.

Series RRT Model Numbers

Model Number	Temperature Range (Dual Scale)
RRT2120U	-40 to 120°F (-40 to 50°C)
RRT2250U	32 to 248°F (0 to 120°C)

PHYSICAL DATA

Dial Size: 3 1/4" (80 mm) **Accuracy:** ±2% of full scale.
Thermal Effect (Includes Span and Zero): ±1.5% of span per 100°F (55°C) nominal.
Ambient Operating Temperature: -4 to 158°F (-20 to 70°C)
Max. Over Temperature Protection: ±15% of full scale.
Switch Type, Rating: SPST, 5A @ 250 VAC, non-inductive.
Mounting: U-clamp panel mount, 3 7/32" (82 mm) cutout.
Process Connection: 1/2" NPT(M)
Electrical Connections: Three 1/4" male quick connects.
Capillary Length: 10.5 feet (3.2 meters) **Bulb Length:** 3.0" (76 mm)
Wetted Parts: Brass. **Weight:** 0.77 lbs. (350 g).

MECHANICAL INSTALLATION

The Series RRT Remote Reading Thermometer can be mounted in any position. Select a clean, dry location, free from vibrations and extreme temperatures. Do not directly expose the unit to corrosive media.

The unit includes a U-clamp mounting bracket to make panel mounting simple and easy. Cut a 3 7/32" (82 mm) diameter hole in the panel. Remove the U-clamp bracket prior to inserting into panel. Insert the unit into the panel cutout from the front. Place the U-clamp bracket on the back of the unit and secure into place by finger tightening the knurled nuts. NOTE: If panel thickness exceeds 13/64" (5 mm), the U-clamp bracket must be shortened accordingly.

The probe should be mounted so the bulb is fully immersed in the media and where the temperature of the media will be evenly distributed.

Temperature effects along the capillary are compensated for with a bi-metallic element. The capillary should not be located close to sources of hot or cold. Care should be taken when arranging the capillary. A sharp bend or break in the capillary, can cause the unit to fail. Minimum bending radius is 13/64" (5 mm).

ELECTRICAL CONNECTIONS

CAUTION: Do not exceed the specified electrical ratings shown on the unit. Permanent damage, not covered by the warranty will result. Connections for the single pole single throw output are made via three male quick connects. The quick connect terminals are numerically labeled 1, 2, and 3. Quick connect 1 is the common terminal. For NC (normally closed) operation, make switch connections using terminals 1 and 2. For NO (normally open) operation, use terminals 1 and 3.

OPERATION

The switch setpoint is fully adjustable across the entire range of the unit. The unit is equipped with internal stops at the minimum and maximum values of a specified range. Adjust the setpoint by rotating the black knob on the front of the dial case to the desired temperature setting.

MAINTENANCE

After final installation and setpoint adjustment of the series RRT Remote Reading Thermometer, no routine maintenance is required. Periodic checks of connections and setpoints is recommended. Units are not field serviceable and should be returned to the factory, freight prepaid, if repair is necessary. Be sure to include a complete description of the application and problem.



Multiple-Stage Switches: **Vertical Mount**

**Innovative
Solutions**



L500 Series Custom Switches with a Maximum Length of 11'

The L500 series level switches are individually designed from over 1,400 component parts to create a custom switch available in lengths from six inches (152 mm) to 11 feet (3.3 meters).

To specify, review the choices in mounting types, stem and mounting, float sizes, switching points and electrical specifications that appear on these pages.

Product Configuration Choices:

- Mounting & Materials:** Select mounting size, mount and stem material, float material, switch type, and optional enclosure from **Table A**.
- Float Size:** Select float from **Table B**.
- Switch Wiring:** Select switch wiring from **Table C**.
- Actuation Levels:** Select switch actuation level(s) from **Table D**.



L500

A. Component Choices L500:

Series	Mounting* Types		Mounting* & Stem Materials		Float Materials		Switch Types		Enclosures	
L500	04	½" NPT	01	Brass	02	Polypropylene (hollow)	20	20VA SPST	00	No enclosure
	06	1" NPT	02	Polypropylene	05	PVC	03	50VA SPST (standard)	01	Polypropylene NEMA 4
	07	1¼" NPT	05	PVC	08	316 SS	04	100VA SPST	02	Cast aluminum NEMA 4/7/9
	08	1½" NPT	08	316 SS	20	Buna-N	06	3VA SPDT	03	Cast Iron NEMA 4/7/9
	09	2" NPT								
	73	2" 150# ANSI Flange								
	75	3" 150# ANSI Flange								
	76	4" 150# ANSI Flange								

Example: L500-0901-0803-00 = 2" NPT mounting; brass mounting & stem material; 316 SS float; 50VA SPST switches; no enclosure

**Other mountings and materials are available. Consult factory for details.*



Multiple-Stage Switches: **Vertical Mount**

**Innovative
Solutions**



L500 Series Custom Switches with a Maximum Length of 11'

B. Float Sizes and Operating Specifications

Float Materials	Dimensions	Available Mount Types	Temperature	Pressure	Minimum Specific Gravity
Polypropylene (hollow)	1.810" x 1.875"	04, 06, 09, 73, 75, 76	-40° to +150° F	50 psig	.55
316 stainless steel	1.5" x 1.3"	04, 06, 09, 73, 75, 76	-40° to +300° F	120 psig	.85
316 stainless steel	2" ball	04, 06, 09, 73, 75, 76	-40° to +300° F	750 psig	.75
Teflon (hollow)	2.150" x 1.980"	04, 06, 09, 73, 75, 76	-40° to +500° F	100 psig	.95
Buna-N	1.250" x 1.875"	04, 06, 07, 09, 73, 75, 76	-40° to +180° F	150 psig	.65
Buna-N	1.875" x 1.750"	04, 06, 09, 73, 75, 76	-40° to +180° F	150 psig	.65

C. Switch Wiring and Electrical Specifications

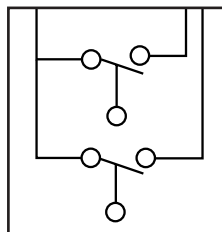
Each switching point requires one float. For special applications, a single float can be used to activate two switch points, though these points must have a minimum separation of 1/8" (3mm). The maximum number of actuation levels depends on the wiring type selected.

Ratings: 20, 50, or 100 VA @ 120 VAC SPST
50 VA @ 240 VAC SPST
100 W @ 240 VAC SPDT

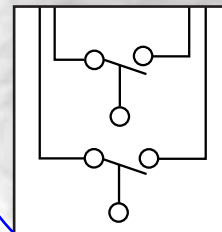
Connection: 24" Free Leads
#22 AWG

Mounting Attitude: Vertical ±30°

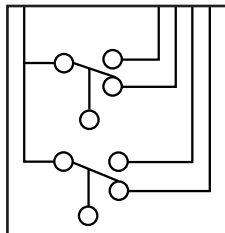
Group 1 SPST
One Common Wire



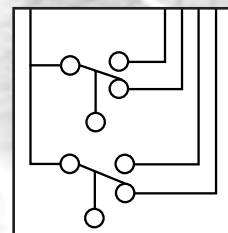
Group 2 SPST
Independent Circuits



Group 3 SPDT
One Common Wire



Group 4 SPDT
Independent Circuits



Switch Wiring Codes

Wiring Options	Group 1 SPST	Group 2 SPST		Group 3 SPDT		Group 4 SPDT		
Common Wire	Black	None		Black		None		
	NO/NC	NO or NC		NO	NC	Common	NO	NC
L1	Red	Red	Red	Red	White-Red	Red	White-Red	White-Black-Red
L2	Yellow	Yellow	Yellow	Yellow	White-Yellow	Yellow	White-Yellow	White-Black-Yellow
L3	Blue	Blue	Blue	Blue	White-Blue			
L4	Brown	Brown	Brown					
L5	Orange							
L6	Gray							



Multiple-Stage Switches: **Vertical Mount**

**Innovative
Solutions**



L500 Series Custom Switches with a Maximum Length of 11'

D. Actuation Level Dimensions

A = 1 ½" (38mm) minimum distance from actuation point to inside surface of tank or mounting pad.

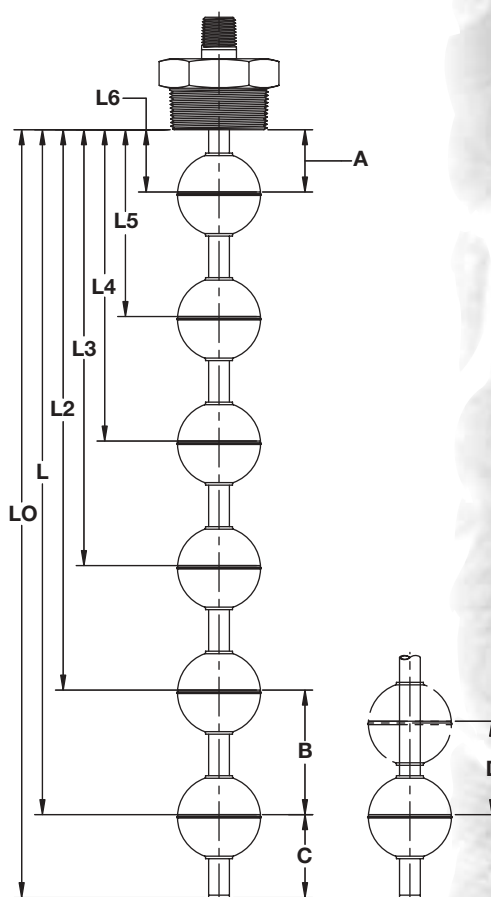
B = 3" (76mm) minimum distance between actuation levels.

C = 2" (51mm) minimum distance from end of unit to lowest actuation level.

D = ¼" (6mm) minimum distance between points when a single float is used to activate two switches. (One float can activate two switches when the lower switch is NC and the upper switch is NO).

Notes:

1. A, B, and C dimensions are based on a specific gravity of 1.0.
2. When using one float for two actuation positions, contact the factory for available switch ratings.
3. Actuation levels are calibrated on descending fluid level, with water as the fluid, unless otherwise specified.
4. Standard tolerance on actuation levels is $\pm\frac{1}{8}$ " (3mm).



Integrated Temperature Sensors

All Innovative Solutions L500, multi-level switches can be specially equipped with integrated temperature sensors. Please contact Innovative for more information.

Thermistor:	Variable resistance, continuous output
Thermocouple:	"Type K Junction" continuous readout
Thermostat:	Fixed set point for high/low alarm switching



Multi-Point Liquid Level Switch (L500 Large Size Vertical Mount)

Installation & Maintenance General Information:

Switches should be installed securely and clear of obstructions so the float(s) are free to move with liquid level changes.

Switches should be mounted in an area of the tank free of turbulence or direct streams.

Operate only within listed electrical ratings.

Maintenance

Periodically inspect the float to be sure it is not coated or contaminated by any material or substance that would significantly change its weight or volume.

Important Points

- Always operate within specified temperature and pressure ratings. Possible surges in temperature and pressure should also be observed, (see table below).
- Only use with liquids compatible with the material of construction. (Consult factory for information).
- Changes in fluid temperature can affect switch set-points since density/specific gravity may vary with temperature.

General Temperature & Pressure Limits		
Float Material	Temperature	Pressure
Polypropylene	150°F	50 PSIG
Buna-N	180°F	150 PSIG
Stainless Steel (1 1/2")	300°F	120 PSIG
Stainless Steel (2" Ball)	300°F	750 PSIG

Electrical Ratings and Wiring Diagrams

Reed switches used in *Innovative Solutions* level switches are hermetically sealed and a magnetically actuated SPST or SPDT rated as maximum power limits in Volt-Amps, (VA).

CAUTION: DO NOT EXCEED MAXIMUM LOAD RATINGS

Contact protection such as a diode, (DC), or resistor, (AC), should be used to suppress high transient voltages or in rush currents that may cause burning or welding of the switch contacts.

Switch Ratings—Maximum Loads (Resistive)			
VA	Volts	Amps (AC)	Amps (DC)
50 (SPST)	0-50	0.5	0.5
	120	0.4	0.4
100 (SPST)	120	0.8	0.8
	240	0.2	0.2
3.0 (SPDT)	30 VDC		0.2

Group 1 SPST
One Common Wire



Group 2 SPST
Independent Circuits

Group 3 SPDT
One Common Wire



Group 4 SPDT
Independent Circuits

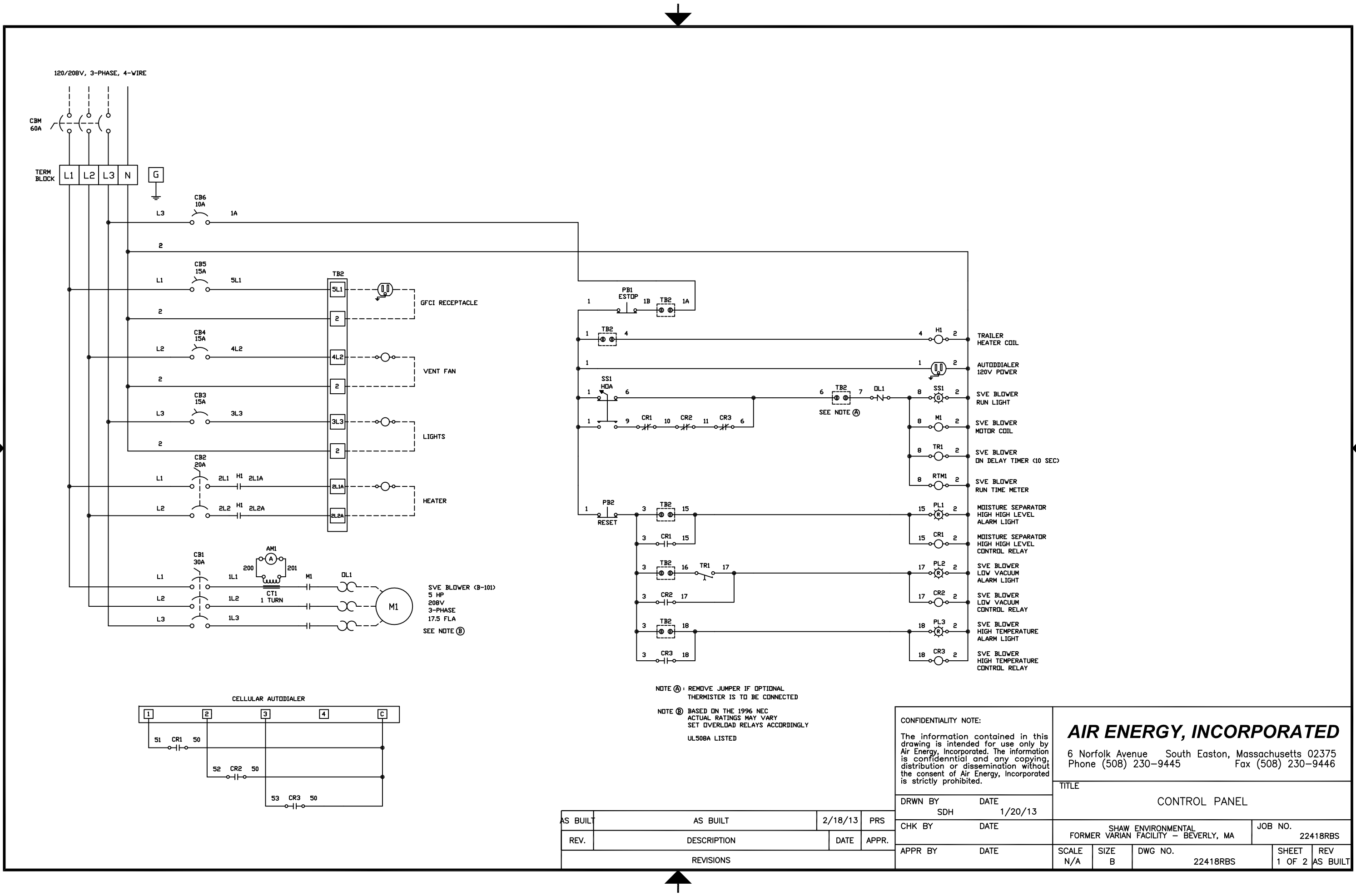


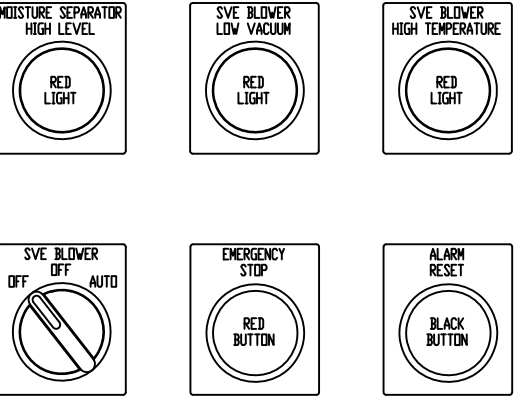
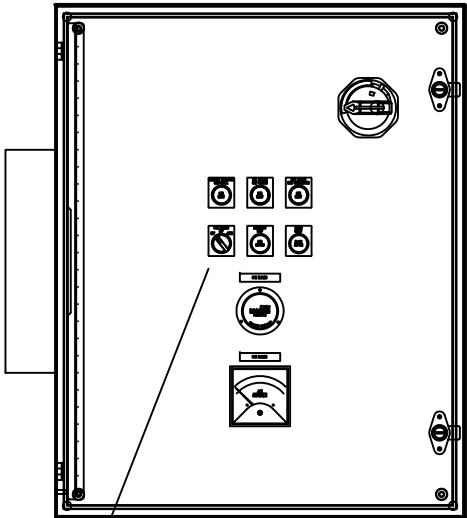
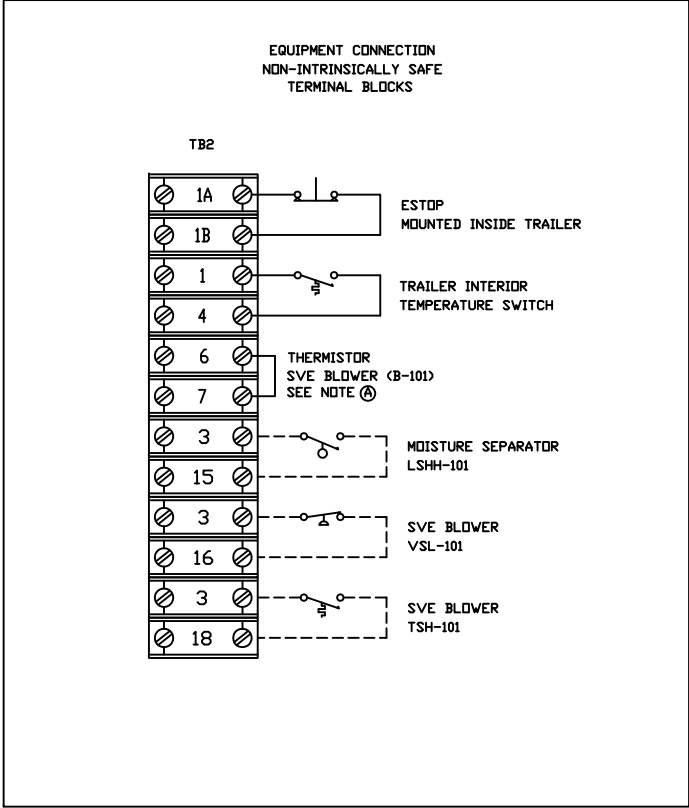
Note: Only two actuation points are shown in the diagrams above

Wire Color Code Table								
NOTE: More than one color designation denotes striped or multi-color wire jackets								
Common Wire	GROUP 1 Black	GROUP 2 None		GROUP 3 Black		GROUP 4 See Below		
	NO/NC	NO	NC	NO	NC	Common	NO	NC
Level 1	Red	Red	Red	Red	White/Red	Red	White/Red	White/Black/ Red
Level 2	Yellow	Yellow	Yellow	Yellow	White/Yellow	Yellow	White/Yellow	White/Black/ Yellow
Level 3	Blue	Blue	Blue	Blue	White/Blue	Blue	White/Blue	White/Black/ Blue
Level 4	Brown	Brown	Brown	Brown	White/Brown	Brown	White/Brown	White/Black/ Brown
Level 5	Orange	Orange	Orange	Orange	White/Orange	Orange	White/Orange	White/Black/ Orange
Level 6	Gray	Gray	Gray	Gray	White/Gray	Gray	White/Gray	White/Black/ Gray

Section 5

Control Panel





NOTE (A): REMOVE JUMPER IF OPTIONAL THERMISTOR IS TO BE CONNECTED UL508A LISTED

AS BUILT	AS BUILT	2/18/13	PRS
REV.	DESCRIPTION	DATE	APPR.
REVISIONS			

CONFIDENTIALITY NOTE: The information contained in this drawing is intended for use only by Air Energy, Incorporated. The information is confidential and any copying, distribution or dissemination without the consent of Air Energy, Incorporated is strictly prohibited.		AIR ENERGY, INCORPORATED			
		6 Norfolk Avenue South Easton, Massachusetts 02375 Phone (508) 230-9445 Fax (508) 230-9446			
DRWN BY SDH		DATE 1/20/13		TITLE CONTROL PANEL	
CHK BY		DATE		JOB NO. 22418RBS	
APPR BY		DATE		SCALE N/A	REV AS BUILT
				SIZE B	
				DWG NO. 22418RBS	SHEET 2 OF 2

AGM Cellular Terminal/Alarm

What it is:

- Landline Replacement
- Landline Backup
- Stand-Alone Alarm/Monitoring System

What it does:

- Produces a dial tone via cellular
- Can generate alarm messages for various conditions
- Can turn attached devices on and off remotely

Where to use it:

- Remote equipment sites that do not have landlines
- Homes or offices for security or environmental monitoring
- Mobile vehicle applications (commercial, RV, etc.)
- With standard telephone as landline alternative

Why use it:

- Provides communication for sites without landlines
- Adds backup communication to sites with landlines
- Provides advanced monitoring and control options
- Inexpensive (less than \$350.00)
- Can be less expensive than a landline on a monthly basis
- Can use monthly or prepaid SIM cards

Where to buy it:

DIYcontrols
.com



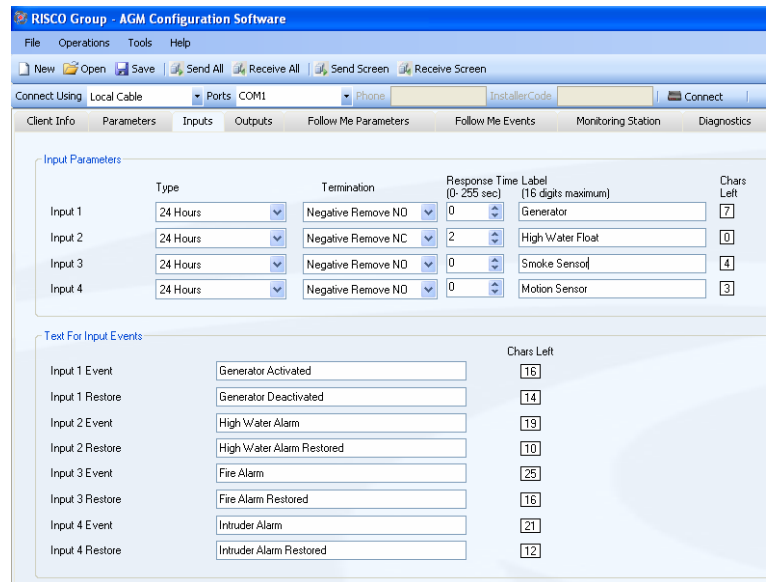
DIYControls.com
Hydra-Numatic Sales Co.
22 Park Place
Butler, NJ 07405
1-800-487-1363
sales@diycontrols.com

What it comes with:

- **Power Supply**
- **Metal Case & Screws**
- **Stub Antenna**
- **Instructions**

Also Requires:

- **GSM SIM card**
(from AT&T or T-Mobile*)



Free PC Software (requires p/n ZZAGMCABLE)

Built-in Capabilities:

- **Generates a Dial Tone**
- **Can Remotely Activate Outputs via Text Message**
- **Can Send Text-Message Alarm Notices for:**
 - ♦ Input Activation
 - ♦ Power Outages
 - ♦ Case tampering
 - ♦ Periodic Test
 - ♦ Landline loss
 - ♦ SIM expiration (for prepaid)



Add-On Capabilities:

- **Program via Free PC Software**
(requires programming cable, p/n ZZAGMCABLE)
- **Record & Receive Voice Alarms**
(requires Voice Module, p/n ZZAGMVOICE)
- **Battery Backup**
(p/n ZZAGMBATTERY)
- **Security or Environmental Sensors can be added**
(any NO or NC sensor)
- **Remotely-Controllable Thermostats can be added**

DIYcontrols.com

AGM Advanced
GSM/GPRS Module

Universal Version Installation and Programming Instructions



RISCO
GROUP
Creating Security Solutions.
With Care.
riscogroup.com

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1. Introduction

RISCO Group's AGM, Universal Advanced GSM/GPRS Stand alone Module, is a cellular communication module enabling any existing security panel to communicate through the GSM cellular network.

The AGM can be used as the main communication line or as a backup to PSTN line using telephone line simulation.

1.1 Main Features

- Full PSTN line simulation
- Primary or backup GSM/GPRS operation modes
- 4 alarm inputs
- 4 outputs that can be activated by system events, SMS or CLIP control
- Report to two Monitoring Stations by SMS, GPRS or voice (using line simulation)
- Selective event reporting to 8 Follow Me destinations using SMS, E-mail or voice messages (using the Plug On voice module)
- 3 LED Status indication
- Advanced remote SMS system control
- Local / Remote configuration using the AGM Configuration Software through the GSM data channel (9600 bps) or by SMS commands
- GSM signal supervision and level measurement
- Wall and cover tamper protection
- Prepaid SIM card support
- Backup battery charger and battery protection feature
- Quad Band GSM 850/900/1800/1900MHz
- Output and Input status verification by SMS commands

2. AGM Components

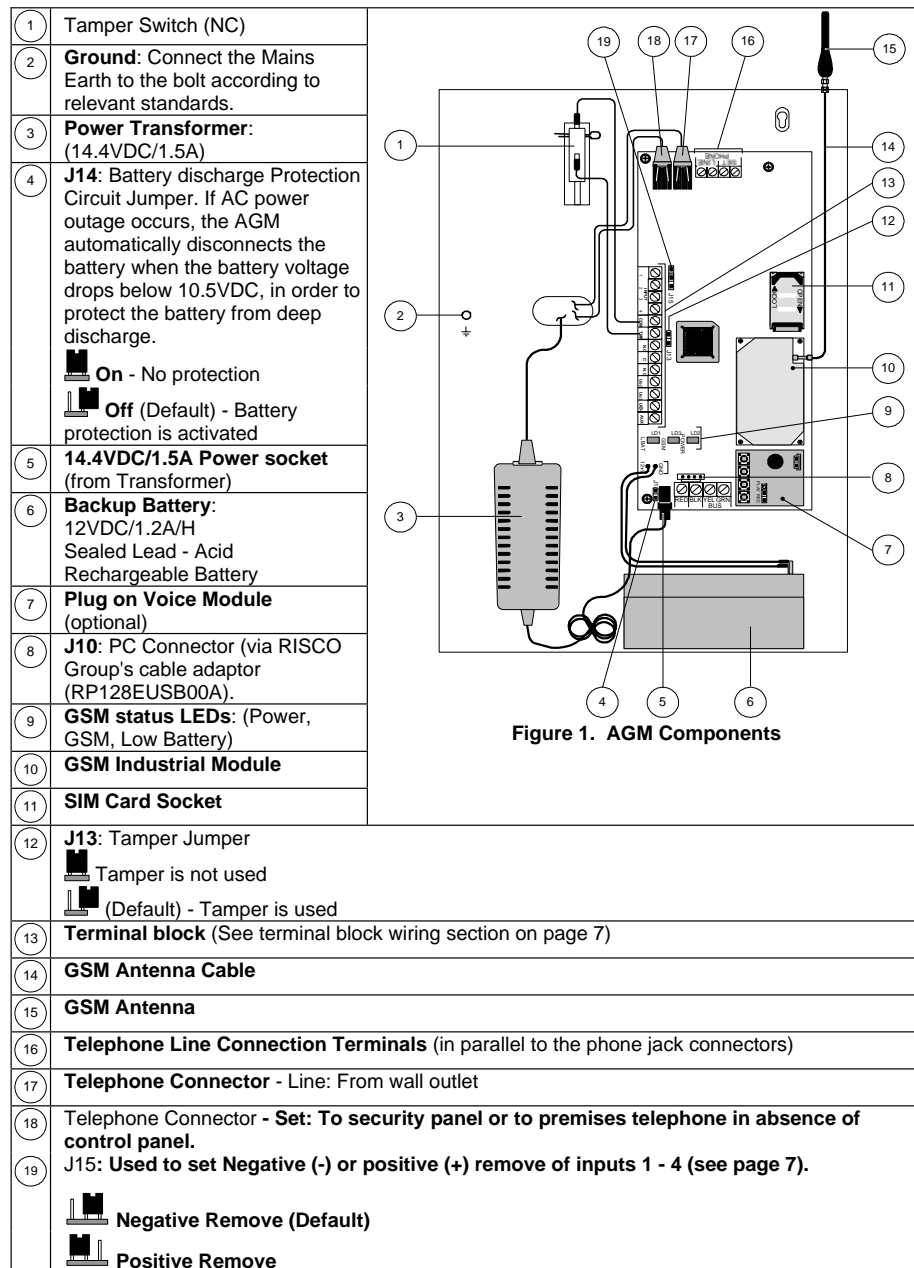


Figure 1. AGM Components

3. Installation

3.1 Preliminary Considerations

- ◆ The AGM Module should be located in a safe and dry place, away from radio and electromagnetic transmitting devices.
- ◆ Select a mounting location near a 110/220VAC electrical power supply.

3.2 Installing the AGM

3.2.1. SIM Card Installation

1. Perform steps A to D if a PIN number is required:

**Important:**

Do not install SIM card while power is applied to the AGM.
Do not touch SIM Card connectors! If doing so, you may release an electrical discharge that could damage the SIM card.

- A. Insert the SIM card into the AGM with PIN code disabled and power up the AGM.
 - B. Set the PIN code by means of SMS or AGM Configuration Software.
 - C. Power down the AGM and remove the SIM card.
 - D. Place the SIM card in any standard GSM mobile phone (while powered down).
 - E. Power up the GSM mobile phone and enable the SIM's required PIN code (the same PIN code defined in step B).
 - F. Power down the GSM mobile phone and remove the SIM card.
 - G. Place the SIM back into the AGM.
2. If required, program the SMS center address into the SIM card using means of SMS, or AGM Configuration Software.

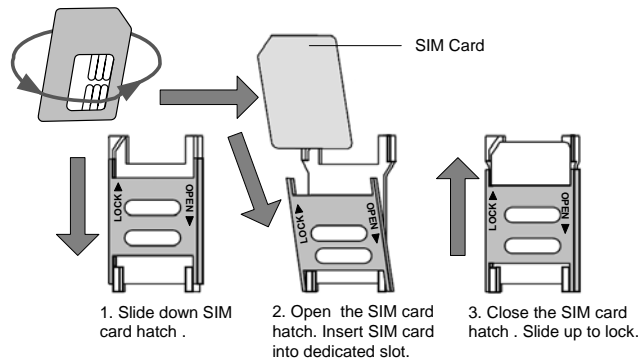


Figure 2. SIM Card Insertion

3.2.2. Wall Mounting (Metal Box Installation)

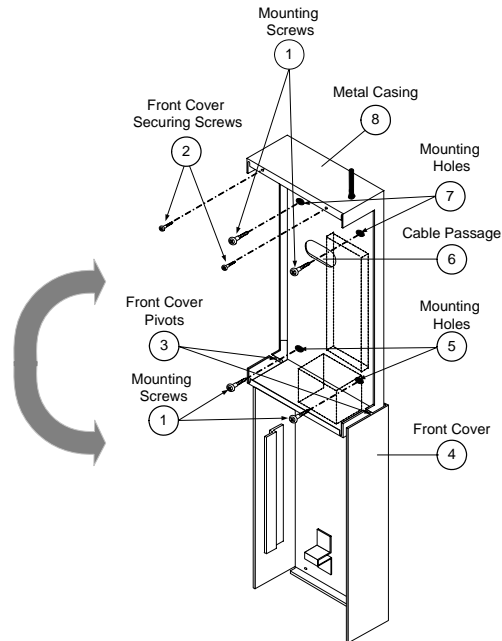


Figure 3. AGM– Installation

1. Remove the two screws securing the AGM front cover (2, Figure 3).
2. Tilt and rotate the front cover downwards until it locks vertically to the casing (alternately lift up to remove the cover).
3. Use the metal casing as a template for marking the installation holes (mark through the mounting holes, see 5 and 7, Figure 3).
4. Drill the four installation holes in the wall and insert anchors (if necessary).
5. Insert external cables (GND, power, and phone lines) through the cable passage (6, Figure 3).
6. Align the AGM with the mounting holes and fasten it firmly to the wall with all four supplied screws (1, Figure 3).
7. Attach the AGM antenna.
8. Connect the AGM backup battery cables to the backup battery.
9. Connect the AGM Module to mains.
10. Install the front cover in its place (in a reverse sequence of the removal (see Figure 3).

4. Wiring the AGM

Connector	Wiring Diagram	Description
INPUT (1, 2, 3, 4)	<p>The Inputs polarity is defined by jumper J15.</p> <p>Negative remove: Connect the detector/s to the required Input/s terminal/s (Input 1, 2, 3 or 4) and the COM (0V) terminal.</p> <p>Positive remove: Connect the detector/s to the required Input/s terminal/s (Input 1, 2, 3 or 4) and the AUX (14.4VDC) terminal.</p>	
COM	0V	
TMP		Tamper alarm activates when the front cover is open or the entire box is removed from the wall.
UO1 Relay (3A)	<p>NC: Normally closed contact C: Common contact NO: Normally open contact</p> <p>External power supply</p>	
UO2 to UO4 (100mA)		Wire the devices that you want to activate to the outputs terminals
AUX	14.4VDC	

4.1 LED Indications

LED	State	Description
Power (Green)		The Power LED indicates the status of power supply to the AGM
	On	Power OK
	Off	Power not present
GSM (Yellow)		The GSM LED Indicates the GSM network status
	On	Network not available
	Flashing	GSM communication OK, connected to the network status
	Off	Power not present
L.BAT (Low Battery, Red)		The Low Battery LED Indicates the GSM backup battery status
	On	Low Battery (below 11 VDC)
	Off	Battery OK

4.2 Automatic GSM Signal Level Measurement

After powering up the AGM with the SIM card inside, the module performs an automatic signal level test.

For the first 30 seconds after powering up, the Green LED will flash between 0-5 times in cycles, (with a delay of 5 seconds between each cycle), indicating the RSSI level (0= No network connection, 5= Very High).

If the signal level is not satisfactory or poor, consider installing the AGM in a better signal receiving location.

GSM Network Signal level	Flashes
5 – Very High	5
4 - High	4
3 - Medium	3
2 - Low	2
1 - Very Low	1
0 - No network connection	0

5. AGM Modes of Operation

The AGM is connected serially between the telephone line (if available) and additional devices using the same telephone line service.

Based on the AGM line simulation capability, the module constantly checks the availability of both the PSTN and the GSM lines.

During regular operation mode, all calls and data transmission are carried out using the primary line (PSTN-default or GSM). In the case of trouble with the main line, the line is routed to the backup.

At the end of a call, the availability of the main line is rechecked.

If the line is not restored, the system stays on the back up line until the restoration of the main line.

The AGM has three operation modes:

- **GSM Back Up** - The outgoing calls are performed through the PSTN line. When the PSTN line is not available for the time defined in PSTN Lost Delay parameter, the outgoing calls will be directed through the GSM network.
- **GSM Only** - The outgoing calls are performed through the GSM voice channel only. Use this option when no PSTN line is available.
- **GSM Main** - The outgoing calls are performed through the GSM voice channel. When the GSM network is not available for the time defined in GSM Loss Delay parameter, the outgoing calls will be directed through the PSTN line.

6. Monitoring Station Reporting

The AGM enables to report events to two different Monitoring Stations, using Contact ID or SIA formats via three different channels: Voice, SMS, or GPRS.

The security level achieved varies from one technology to another, as described below.

◆ Voice channel

Full event report using PSTN simulation operation mode when connected to a security panel.

◆ SMS Channel

AGM input events and internal AGM events can be sent to the Monitoring Station using encrypted SMS messages (128 BIT AES encryption).

The event messages are received by RISCO Group's IP/GSM Receiver Software located in the MS site. The IP/GSM Receiver translates the SMS messages to standard protocols used by the Monitoring Station applications (For example; Contact ID, SIA etc).

◆ GPRS Channel

AGM input events and internal AGM events can be sent over the GPRS network using TCP/IP protocol to RISCO Group's IP/GSM Receiver software located at the MS site. All messages are encrypted (128 BIT AES encryption is used).



Note:

For GPRS communication, the GPRS channel in the SIM card has to be enabled.

7. Inputs

The AGM has four inputs, which NC and NO devices can be connected to.

Inputs can be activated by negative or positive remove according to the J15 Jumper position.

Each input event and its restore can be reported to the Monitoring Station (by SMS or GPRS) or to any of the 8 Follow Me destinations (by SMS, Voice message or Email)

Triggering of input event can be defined to be immediate or after a delay.

Each input can be defined as a 24-hour type (constantly activated) or as an Arm/Disarm type (activated or deactivated by a remote SMS user command).

Input 3 can also be defined as type "Switch from PSTN to GSM". When a phone line is connected to the AGM, the user has the ability to manually switch the outgoing line from PSTN to GSM (Latch operation).

Input 4 can also be defined as type "Stop Follow Me". When triggered it will stop all Follow Me calls following the current event.

8. Outputs

The AGM has four outputs (one 3A relay output and three-100mA Open Collector outputs) that can be activated automatically according to various events, or manually by SMS commands from pre defined Follow Me telephone numbers. Each output can be defined to be pulsed or latched.

8.1 Output Events

Output defined as "Follow Event" can automatically be activated by the following events:

- ◆ **Input 1 - 4 event:** Activates following triggering / restore of an input.
- ◆ **Tamper:** Activates following AGM tamper alarm.
- ◆ **PSTN Lost:** Activates following a loss of PSTN line (connected to the GSM). The output will be activated after the defined PSTN Loss Delay time.
- ◆ **GSM Trouble:** Activates in the following cases:
 - There is no SIM card in the AGM or SIM is faulty
 - GSM RSSI signal level is low
 - GSM network trouble
- ◆ **Mains power Loss:** Activates when the source of the main AC power is interrupted. The output will be activated after the predefined AC Loss Delay time.
- ◆ **Low Battery:** Activates when the AGM battery has insufficient reserve capacity and the voltage is lower than 11V.
- ◆ **SIM Card Expire:** Activates 30 days before the time defined in the SIM Expire timer.
- ◆ **Periodic Test:** Activates following the time defined in the Periodic Test timer.
- ◆ **GSM+PSTN Loss:** Activates following loss of PSTN and GSM network.

8.2 CLIP Control

Output 1 can be defined as CLIP control type. The CLIP (Calling Line Identity Presentation) feature enables the user to activate output 1 from Follow Me numbers authorized with this function, without being charged for a call from this phone to the AGM.

To be able to perform this operation, the user has to initiate a call to the AGM and hang up after the second ring.

While waiting, the AGM recognizes the telephone number (using the caller ID feature of the GSM network) that the call is initiated from, and activates output 1.

9. Follow Me Report

The AGM allows reporting events to eight Follow Me destinations using one of the following three reporting types:

- ◆ **Voice messaging:** Using the optional Plug on voice module (RP200GSV00A) the AGM enables to assign events with short audible messages. Up to four pre-recorded messages can be recorded (10 second message each).
- ◆ **SMS:** Predefined SMS event messages can be sent to a Follow Me number.



Note:

SMS input event messages can be manually defined according to the installation type.

- ◆ **E-mail:** The AGM can E-mail event messages to predefined E-mail addresses using GPRS. In order to do so, GPRS channel must be activated on the SIM and the GPRS parameters should be defined (see page 18).

9.1 Follow Me Events

Event	Event description	SMS Default Message
Input 1-4 event	Report to Follow Me will be established when an input is triggered	I1: "Intruder alarm" I2: "Panic alarm" I3: "Fire alarm" I4: "Emergency alarm"
Input 1-4 restore	Report to Follow Me will be established when an input is restored to normal condition	I1: "Intruder restore" I2: "Panic restore" I3: "Fire restore" I4: "Emergency res."
Tamper	Report to Follow Me will be established following a tamper alarm	"GSM box tamper"
Tamper restore	Report to Follow Me will be established following to the restore of tamper alarm	"GSM box tamper OK"
No PSTN	Report to Follow Me will be established following loss of PSTN line (connected to the GSM). If PSTN Loss Delay time period is defined, the message will be sent after the delay time	"Phone Line Fail"
PSTN Restore	Report to Follow Me will be established following to the restore of PSTN line (connected to the GSM) to normal condition	"Phone Line OK"
GSM Restored	Report to Follow Me will be established following to the restore of the GSM line to normal condition. The AGM can establish a connection using the GSM network.	"GSM line OK"

Event	Event description	SMS Default Message
Main Loss	Report to Follow Me will be established following interruption in the source of the main AC power. This activation will follow the delay time predefined in the AC Loss Delay timer	"Main power loss"
Main restore	Report to Follow Me will be established following to the restore of normal AC power supply	"Main power OK"
GSM Low battery	Report to Follow Me will be established following low battery condition (below 11V)	"GSM Low battery"
GSM Low battery restore	Report to Follow Me will be established following to the restore to normal of a weak standby battery	"GSM battery OK"
SIM Expire	SMS report to Follow Me will be established 30 days before the SIM Expiration Time defined for a prepaid SIM card.	"SIM expire: 1 month"
Periodic FM test	"Test Message" SMS report to Follow Me will be established following the time defined in the Follow Me Periodic Test parameter	"Periodic Test"
Provider message	An automatic SMS credit message received from the provider will be transferred to the Follow Me number.	-

10. SMS User Remote Control Functions

The AGM enables the user to remotely control the AGM using SMS commands. For security reasons, a user code (4 digits. Default user code 1234) has to be used to perform the SMS user commands.

For higher security, the SMS remote control operations can be restricted to be performed only from predefined Follow Me telephone numbers, by using the GSM network Caller ID feature.

The following remote control operations can be preformed by SMS. More details are described in the AGM User Instructions.

- Activation / Deactivations of AGM outputs defined as User activated,
- Arming / Disarming of Inputs defined as Arm / Disarm
- Changing / Defining Follow Me destinations (Telephone numbers or Email addresses)
- Receiving Prepaid SIM card credit information
- Getting AGM status test messages regarding PSTN line, AC power, Battery level and GSM network signal level
- Getting AGM Inputs status
- Getting AGM Outputs status
- Setting the AGM clock

11. AGM Programming

The AGM can be programmed via a standard PC, using the AGM Configuration Software application, or, via any GSM cellular phone, using SMS commands.

Programming the AGM with the AGM Configuration Software can be performed using three options:

- ✦ **Locally:** Connect the AGM to the PC using RISCO Group's cable adaptor (RP128EUSB00A).
- ✦ **Remotely:** Remote programming is performed using the GSM data channel at 9600 bps.



Notes:

1. When calling the AGM from a PSTN line or from a different provider, the Data channel (CSO) in the SIM card should be enabled.
2. When calling the AGM from a number of the same provider the data channel is automatically enabled (Data number not required).

- ✦ **By SMS:** The AGM Configuration Software enables to send each parameter as a single SMS command or the entire screen, as if sent from a regular GSM cellular phone.

11.1 Installer SMS Programming

The AGM can be programmed using predefined SMS commands (see page 15) from any standard GSM cellular phone. Before any command line, a valid installer code should be used. Default installer code is 0200.

1. Sending a Single SMS Command (see page 15)

[Installer code] [4-digit Programming command] [=] [Programming data]

Example: Setting User Code (see page 16):

Installer code = 0200; Setting user code command=PWFM; New code=4444

0200PWFM=4444

2. Sending a Single SMS Command with Multiple Data (see page 18)

Use [,] to separate between data of the same command

Example: Setting events to Follow Me number 1 (see page 19):

Installer code = 0200; Command=F1RE Events: 1 (Input 1), 5 (Tamper), 8 (AC loss)

0200 F1RE =1,5,8

3. Sending Multiple SMS Commands (see page 18)

In one SMS message, you can contain several commands.

To separate between the programming commands put [:] at the end of each programming message. In this case the SMS format will be:

[Installer code] [4 digit command 1] [=] [Data command 1] [:] [4 digit command 2] [=] [Data command 2]:...

Example: Setting MS1 and MS2 channel type (Installer code = 0200):

Installer code=0200

Setting Monitoring stations 1/2 reporting type commands: M1TY/M2TY (see page 18)

Monitoring Station1 reporting type = SMS (1)

Monitoring Station2 reporting type = GPRS (2)

```
0200M1TY=1:M2TY=2
```

4. Receiving SMS Confirmation Message (see page 18)

The SMS commands can have a confirmation reply SMS message. To achieve that add [!] (Exclamation Mark) after the **installer code**. The AGM will send "0" for each command that succeeded and "4" for each command that failed.

[Installer code] [!] [4-digits command 1] [=] [Data command 1] [:] [4 digit command 2] [=] [Data command 2]:...

Example: Reporting MS1 and MS2 channel type (Installer code = 0200):

```
0200!M1TY=1:M2TY=2
```

A confirmation reply SMS message for both commands will be:

Security system:

00

5. Reading Parameter Value by SMS (see page **Error! Bookmark not defined.**)

Use the following sequence to receive the current data of the requested command:

[Installer code] [4-digits command 1] [?]

Example: Requesting information for communication format:

```
0200 MSCF?
```

Assuming that the communication format is Contact ID, the SMS reply message will be:

Security system:

0420

11.2 SMS Programming Commands

The table below provides the entire set of commands available. The procedure of programming the commands is identical and uses the same syntax as described in the previous section. The order of the commands is identical to the order in the AGM Configuration Software.

Command Description	Programming Options	Default
Parameters		
Standard Parameters : Settings		
RLMD:AGM Operation Mode Configures the AGM module mode of operation. For more details see page 16.	0: GSM Backup 1: GSM Only 2: GSM Main	0
RSST:GSM Network Sensitivity Set the minimum acceptable network signal level (RSSI level).	1: Low Signal 2: Average Signal 3: High Signal	2
Standard Parameters : Timers		
PSLT: PSTN Loss Delay The time after which the AGM will switch over to the GSM network following PSTN loss.	10 to 255 seconds	10 sec.
GSLT: GSM Loss Delay The time after which the AGM will switch over to the PSTN line following GSM network loss.	1 to 255 minutes	4 min
MTDT: AC Loss Delay In case of AC power loss, this parameter specifies the delay time before reporting the event or operating the output.	0 to 255 minutes	30 minutes
Standard Parameters :Controls		
CLDG: Caller ID The Caller ID function enables the AGM to restrict SMS remote control operations to predefined Follow Me phone numbers. 0: Caller ID deactivated. The AGM can receive SMS control messages from any phone number. 6: Caller ID activated. The AGM can receive SMS control messages only from recognized Follow Me numbers. The AGM checks the last 6 digits of the telephone number from which the SMS was sent from and compares them to the last digits of the Follow Me numbers defined in the AGM. If the digits coincide, the number is recognized and the operation will be executed.	0: Caller ID deactivated 6: Caller ID activated	0
ICDS: Incoming Call Disable This parameter is used to disable all incoming calls trying to come in via the GSM voice channel. When this parameter is enabled, SMS or Remote programming is still allowed.	0: Incoming voice call enabled 1: Incoming voice call disabled	0
Standard Parameters :Access Codes		
PWFM: User Code 4 digit user code for remote SMS system operations	4 digits	1234
PWIN: Installer Code 4 digit code used for remote SMS or PC Software	4 digits	0200

Command Description	Programming Options	Default
PINC: PIN Code 4 digit PIN (Personal Identity Number) code required to access the GSM provider	4 - 8 digits	-
Standard Parameters :Dial Parameters		
SYRT: System Retries The number of times the AGM redials a phone number after failing to establish communication	0 - 9 times	3
SYRW: System Retries Wait The number of seconds between attempts to redial the same phone number.	30,60 seconds	30
Standard Parameters :Periodic Test		
PRDT: Periodic Test Time The time that the AGM will automatically call a Follow Me number in order to check communication with the AGM or send a test report signal to the Monitoring Station.	24 hour format HH:MM (Example: 16:00=1600)	1200
PRTP: Periodic Test Recurrence The recurrence of performing the periodic test.	0: Never 1: Every day 2: Every 2 days 3: Every 3 days 4: Every 4 days 5: Every 5 days 6: Every 6 days 7: Every 7 days 28: Every month	0
Advanced Parameters :Telephone Prefixes (see Appendix, page 21)		
PBX1.. PBX2: Public Exchange Prefix A number dialed to access an outgoing line when the AGM is connected to a Private Branch Exchange (PBX) and not directly to a PSTN line.	Max. 6 digits	-
PCS1.. PCS6: Constant Prefix Initial digits of a phone number that will not to be corrected when calling through the GSM network.	Max. 6 digits	-
PADD: Prefix to Add Initial digits of telephone numbers that will be added to the beginning of a telephone number before calling through the GSM network.	Max. 6 digits	-
PRMV: Prefix to Remove Initial digits of telephone numbers that will be deleted before calling when using the GSM network.	Max. 6 digits	-
Advanced Parameters :Prepay SIM Card		
PPMS: Prepay SMS Credit Message SMS message sent to the provider in order to receive the current credit level of the SIM card used in the AGM. Your service provider predefines the SMS message.	Max. 18 digits	-
PPSP: Phone To Send Credit The provider's phone number to which the credit level SMS message request will be sent to.	Max. 32 digits	-
PPRP: Phone To Receive Credit The provider's telephone number from which an automatic SMS credit status message will be sent from.	Max. 32 chars	-
PPET: SIM Expiration Time The life length of a Pre-paid SIM card is defined by the provider. After each charging of the SIM, the user will have to manually reset the SIM's card expiration time. 30 days before the expiring time, a notification will be sent by SMS	0 - 36 month	-

Command Description	Programming Options	Default
to a Follow Me number (if defined) Set the SIM expiring date (in months) according to the time given by the provider.		
Advanced Parameters :GPRS → APN		
GPAP: GPRS- APN	Max. 30 digits	-
GPUS: GPRS - User ID	Max. 20 digits	-
GPPW: GPRS - Password	Max. 20 digits	-
Advanced Parameters :GPRS → Email		
SMIP: MAIL SMTP IP		0.0.0.0
SMPO: MAIL SMTP Port	Max. 5 digits	-
SMUS: MAIL SMTP User name	Max. 10 chars	-
SMPW: MAIL SMTP PW	Max. 10 chars	-
SMPR: MAIL Prefix The AGM Email address name section. For example, in the GSM@riscogroup.com E-mail address, the prefix name is "GSM".	Max. 16 chars	
SMDO: MAIL Domain The AGM module Email address domain section. For example, in the E-mail address GSM@riscogroup.com, the domain name is riscogroup.com	Max. 32 chars	
Advanced Parameters :GPRS → SMS		
SMSO: SMS/Email System Label	Max. 35 chars	"Security System"
SSRV: SMS Center Phone Lets you set the phone number of the message delivery center. This number can be obtained from the network operator.	Max. 32 chars	-
Inputs		
I1TY .. I2TY: Inputs 1/2 Type 24 Hour: Input is activate all time Arm/Disarm: Input is activated/deactivated by SMS user command	0: 24 Hour 1: Arm/Disarm	0
I3TY: Input 3 Type Switch to PSTN: The user can manually switch the outgoing line from PSTN to GSM (Latch operation).	0: 24 Hour 1: Arm/Disarm 2: Switch PSTN to GSM	0
I4TY: Input 4 Type Stop Follow Me: When triggered it will stop all Follow Me reports.	0: 24 Hour 1: Arm/Disarm 3: Stop Follow Me	0
I1TR to I4TR: Input 1..4 Termination	1: Negative Remove NC 2: Negative Remove NO 3: Positive Remove NC 4: Positive Remove NO	2
I1RD to I4RD: Input Report Delay The time (in seconds) that an input violation must last before triggering, followed by an alarm report send to the MS.	0 - 255 seconds	0
Outputs		
U1FL: Output 1 Type Follow Event: The output will be activated following events defined by the UxRE command. It will be deactivated when all events are restored. Follow user: The output is activated / deactivated by SMS user message command. Clip control: See page 10.	0: Follow Event 1: Follow User 2: Clip control	0

Command Description		Programming Options	Default
U2FL to U4FL: Output 2 to Output 4 Type		0: Follow Event 1: Follow User	0
U1TY to U4TY: Output Termination		0: Pulse N.C. 1: Pulse N.O. 2: Latch N.C. 3: Latch N.O.	1
U1PR to U1PR: Output Pulse Delay The time in seconds that the output is activated when triggered.		1-255 seconds	5
U1RE to U4RE: Output Report Event For events description, refer to page 10.	1: Input 1 2: Input 2 3: Input 3 4: Input 4 5: Tamper 6: PSTN loss 7: GSM trouble	8: Main power loss 9: Low battery 10: SIM card expired 11: Periodic test 12: PSTN+GSM loss	0
Follow Me Parameters			
F1TY to F8TY: Follow Me Type The format of event reports to the Follow Me. For additional information, refer to page 11.		0: Voice message 1: SMS 2: Email	0
F1TL to F8TL: Follow Me Phone Number Type in the telephone number including dialing prefixes and area code or special letters for Follow Me defined as SMS or Voice. For more details refer to the Appendix, page 21.		Max. 32 digits	-
F1ML to F1ML: Follow Me Email Address		Max. 31 chars	-
F1CA to F8CA: Follow Me Clip Control Define which Follow Me phones will be authorized to perform clip control operation to output 1 (when defined)		0: Not authorized 1: Clip authorized	0
VORC: Voice Recurrence The number of times a voice message will be played when establishing a call to a Follow Me number.		1 - 9	4
F1RE to F8RE: Follow Me Report Event Choose the events that will be reported to each Follow Me. For more information refer to page 11.	1: Input 1 2: Input 2 3: Input 3 4: Input 4 5: Tamper 6: PSTN loss	7: GSM trouble 8: Main power loss 9: Low battery 10: SIM card expired 11: Periodic test 12: Provider message	
F1RS to F1RS: Follow Me Event Restore Choose which restore events will be reported to each Follow Me number.	1: Input 1 2: Input 2 3: Input 3 4: Input 4	5: Tamper 6: PSTN loss 8: Main power loss 9: Low battery	
V1RE to V4RE: Voice Message Assignment to Follow Me Choose which voice message will follow a specific triggering of an event or message	1: Input 1 2: Input 2 3: Input 3 4: Input 4 5: Tamper	6: PSTN loss 8: Main power loss 9: Low battery 11: Periodic test	0
Monitoring Station			
M1TY or M2TY: Monitoring Station Channel report Type The manner of reporting events to the MS. For additional information refer to page 9.		1: SMS 2: GPRS	1
M1AN or M2AN: Monitoring Station Account Number A six digit customer account number assigned by the Monitoring Station.		Max. 6 digits	111111 222222
M1TL or M2TL: Monitoring Station Telephone Number		Max. 32 digits	-

Command Description		Programming Options	Default
M1IP or M2IP: Monitoring Station IP Address		Max. 15 digits	-
M1PT or M2PT: Monitoring Station Port		Max. 5 digits	-
MSSP: Monitoring Station report backup The Report Backup menu contains options that enable the routing of events reporting to the Monitoring Station channels.	0: Don't Call 1: Call 1st 2: Call 2nd 3: Call All	4: Second back up first 5: First back up second	4
MSRE: Monitoring Station Report Events	1: Input 1 2: Input 2 3: Input 3 4: Input 4 5: Tamper	6: PSTN loss 8: Main power loss 9: Low battery 11: Periodic test	-
MSRS: Monitoring Station Events Restore	1: Input 1 2: Input 2 3: Input 3 4: Input 4	5: Tamper 6: PSTN loss 8: Main power loss 9: Low battery	
MSCF: Monitoring Station Communication Format The communication protocol used by the digital receiver at the Monitoring Station.		0420: Contact ID 0700: SIA	0420
Monitoring Station :Report Codes			
R11E	Input 1 event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0130 (Intruder)
R12E	Input 2 event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0120 (Panic)
R13E	Input 3 event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0110 (Fire Alarm)
R14E	Input 4 event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0100 (Medical)
R11R	Input 1 restore event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0130 (Intruder)
R12R	Input 2 restore event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0120 (Panic)
R13R	Input 3 restore event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0110 (Fire Alarm)
R14R	Input 4 restore event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0100 (Medical)
RPSE	PSTN event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0351
RPSR	PSTN restore event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0351
RACE	AC loss event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0301
RACR	AC loss restore event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0301
RLBE	Low battery event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0302
RLBR	Low battery event restore	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0302
RTME	Tamper event	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0137
RTMR	Tamper restore	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0137

Command Description		Programming Options	Default
RPTC	Periodic test	4 digits (MSCF=0420) 2 chars (MSCF=0700)	0602

Diagnostics (can be performed by both the installer and the user)	
SFTR: Software Version Sending the SFTR command to the AGM will return the current Agm software version	SMS Structure: [Code][SFTR] Example: 1234 SFTR
ST: AGM Status Sending the ST command to the AGM will return the status of the AC power, Battery status, PSTN line status and GSM signal level.	SMS Structure: [Code][ST] Example: 1234 ST
STI: Inputs Status Sending the STI command will return the current input status (On/Off).	SMS Structure: [Code][STI] Example: 1234 STI
STO: Outputs Status Sending the STO command will return the current outputs status (Activated / Not -activated)	SMS Structure: [Code][STO] Example: 1234 STO
CLK: Receiving AGM time and date Sending the CLK command allows receiving the actual AGM TIME	SMS Structure: [Code][CLK] Example: 1234 CLK
CLK: Changing AGM time and date Sending the CLK command allows changing the AGM time and date.	SMS Structure: [Code][CLK][dd/mm/yy,hh,mm] Example: 1234 CLK 10/12/06,12,30

12. Technical Specifications

Electrical Characteristics	
Voltage	13.8VDC \pm 10%
Current Consumption	During Communication - 300mA
	During Standby - 70mA
Battery (not supplied):	12VDC/1.2Ah
Battery Type:	Lead Acid (rechargeable).
Battery Dimensions Width x Height x Depth	97 x 58 x 43 mm (3.8" x 2.3" x 1.7")
GSM Industrial Module	Quad Band GSM 850/900/1800/1900MHz
Connection	RS-485 Serial Link
Operating Temperature	0°C to 55°C (32°F to 131°F)
Physical characteristics	
Dimensions (metal casing) Width x Height x Depth	185 x 275 x 65 mm (7.2" x 10.8" x 2.6") With antenna installed: 185 x 335 x 65 mm (7.2" x 13.2" x 2.6")
Weight (with battery)	2.1kg (4.6lbs)

Appendix: Telephone Number Conversion in Line Simulation Mode

When the AGM operates in telephone line simulation mode, the telephone numbers dialed from the alarm control panel need to be adjusted according to the following conversion methodology. A description of the methodology is detailed below. For better understanding the procedure, use the example below.

Conversion Methodology

- 1.If the dialed number begins with an outgoing line number (when the module is connected to the PBX and not directly to the PSTN line), the outgoing line number will be deleted.
(defined in SMS commands **PBX1...PBX2**)
Go to step 2
- 2.If the dialed number begins with a prefix, (Constant prefix – SMS commands **PCS1 .. PCS6**) recognized by the AGM, the module will not change the number.
Go to step 5 else go to step 3
- 3.If the dialed number begins with a prefix that needs to be removed , the module will delete the Prefix number (SMS command **PRMV**).
Go to step 5 else go to step 4
- 4.If the dialed number has no prefixes known to the AGM, the module will add a Prefix (Prefix to add – SMS command **PADD**) defined in the security panel (usually used for the local area code of the PSTN).
Go to step 5
- 5.Dial the number.

Example:

Note:

Prefixes are used for voice calls only.

The module is connected to PBX (Private Branch Exchange), which has a PSTN line in area code 03 after dialing the “access number” 9.

The outgoing calls through the GSM module are allowed to the following telephone numbers:

03 910-5555 - owner's residence

052 366-4444 - owner's cellular

054 366-5555 - owner's spouse cellular

The telephone numbers definition in the panel should be:

“99105555”, “90523664444”, “90543665555”

Configuring the module for such an operation requires programming the numbers and prefixes as described below:

PBX prefix: "9"

Prefix Constant: “052”, “054” (or “05” only)

Prefix to remove: None

Prefix to add: "03"

Telephone numbers dialed the by GSM module:

"039105555", "0523664444", "0543665555"

RISCO Group Limited Warranty

RISCO Group and its subsidiaries and affiliates ("Seller") warrants its products to be free from defects in materials and workmanship under normal use for 12 months from the date of production. Because Seller does not install or connect the product and because the product may be used in conjunction with products not manufactured by the Seller, Seller cannot guarantee the performance of the security system which uses this product. Seller's obligation and liability under this warranty is expressly limited to repairing and replacing, at Seller's option, within a reasonable time after the date of delivery, any product not meeting the specifications. Seller makes no other warranty, expressed or implied, and makes no warranty of merchantability or of fitness for any particular purpose.

In no case shall seller be liable for any consequential or incidental damages for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever.

Seller's obligation under this warranty shall not include any transportation charges or costs of installation or any liability for direct, indirect, or consequential damages or delay.

Seller does not represent that its product may not be compromised or circumvented; that the product will prevent any person's injury or property loss by burglary, robbery, fire or otherwise; or that the product will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained alarm may only reduce the risk of burglary, robbery or fire without warning, but is not insurance or a guaranty that such will not occur or that there will be no personal injury or property loss as a result.

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WARNING: This product should be tested at least once a week.

Contacting RISCO Group

RISCO Group is committed to customer service and product support. You can contact us through our website (www.riscogroup.com) or as detailed below:

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AGM Advanced
GSM/GPRS Module

Universal Version User Instructions



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1.Introduction

RISCO Group's AGM, Advanced GSM/GPRS Module Universal version, is a cellular communication module, enabling your security system to communicate through the cellular GSM/GPRS network. Using the AGM you can receive status events reports by SMS, Email or short voice messages, in addition to the reports established to your monitoring station. In addition, the AGM enables you to perform remote control operations using simple SMS commands.

2.SMS Operations

The AGM can be controlled by SMS commands.

For higher security, the AGM can be configured by your installer to receive SMS remote control operations only from predefined Follow Me telephone numbers, by using the Caller ID feature of the GSM network.

2.1 SMS Command Message Remarks

- ✦ For security reasons, a 4-digit authorization code has to be used to perform the SMS commands. (Default code is 1234)
- ✦ SMS operations for Output Control, Input Control, Defining Follow Me number and Reset SIM Counter can receive a reply SMS from the AGM. To receive a reply SMS add [!] after the code (before the command).
Example: **1234 ! UO ON 1**. The reply message will be **UO1 Activated**
- ✦ SMS commands are not case sensitive.
- ✦ In the SMS command, spaces may be used but are not required.

2.2 SMS Operation Commands

AGM Output Control	
The AGM can support the operation of 4 utility outputs, for example, to open a gate or activate lights. These outputs can be defined by your installer to be activated automatically or by SMS.	
Activating an output: The command UO ON is used to activate an output	SMS Structure: [Code] [UO] [ON] [UO No] Example: 1234 UO ON 1
Deactivating an output: The command UO OFF is used to deactivate an output.	SMS Structure [Code] [UO] [OFF] [UO No] Example: 1234 UO OFF 1
Input Control	
The AGM has four inputs (to which sensing devices can be connected). These inputs can be defined by your installer to be enabled 24 hours or by SMS command (Arm/Disarm type). By default, inputs defined as Arm/Disarm are not activated (Disarmed)	
Inputs Arming The command A enables to activate (Arm) all inputs defined as Arm/Disarm type.	SMS Structure [Code] [A] Example: 1234 A
Inputs Disarm The command D enables to deactivate (Disarm) all inputs defined as Arm/Disarm.	SMS Structure [Code] [D] Example: 1234 D
Defining Follow Me Destinations	
The AGM enables to report events to 8 follow me destinations by SMS, voice or Email. Using SMS commands you can change a follow me phone of any of the 8 follow me numbers.	
Change Follow Me Phone The command FMPHONE followed by the command NEW enables to define a new phone to any of the 8 follow me destinations.	SMS Structure: [Code][FMPHONE][FM serial number 1- 8][NEW] [New FM Phone] Example: 1234 FMPHONE 3 NEW 0529692345

Prepaid SIM Card Control	
Get Credit Level By sending the command CR the AGM will send the current credit left in your prepaid SIM card, as given from your provider.	SMS Structure : [Code][CR] Example: <i>1234 CR</i>
Reset SIM Counter After charging the SIM card send a RESET command to set a new expiry time for your SIM. Your installer predefines the expiry period.	SMS Structure: [Code][RESETSIM] Example: <i>1234 RESETSIM</i>
Diagnostics	
AGM Status Sending the ST command to the AGM will return the status of the AC power, battery status, phone line status and GSM signal level.	SMS Structure: [Code][ST] Example: <i>1234 ST</i>
Outputs Status: The STO command is used to read the current outputs status (Activated / De-activated)	SMS Structure: [Code][STO] Example: <i>1234 STO</i>
Input Status: The STI command is used to read the current input status (On-Triggered / Off – Not triggered)	SMS Structure: [Code][STI] Example: <i>1234 STI</i>
AGM Time and Date	
Receiving AGM time and date	SMS Structure: [Code][CLK] Example: <i>1234 CLK</i>
Changing AGM time and date	SMS Structure: [Code][CLK][dd/mm/yy,hh,mm] Example: <i>1234 CLK 10/12/06,12,30</i>

2.3 CLIP Control

If defined by your installer you can activate utility output one (UO1) from any follow me number authorized with this function, without being charged for a call from this phone to the AGM. To perform this operation, call the AGM and hang up after 1 or 2 rings (depending on the network provider). During this time, the AGM recognizes the telephone number and activates output 1.

3.Events Reporting

The AGM can send report messages by SMS, Email or voice message. Your installer defines the events and the reporting type for each follow me destination.

3.1 SMS Messaging

The AGM can send predefined SMS event messages to Follow Me telephone numbers. The SMS is sent in the following format:

Message structure:

[System Label],
[Time],
[Event]

Example:

Security System
10:28
Intruder Alarm
Front door

3.2 E-mail Messaging

The AGM can E-mail event messages to e-mail addresses (predefined by the installer) using the GSM/GPRS capabilities. In order to do so, the GPRS channel should be activated on the SIM.

3.3 Event Voice Messaging

The AGM enables to transfer audible reports (using a Plug on Voice Module) over the GSM network, by playing up to 4 pre-recorded messages. The length of each message is up to 10 seconds long and is played whenever the phone has been picked up at the other side of the line. Each voice message can be assigned to multiple events, as defined by your installer.



Important:

When receiving a voice message report you can acknowledge the receipt of the message and stop dialing to the current follow me number by pressing the DTMF digit "1".

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RISCO Group

June 2007

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Chapter 1 System Overview

The AGM Universal Configuration Software is a Windows based software package that enables you to configure the RISCO Group Universal Version AGM Advanced GSM/GPRS Module.

AGM Advanced GSM/GPRS Module




The AGM Universal module is an advanced, comprehensive GSM/GPRS module. It can be installed in a wide variety of security and control applications using the Voice, SMS, GPRS, and Data channels of the GSM network. The AGM Universal module can be used as a primary or backup GSM communicator connected to any control panel with dialer or as a standalone miniature control-panel with integral GSM communication.

The AGM Universal module can also be used to send events via SMS, Email, or Voice to designated recipients, including private phones. It can also report events to Monitoring Stations via GSM using encrypted SMS, or via GPRS.

AGM Universal Configuration Software

The AGM Universal Configuration Software enables you to configure the AGM Universal module. Through a user-friendly interface, you can set all module parameters, as well as the module language, date, and time. You can then save your configuration set and send it to the AGM Universal module. The AGM Universal Configuration Software is also capable of receiving configuration information from the AGM Universal module.

Communication with the AGM Universal module can be achieved using the following methods:

-  Local connection via direct cable for sending and receiving parameter information.
-  Remote connection via the GSM data channel of the service provider, for sending and receiving parameter information.
-  SMS for sending parameter information.




While the connection is active, you can configure the AGM Universal module using the AGM Universal Configuration Software.

Chapter 2 Downloading and Installing the AGM Universal Configuration Software

To install the AGM Universal Configuration Software, you must download the AGM Universal Configuration Software from the RISCO Group website and install the AGM Universal Configuration Software onto your local drive.

System Requirements

The following are system requirements for installing and running the AGM Universal Configuration Software:

-  Microsoft Windows XP Professional Edition with Service Pack 2
-  Microsoft .NET Framework
-  A .zip file extraction tool

Downloading the AGM Universal Configuration Software

The latest version of the AGM Universal Configuration Software can be downloaded from the RISCO Group website.

To download the AGM Universal Configuration Software:

1. Open your web browser and go to www.riscogroup.com.
2. Place your cursor over **Support & Downloads**. The Support & Downloads drop-down menu appears.
3. Select **AGM Universal Configuration Software**. The AGM Universal Configuration Software Download page opens.

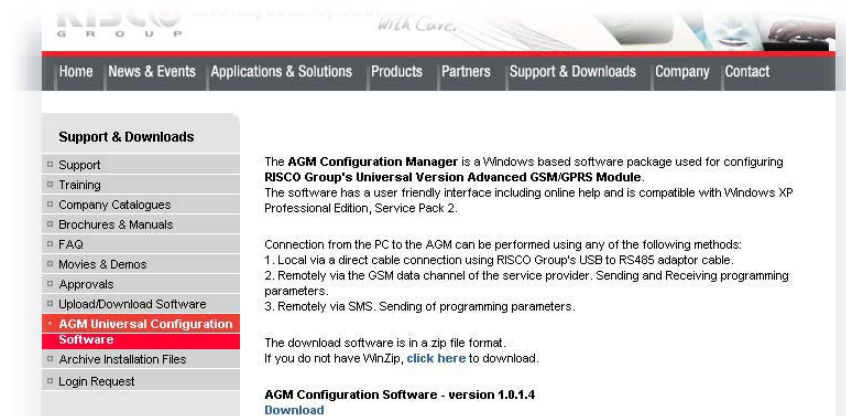



Figure 1. AGM Universal Configuration Software Download Page

4. Click **Download**. The Login page opens.
5. Enter your username and password in the appropriate fields and click  next to **Send** in the Login section. You are returned to the AGM Universal Configuration Software website.
6. Click **Download**. The download begins.
7. When the download is complete, extract the .zip file contents to your local drive.

Note: The AGM Universal Configuration Software .zip file extracts using the Microsoft .NET Framework.

Installing the AGM Universal Configuration Software

Once you have downloaded the .zip file and extracted its contents, you are ready to install the software.

To install the AGM Universal Configuration Software:

1. Double-click **setup.exe**. The AGM Configuration Manager Setup Wizard opens.
2. Follow the instructions on the screen. The AGM Configuration Manager Setup Wizard installs the AGM Universal Configuration Software.

Chapter 3 Navigating the AGM Universal Configuration Software

You can configure the parameters of your AGM Universal module using the AGM Universal Configuration Software entirely through the graphic user interface. Once you open the AGM Universal Configuration Software, you can access the various interface components.

To open the AGM Universal Configuration Software:

- Double-click the AGM Configuration Manager icon on your desktop.



Figure 2. AGM Configuration Manager Icon

The AGM Universal Configuration Software opens.

Note: It is recommended that you set your screen resolution to 1024 x 768 pixels.

System Interface

The AGM Universal Configuration Software system interface features a single Main Window.

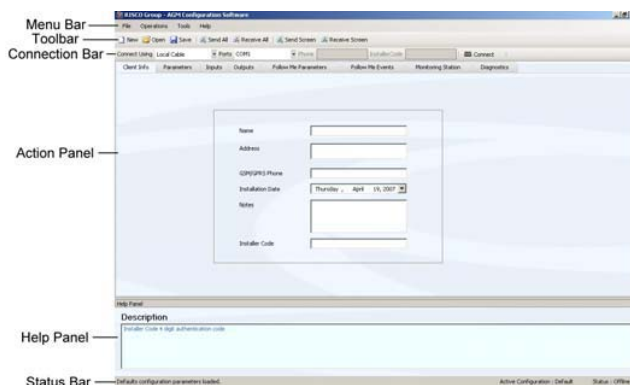








Figure 3. Main Window

The Main Window consists of several elements:

-  Menu Bar
-  Toolbar
-  Connection Bar
-  Action Panel
-  Help Panel
-  Status Bar

Menu Bar

The Menu Bar enables you to access basic AGM Universal Configuration Software features. The following table describes the Menu Bar:

Table 1. Menu Bar Options








Menu	Item	Description
<i>File</i>		
	New	Closes the current file, losing any unsaved settings, and creates a new file.
	Open	Opens an existing file.
	Save	Saves the file.
	Save As	Saves the file under a new filename.
	Exit	Exits the AGM Universal Configuration Software.
<i>Operations</i>		
	Send Screen	Sends the parameter information of the active screen to the AGM Universal module.
	Receive Screen	Receives the current AGM Universal module parameter information for the active screen.
	Reset Screen	Resets the active screen to its default setting.
	Send All	Sends the parameter information of all screens to the AGM Universal module.
	Receive All	Receives the current AGM Universal module parameter information for all screens.
	Reset All	Resets all screens to their default settings.
<i>Tools</i>		
	Software Language	Sets the software language. See <i>Setting the Software Language</i> on page 12.

Menu	Item	Description
	Set Module Language	Sets the language for messages sent by the AGM Universal module, and for parameter information received from the AGM Universal module. See <i>Setting the Module Language</i> on page 28.
	Set Module Clock	Sets the AGM Universal module clock. See <i>Setting the Module Clock</i> on page 29.
<i>Help</i>		
	Help Panel	Selects the Help Panel.
	About	Provides information about the application, including version number and contact details for RISCO Group.

Toolbar

The Toolbar enables easy access to AGM Universal Configuration Software functions. The following table describes the Toolbar:






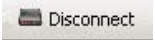
Table 2. Toolbar Options

Item	Description
 New	Closes the current file, losing any unsaved settings, and creates a new file.
 Open	Opens an existing file.
 Save	Saves the file.
 Send All	Sends the parameter information of all screens to the AGM Universal module.
 Receive All	Receives the current AGM Universal module parameter information for all screens.
 Send Screen	Sends the parameter information of the active screen to the AGM Universal module.
 Receive Screen	Receives the current AGM Universal module parameter information for the active screen.

Connection Bar

The Connection Bar enables you to select a connection method and connect to the AGM Universal Configuration Software. The following table describes the Connection Bar:

Table 3. Connection Bar Options

Item	Name	Description
	Connection Type Menu	Designates which connection type is used to interface with the AGM Universal module.
	Ports Menu	Designates which computer port is used to interface with the AGM Universal module.
	Phone Number Field	Phone number of the desired AGM Universal module.
	Installer Code Field	Unique four-digit Installer Code associated with the AGM Universal module to prevent unauthorized access. Note: The default Installer Code is 0200.
	Connect Button	Connects to the AGM Universal module.
	Disconnect Button	Disconnects from the AGM Universal module.

Note: For more information on connecting to the AGM Universal module, see *Establishing Communication with the AGM Universal Module* on page 13.



Action Panel

The Action Panel enables you to see and change AGM Universal module parameters.



Figure 4. Action Panel


The Action Panel consists of two components:

-  **Tab Bar** – The Tab Bar enables you to access the various parameter screens in the Active Window. For information on the parameter screens, see *Setting Parameter Information* on page 19.
-  **Active Window** – The Active Window is where you view and change AGM Universal module parameters.

Help Panel

The Help Panel displays descriptions of the various fields and drop-down menus in the Active Window.

To view Help information for a field or drop-down menu:

-  Position the cursor over a field or drop-down menu. A description appears in the Help Panel.

Note: Using standard procedures, you can change the size of the Help Panel, collapse it, or drag it to any part of the screen.

Status Bar

The Status Bar displays your most recent action, the active configuration filename, and the connection status.



Figure 5. Status Bar

Setting the Software Language

You can configure your AGM Universal Configuration Software to run in a specific language.

Note: You cannot set the software language when the AGM Universal Configuration Software is connected to the AGM Universal module.

To define the software language:

1. Select **Tools > Software Language**. The AGM Configuration Manager - UI Language Settings window appears.



Figure 6. AGM Configuration Manager - UI Language Settings Window

2. Select a language from the Select Language drop-down menu.

Note: Currently, the AGM Universal Configuration Software only supports English (United States) for the software language.


3. Click **Ok**. The AGM Universal Configuration Software refreshes to display in the language you selected.

Chapter 4 Configuring AGM Universal Modules

The primary function of the AGM Universal Configuration Software is configuring AGM Universal modules. You must connect to the AGM Universal module to send AGM Universal module parameters. You can do this either before or after setting the parameters in the fields and drop-down menus of the parameter screens. You must also establish a connection with the AGM Universal module to set the module language and set the module clock. While the connection is established, you can receive the current parameters from the AGM Universal module and display them in the AGM Universal Configuration Software.

Establishing Communication with the AGM Universal Module

You can communicate with the AGM Universal module using any of the following methods:

-  Local Cable
-  Remote Modem
-  SMS Sending

Local Cable

You can connect your PC to the AGM Universal module using a local cable. There are two types of supported cable:

Table 4. Cable Types

Cable	Type	Part Number
RISCO Group Standard Cable	Serial	RP296EBA00A
RISCO Group USB Cable	USB	RP128EUSB00A

When connecting using a local cable, the rate of data transfer between your PC and the AGM Universal module is 9600 bps.

Note: For information on installing the local cable, refer to the *AGM Advanced GMS/GPRS Module Universal Version Installation and Programming Instructions*.

Once you install the cable, you can establish the Local Cable connection.

To connect via a local cable:

1. In the Connection Type menu, select **Local Cable**.
2. In the Ports menu, select the port of your RISCO Group cable.

Note: When using a USB cable, the AGM Universal Configuration Software designates a virtual COM port to represent the USB port.


3. Click  **Connect**. The AGM Universal Configuration Software begins connecting to the AGM Universal module and the Communicating with AGM Module window appears.



Figure 7. Communicating with AGM Module Window

4. When the Communicating with AGM Module window displays *Device Connected*, click **Close**. The AGM Universal module connection status is Online.

Note: While the Local Cable connection status is Online, the AGM Universal module is in Programming Mode and cannot process or send messages.

Sending and Receiving Parameters via Local Cable





You can send or receive the parameter information either of the active screen or of all the screens at once.

Caution: Parameter information sent to the AGM Universal module automatically replaces the previous module parameters.

To send or receive parameter screens:

1. Perform one of the actions in Table 5, Sending and Receiving Parameter Screens. The Communicating with AGM Module window appears.

Table 5. Sending and Receiving Parameter Screens


Action	Toolbar Command	Keyboard Command	Menu Bar Command
Send a Single Screen	 Send Screen	Ctrl+Shift+S	Operations > Send Screen
Send All Screens	 Send All	Ctrl+Shift+D	Operations > Send All
Receive a Single Screen	 Receive Screen	Ctrl+Shift+R	Operations > Receive Screen
Receive All Screens	 Receive All	Ctrl+Shift+E	Operations > Receive All

2. When the *Sending/Receiving Parameters done* message appears, click **Close**. The parameter information has been sent or received successfully.

Remote Modem

If you are configuring an AGM Universal module at a remote location, you can connect to the remote AGM Universal module's modem. The rate of data transfer using the AGM Universal module modem is 9600 bps. Connecting through a remote modem requires a dedicated GSM Data channel (CSD) for the AGM Universal module. You must order this channel from your local telephone company. You can either use a PSTN modem or a cellular phone with a modem, as your computer modem. If you use a cellular phone, RISCO Group recommends Nokia® brand phones with modems. Refer to the *AGM Advanced GSM/GPRS Module Universal Version Installation and Programming Instructions* for more information.

To connect via a remote modem:

1. In the Connection Type menu, select **Remote Modem**.
2. In the Ports menu, select the port of your PC modem.
3. In the Phone field, enter the phone number of the remote AGM modem.
4. In the Installer Code field, enter the unique Installer Code assigned to the remote AGM Universal module.
5. Click  **Connect**. The AGM Universal Configuration Software begins connecting to the AGM Universal module and the Communicating with AGM Module window appears, as seen in Figure 7 on page 14.
6. When the *Device connected* message appears, click **Close**. The remote AGM Universal module connection status is Online.

Note: While the Remote Modem connection status is Online, the AGM Universal module is in Programming Mode and cannot process or send messages.

Sending and Receiving Parameters via Remote Modem



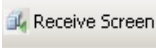

You can send or receive the parameter information either of the active screen or of all the screens at once.

Caution: Parameter information sent to the AGM Universal module automatically replaces the previous module parameters.

To send or receive parameter screens:

1. Perform one of the actions in Table 6, Sending and Receiving Parameter Screens. The Communicating with AGM Module window appears.

Table 6. Sending and Receiving Parameter Screens

Action	Toolbar Command	Keyboard Command	Menu Bar Command
Send a Single Screen	 Send Screen	Ctrl+Shift+S	Operations > Send Screen
Send All Screens	 Send All	Ctrl+Shift+D	Operations > Send All
Receive a Single Screen	 Receive Screen	Ctrl+Shift+R	Operations > Receive Screen
Receive All Screens	 Receive All	Ctrl+Shift+E	Operations > Receive All

2. When the *Sending/Receiving Parameters done* message appears, click **Close**. The parameter information has been sent or received successfully.


SMS Sending

While connected using the SMS Sending connection method, it is possible only to send parameter information. You cannot receive parameter information. Sending parameter information from your PC using SMS requires that you use a cellular phone as your computer modem. RISCO Group recommends Nokia® brand phones with modems. You can send the parameter information of a single parameter, all the parameters in the active screen, or all the parameter screens at once. The parameter information is sent as SMS commands to the AGM Universal module.

Alternatively, you can send parameter information SMS messages from a cellular phone. The AGM Universal module can receive SMS messages from your cellular phone at any time without affecting its normal operation. You can send individual parameters or send the equivalent of a whole screen in one SMS message.

Note: For information on sending SMS messages from your cellular phone, refer to the *AGM Advanced GSM/GPRS Module Universal Version Installation and Programming Instructions*.

To connect via SMS:

1. In the Connection Type menu, select **SMS Sending**.
2. In the Ports menu, select the port of your PC modem.
3. In the Phone field, enter the phone number of the remote AGM modem.
4. In the Installer Code field, enter the unique Installer Code assigned to the remote AGM Universal module.
5. Click  **Connect**. The AGM Universal Configuration Software begins connecting to the AGM Universal module and the Communicating with AGM Module window appears, as seen in Figure 7 on page 14.
6. When the *Device connected* message appears, click **Close**. The parameter information has been sent successfully.

Note: Unlike the Local Cable and Remote Modem connection methods, while the SMS Sending connection status is Online, the AGM Universal module remains in Operation Mode and can process and send messages.

Sending Parameters via SMS

While connected via SMS you can send the parameter information of a single parameter, all the parameters in the active screen, or all the parameter screens at once.

Caution: Parameter information sent to the AGM Universal module automatically replaces the previous module parameters.

To send one parameter:

1. Right-click on a parameter. The Send SMS drop-down menu appears.





Figure 8. Send SMS Drop-Down Menu

2. Click **Send SMS**.

To send parameter screens:

1. Perform one of the actions in Table 7. The Communicating with AGM Module window appears.

Table 7. Sending and Receiving Parameter Screens

Action	Toolbar Command	Keyboard Command	Menu Bar Command
Send a Single Screen	 Send Screen	Ctrl+Shift+S	Operations > Send Screen
Send All Screens	 Send All	Ctrl+Shift+D	Operations > Send All

2. When the *Sending Parameters done* message appears, click **Close**. The parameter information has been sent successfully.









Note: If the Caller ID checkbox of the Standard View tab of the Parameters screen is checked, the AGM Universal module will only accept messages from a cellular phone with a phone number which is recognized as a Follow Me recipient. This is true whether you are using the cellular phone as your PC modem, or whether you are sending SMS messages directly from the cellular phone.

Setting Parameter Information

Parameter information is set in the parameter screens. When you click a tab in the Tab Bar, the associated screen appears in the Active Window. The following sections provide a brief overview of the screens. For detailed information on the AGM Universal module parameters, refer to the *AGM Advanced GMS/GPRS Module Universal Version User Instructions*.

Note: It is possible to save your parameter settings as an .act file for configuring future AGM Universal modules, or for further editing.

The following parameter screens are available:

-  **Client Info** – Contains the client information for each file. See *Client Info* on page 20.
-  **Parameters** – Contains configuration parameters for how the AGM Universal module sends and receives messages. See *Parameters* on page 21.
-  **Inputs** – Contains configuration parameters for the AGM Universal module Inputs. See *Inputs* on page 23.
-  **Outputs** – Contains configuration parameters for the AGM Universal module Outputs. See *Outputs* on page 24.
-  **Follow Me Parameters** – Contains information regarding messages sent to Follow Me message recipients. See *Follow Me Parameters* on page 25.
-  **Follow Me Events** – Contains configuration parameters regarding AGM Universal module Event and Restore messages. See *Follow Me Events* on page 25.
-  **Monitoring Station** – Contains configuration parameters regarding messages sent to the Monitoring Stations. See *Monitoring Station* on page 26.
-  **Diagnostics** – Features the AGM Universal module diagnostic information display. See *Diagnostics* on page 27.

Client Info

In the Client Info screen, you can enter information to differentiate between AGM Universal module configuration sets for different clients. Client information is not sent to the AGM Universal module, but is saved in the configuration file.

Figure 9. Client Info


The following table describes fields in the Client Info screen:

Table 8. Client Info Screen Elements

Element	Description
Name	The client's name.
Address	The client's address.
GSM/GPRS Phone	GSM phone number of the AGM Universal module.
Installation Date	Installation date of the AGM Universal module.
Notes	Any important information can be entered into this field.
Installer Code	Unique four-digit Installer Code associated with the AGM Universal module to prevent unauthorized access. Note: The default Installer Code is 0200.

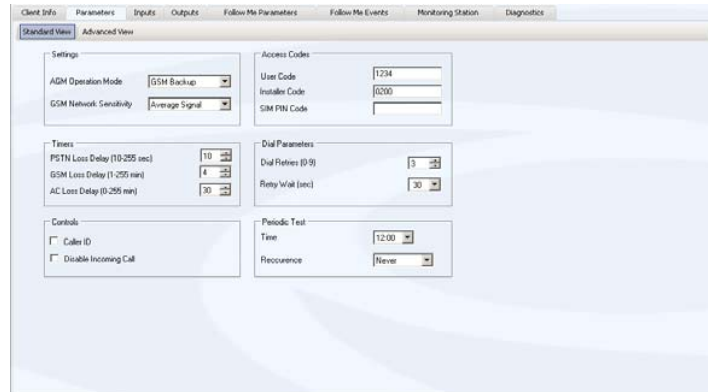
Parameters

The parameters screen contains two sub-screens:

-  Standard View
-  Advanced View

Standard View

In the Standard View screen, you can determine the AGM Universal module protocols for receiving and sending messages.



The screenshot displays the 'Standard View' configuration window. It features a menu bar at the top with options: Client Info, Parameters, Inputs, Outputs, Follow Me Parameters, Follow Me Events, Monitoring Status, and Diagnostics. The 'Parameters' tab is active, showing two sub-tabs: 'Standard View' (selected) and 'Advanced View'.

The 'Standard View' sub-tab contains several configuration sections:

- Settings:**
 - AGM Operation Mode: GSM Backup (dropdown)
 - GSM Network Sensitivity: Average Signal (dropdown)
- Access Codes:**
 - User Code: 1234 (text input)
 - Installer Code: 0200 (text input)
 - SIM PIN Code: (text input)
- Times:**
 - PSTN Loss Delay (10-255 sec): 10 (spin box)
 - GSM Loss Delay (1-255 min): 4 (spin box)
 - AC Loss Delay (0-255 min): 30 (spin box)
- Dial Parameters:**
 - Dial Retries (0-9): 3 (spin box)
 - Retry Int'l (sec): 30 (spin box)
- Controls:**
 - ☐ Caller ID
 - ☐ Disable Incoming Call
- Periodic Test:**
 - Time: 12:00 (dropdown)
 - Recurrence: Never (dropdown)

Figure 10. Standard View

Advanced View

In the Advanced View screen, you can enter the information necessary for the AGM Universal module to receive and send messages, either by way of the PSTN, the GSM network, or the Internet.

The screenshot displays the 'Advanced View' configuration window. It features a menu bar at the top with options: Client Info, Parameters, Inputs, Outputs, Follow Me Parameters, Follow Me Events, Monitoring Station, and Diagnostics. Below the menu, there are tabs for 'Standard View' and 'Advanced View' (which is selected). The main area is divided into several sections:

- Telephone Prefix:** Includes fields for 'Public Exchange', 'PBX 1', 'PBX 2', 'Prefix to Add', 'Add', 'Prefix to Remove', and 'Remove'.
- Constants Prefix:** Includes fields for 'Constant 1' through 'Constant 5'.
- Proper SIM Card:** Includes fields for 'SMS Credit Message', 'Phone to Send Credit', 'Phone to Receive Credit', and 'SIM Expiration (0-36 months)'.
- GPRS:** Includes a section for 'Access Point Network' with fields for 'APN', 'User ID', 'User Password', and 'Module Email'. It also includes a section for 'Email SMTP Server' with fields for 'IP', 'Port', 'User Name', and 'Password'.
- SMS:** Includes fields for 'SMS/Email System Label' and 'SMS Center Phone'.

Figure 11. Advanced View

Inputs

In the Inputs screen, you can configure parameters for the four AGM Universal module Inputs to which sensory devices can be connected. You can also define the message text associated with triggering and resetting the four Inputs. The Chars Left column in each section indicates how many of the maximum number of characters allowed for the corresponding field remain available.

Type	Termination	Response Time Label (0-255 sec)	Chars Left
Input 1	Negative Remove NO	0	Input 1
Input 2	Negative Remove NO	0	Input 2
Input 3	Negative Remove NO	0	Input 3
Input 4	Negative Remove NO	0	Input 4

Event Name	Message Text	Chars Left
Input 1 Event	Intruder Alarm	23
Input 1 Restore	Intruder Restore	19
Input 2 Event	Panic Alarm	24
Input 2 Restore	Panic Restore	22
Input 3 Event	Fire Alarm	25
Input 3 Restore	Fire Restore	23
Input 4 Event	Emergency Alarm	20
Input 4 Restore	Emergency Restore	18

Figure 12. Inputs

Outputs

In the Outputs screen, you can configure parameters for the four AGM Universal module Outputs to which utility devices can be connected. You can also select which Events trigger each Output. You can deselect all the Events for each Output by clicking **Clear**. The Chars Left column in the Output Parameters section indicates how many of the maximum number of characters allowed for the corresponding field remain available.

Output Parameters	Type	Termination	Pulse Delay (1-255 sec)	Label (16 digit maximum)	Chars Left
Output 1	Folow Event	Pulse NO	5	NO 1	12
Output 2	Folow Event	Pulse NO	5	NO 2	12
Output 3	Folow Event	Pulse NO	5	NO 3	12
Output 4	Folow Event	Pulse NO	5	NO 4	12

Output 1	Output 2	Output 3	Output 4
<input checked="" type="checkbox"/> Input 1	<input type="checkbox"/> Input 1	<input type="checkbox"/> Input 1	<input type="checkbox"/> Input 1
<input checked="" type="checkbox"/> Input 2	<input type="checkbox"/> Input 2	<input type="checkbox"/> Input 2	<input type="checkbox"/> Input 2
<input checked="" type="checkbox"/> Input 3	<input type="checkbox"/> Input 3	<input type="checkbox"/> Input 3	<input type="checkbox"/> Input 3
<input checked="" type="checkbox"/> Input 4	<input type="checkbox"/> Input 4	<input type="checkbox"/> Input 4	<input type="checkbox"/> Input 4
<input checked="" type="checkbox"/> Tamper	<input type="checkbox"/> Tamper	<input type="checkbox"/> Tamper	<input type="checkbox"/> Tamper
<input checked="" type="checkbox"/> PSTN Loss	<input type="checkbox"/> PSTN Loss	<input type="checkbox"/> PSTN Loss	<input type="checkbox"/> PSTN Loss
<input checked="" type="checkbox"/> GSM Trouble	<input type="checkbox"/> GSM Trouble	<input type="checkbox"/> GSM Trouble	<input type="checkbox"/> GSM Trouble
<input checked="" type="checkbox"/> Main Power Loss	<input type="checkbox"/> Main Power Loss	<input type="checkbox"/> Main Power Loss	<input type="checkbox"/> Main Power Loss
<input checked="" type="checkbox"/> Low Battery	<input type="checkbox"/> Low Battery	<input type="checkbox"/> Low Battery	<input type="checkbox"/> Low Battery
<input checked="" type="checkbox"/> SIM Card Expired	<input type="checkbox"/> SIM Card Expired	<input type="checkbox"/> SIM Card Expired	<input type="checkbox"/> SIM Card Expired
<input checked="" type="checkbox"/> Periodic Test	<input type="checkbox"/> Periodic Test	<input type="checkbox"/> Periodic Test	<input type="checkbox"/> Periodic Test
<input checked="" type="checkbox"/> PSTN + GSM Loss	<input type="checkbox"/> PSTN + GSM Loss	<input type="checkbox"/> PSTN + GSM Loss	<input type="checkbox"/> PSTN + GSM Loss

Clear Clear Clear Clear

Figure 13. Outputs

Follow Me Parameters

In the Follow Me Parameters screen, you can define the identity of each of the eight possible Follow Me recipients of AGM Universal module messages and the type of messages each receives. You can also set the maximum number of recurrences for voice messages.

	Report Type	Phone	Email	CLIP Control (SDI)
Follow Me 1	SMS			<input type="checkbox"/>
Follow Me 2	SMS			<input type="checkbox"/>
Follow Me 3	SMS			<input type="checkbox"/>
Follow Me 4	SMS			<input type="checkbox"/>
Follow Me 5	SMS			<input type="checkbox"/>
Follow Me 6	SMS			<input type="checkbox"/>
Follow Me 7	SMS			<input type="checkbox"/>
Follow Me 8	SMS			<input type="checkbox"/>

Voice Message Recurrence: 1

Figure 14. Follow Me Parameters

Follow Me Events

In the Follow Me Events screen, you can define which Events and Restores trigger which messages for which Follow Me recipients.

Events	Voice Messages	1	2	3	4	5	6	7	8
Input 1 Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Input 1 Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Input 2 Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Input 2 Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Input 3 Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Input 3 Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Input 4 Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Input 4 Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tamper Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tamper Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PSTN Loss Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PSTN Loss Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CDM Trouble Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Main Power Loss Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Main Power Loss Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low Battery Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low Battery Restore		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SDM Card Expired Event		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Periodic Test Event	No Message	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Message Provider Event		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Clear

Figure 15. Follow Me Events

Monitoring Station

In the Monitoring Station screen, you can enter the information necessary for the AGM Universal module to communicate with the two Monitoring Stations. You can also define the circumstances for which the AGM Universal module communicates with the Monitoring Stations and the codes it uses to represent specific Events and Restores in its reports.

The screenshot shows the 'Monitoring Station' configuration window. It has tabs for Client Info, Parameters, Inputs, Outputs, Follow Me Parameters, Follow Me Events, Monitoring Station, and Diagnostics. The 'Monitoring Station' tab is active.

Monitoring Station 1:

- Channel Type: SMS
- Account Number: 001111
- Phone Number:
- IP Address: 0.0.0.0
- Port Number: 0
- Report backup: Call 2nd as backup to 1st
- Communication Format: Contact ID

Events and Restores:

Events	Restores
<input type="checkbox"/> Input 1	<input type="checkbox"/> Input 1
<input type="checkbox"/> Input 2	<input type="checkbox"/> Input 2
<input type="checkbox"/> Input 3	<input type="checkbox"/> Input 3
<input type="checkbox"/> Input 4	<input type="checkbox"/> Input 4
<input type="checkbox"/> Tamper	<input type="checkbox"/> Tamper
<input type="checkbox"/> PSTN Loss	<input type="checkbox"/> PSTN Loss
<input type="checkbox"/> Main Power Loss	<input type="checkbox"/> Main Power Loss
<input type="checkbox"/> Low Battery	<input type="checkbox"/> Low Battery
<input type="checkbox"/> Periodic Test	<input type="checkbox"/> Periodic Test

Report Codes:

Event Code	Restore Code
0130	0130
0120	0120
0110	0110
0100	0100
0251	0251
0301	0301
0302	0302
0137	0137
0602	0602

Figure 16. Monitoring Station

Diagnostics

The Diagnostics screen provides status information for your AGM Universal module.

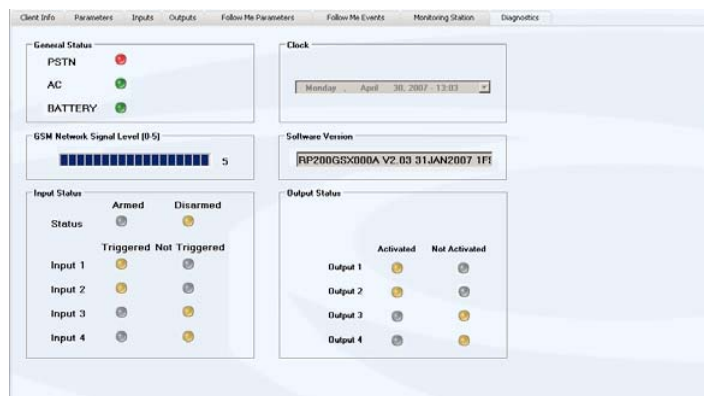


Figure 17. Diagnostics

Note: For more information on the Diagnostics screen, see *Viewing AGM Universal Module Diagnostic Information* on page 30.

Setting the Module Language

The module language determines in what language AGM Universal module messages are sent, including Event messages and received parameter information. Setting the module language is optional, and is usually performed only once per client.

Note: You can only set the module language while the AGM Universal Configuration Software is connected to the AGM Universal module via a local cable or remote modem.

To set the module language:

1. Select **Tools > Module Language**. The Set Module Language Parameters window appears.



Figure 18. Set Module Language Parameters Window

2. Select a language from the Select Language drop-down menu and click **Send**. The AGM Universal Configuration Software sends your language parameter setting to the AGM Universal module.
3. Click **Close**. The AGM Universal module language is set.

Setting the Module Clock

The AGM Universal module contains its own internal clock which you can set using the AGM Universal Configuration Software. Setting the module clock is optional, and is usually performed only once per client.

Note: You can only set the module clock while the AGM Universal Configuration Software is connected to the AGM Universal module via the Local Cable or Remote Modem methods.

To set the AGM Universal module clock:

1. Select **Tools > Set Module Clock**. The AGM Module Clock Settings window appears.

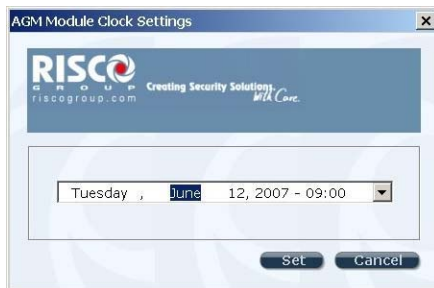


Figure 19. AGM Module Clock Settings Window

2. Enter the date and time or select the date and time from the drop-down menu.

Note: The date and time displayed in the AGM Module Clock Settings window are automatically taken from your computer clock date and time.

3. Click **Set**. The module clock is set.

Chapter 5 Viewing AGM Universal Module Diagnostic Information

In the Diagnostics screen, you can view status information for your AGM Universal module, including the connection, power, clock, inputs, outputs, and software version.

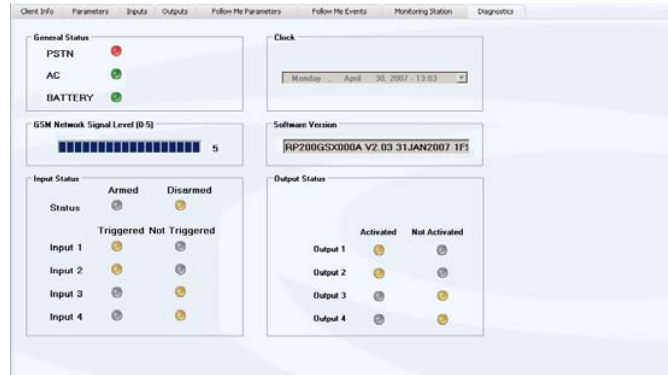


Figure 20. Diagnostics Screen

The following table describes the Diagnostics screen:

Table 9. Diagnostics Screen Elements

Section	Item	Description
<i>General Status</i>		
	PSTN	Status of the AGM Universal module connection to the public telephone system: <ul style="list-style-type: none"> • Green – PSTN connection present • Red – PSTN connection not present
	AC	Power status: <ul style="list-style-type: none"> • Green – Main power OK • Red – No main power
	BATTERY	Battery status: <ul style="list-style-type: none"> • Green – OK • Red – Low

Section	Item	Description
GSM Network Signal Level (0-5)		
	Signal Bar	Strength of the GSM network signal, with a value of 0 to 5: <ul style="list-style-type: none">• 0 – No signal• 1 – Very Low• 2 – Low• 3 – Medium• 4 – High• 5 – Very High
Input Status		
	Status	Monitoring status of the AGM Universal module (Armed or Disarmed).
	Input 1	Status of Input 1 (Triggered or Not Triggered).
	Input 2	Status of Input 2 (Triggered or Not Triggered).
	Input 3	Status of Input 3 (Triggered or Not Triggered).
	Input 4	Status of Input 4 (Triggered or Not Triggered).
	Note: For information on Input parameters, see <i>Inputs</i> on page 23.	
Clock		
	Clock Setting	Current date and time setting for the AGM Universal module clock.
	Note: For information on setting the AGM Universal module clock, see <i>Setting the Module Clock</i> on page 29.	
Software Version		
	Version	Current software edition for the internal software of the AGM Universal module.
Output Status		
	Output 1	Status of Output 1 (Activated or Not Activated).
	Output 2	Status of Output 2 (Activated or Not Activated).
	Output 3	Status of Output 3 (Activated or Not Activated).
	Output 4	Status of Output 4 (Activated or Not Activated).
	Note: For information on Output parameters, see <i>Outputs</i> on page 24.	

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TST

Transport - Radius Front/Round Top - 6' wide models

MODEL		TST6X10DS2	TST6X12DS2	TST6X12DT2	TST6X14DS2	TST6X14DT2
Body:	Length	10'9"	12'9"	12'9"	14'9"	14'9"
	Width	6'	6'	6'	6'	6'
	Overall:					
Overall:	Length	4'	16'	15'	18'	18'
	Width	92"	92"	92"	92"	92"
	Height	94"	94"	95"	94"	95"
Interior:	Length	10'5"	12'5"	12'5"	14'5"	14'5"
	Width	68"	68"	68"	68"	68"
	Height	73"	73"	73"	73"	73"
Platform Height		8"	18"	19"	18"	19"
Axle:	Quantity	Single	Single	Tandem	Single	Tandem
	Capacity (lbs.)	3500	3500	3500	3500	3500
	Type	4" Drop	4" Drop	4" Drop	4" Drop	4" Drop
Suspension		Spring	Spring	Spring	Spring	Spring
Brakes		Optional	Optional	Electric Drum	Optional	Electric Drum
Tire:	Size	ST205/75R15	ST205/75R15	ST205/75R15	ST205/75R15	ST205/75R15
	Load Range	C	C	C	C	C
	Type	Radial	Radial	Radial	Radial	Radial
Wheel		White Spoke	White Spoke	White Spoke	White Spoke	White Spoke
Hitch:	Ball Size	2"	2"	2 5/16"	2"	2 5/16"
	To Top of Ball	6"	16"	17"	16"	17"
	Hitch Weight (% of Curb Weight)	10% - 15%	10% - 15%	10% - 15%	10% - 15%	10% - 15%
Curb Weight (lbs.)		1100	1250	1650	1400	1800
GVWR (lbs.)		2980	2980	7000	2980	7000
Avg. Payload (lbs.)		1880	1730	5350	1580	5200
Rear Door:	Style	Double Doors	Double Doors	Double Doors	Double Doors	Double Doors
	Width	63"	63"	63"	63"	63"
	Height	67"	67"	67"	67"	67"
Lock Style		Cam Lock	Cam Lock	Cam Lock	Cam Lock	Cam Lock
Side Door:	Width	32"	32"	32"	32"	32"
	Height	60"	60"	60"	60"	60"
	Lock Style	Flush Lock w/ Dead Bolt	Flush Lock w/ Dead Bolt	Flush Lock w/ Dead Bolt	Flush Lock w/ Dead Bolt	Flush Lock w/ Dead Bolt
Tube Main Rails		2"x 3"	2"x 3"	2"x 4"	2"x 3"	2"x 4"
12V End Connector		4-way	4-way	7-way	4-way	7-way
ATP Stoneguard		24"	24"	24"	24"	24"
Interior Sidewall Liner		5.2 mm Lauan	5.2 mm Lauan	3/8" Plywood	5.2 mm Lauan	3/8" Plywood
Floor		3/4" Plywood	3/4" Plywood	3/4" Plywood	3/4" Plywood	3/4" Plywood

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WARNING

This User's Manual contains safety information and instructions for your trailer.

You must read this manual before loading or towing your trailer.

You must follow all safety precautions and instructions.

"Portions of this manual were used with the expressed authority of Dexter Axle, but Dexter Axle is not responsible for the accuracy of the information contained herein."


Section 1 - SAFETY INFORMATION

1.1 SAFETY ALERT SYMBOLS AND SIGNAL WORDS

This manual provides instructions for the operation and care of Haulmark Enclosed Trailers. The instructions in this manual must be followed to ensure the safety of persons and cargo, and satisfactory life of the trailer. Safety precautions to protect against injury or property damage must be followed at all times.


An Owner's Manual that provides general trailer information cannot cover all of the specific details necessary for the proper combination of every trailer, tow vehicle and hitch. Therefore, you must read, understand and follow the instructions given by the tow vehicle and trailer hitch manufacturers, as well as the instructions in this manual.

Our trailers are built with components produced by various manufacturers. Some of these items have separate instruction manuals. Where this manual indicates that you should read another manual, and you do not have that manual, call Haulmark Industries Inc. at 800-348-7530 or your dealer for assistance.

The safety information in this manual is denoted by the safety alert symbol: 

The level of risk is indicated by the following signal words.

 DANGER
DANGER – Immediate hazards which WILL result in severe personal injury or death if the warning is ignored.

 WARNING
WARNING – Hazards or unsafe practices which COULD result in severe personal injury or death if the warning is ignored.

 CAUTION
CAUTION – Hazards or unsafe practices which could result in minor or moderate injury if the warning is ignored.

NOTICE

NOTICE – Practices that could result in damage to the trailer or other property.


1.2 MAJOR HAZARDS

Loss of control of the trailer or trailer/tow vehicle combination can result in death or serious injury. The most common causes for loss of control of the trailer are:

- Improper sizing the trailer for the tow vehicle, or vice versa.
- Excessive Speed: Driving too fast for the conditions.
- Failure to adjust driving behavior when towing a trailer.
- Overloading and/or improper weight distribution.
- Improper or mis-coupling of the trailer to the hitch.
- Improper braking and steering under sway conditions.
- No brakes on trailer, if trailer is originally equipped with brakes.
- Not maintaining proper tire pressure.
- Not keeping lug nuts tight.

1.2.1 Improper Sizing of the Trailer to the Tow Vehicle.

Trailers that weigh too much for the towing vehicle can cause stability problems, which can lead to death or serious injury. Furthermore, the additional strain put on the engine and drive-train may lead to serious tow vehicle maintenance problems. For these reasons the maximum towing capacity of your towing vehicle should not be exceeded. The towing capacity of your tow vehicle, in terms of maximum Gross Trailer Weight (GTW) and maximum Gross Combined Weight Rating (GCWR) can be found in the tow vehicles Owner's Manual.

 DANGER
Use of an under-rated hitch, ball or tow vehicle can result in loss of control leading to death or serious injury.
Make certain your hitch and tow vehicle are rated for your trailer.

Section 1 - Safety Information

1.2.2 Driving Too Fast

With ideal road conditions, the maximum recommended speed for safely towing a trailer is 60 mph. If you drive too fast, the trailer is more likely to sway, thus increasing the possibility for loss of control. Also your tires may overheat, thus increasing the possibility of a blowout.

WARNING

Driving too fast for conditions can result in loss of control and cause death or serious injury.

Adjust speed down when towing trailer.

1.2.3 Failure to Adjust Driving Behavior When Towing a Trailer

When towing a trailer, you will have decreased acceleration, increased stopping distance, and increased turning radius (which means you must make wider turns to keep from hitting curbs, vehicles, and anything else that is on the inside corner). Furthermore, the trailer will change the handling characteristics of your towing vehicle, making it more sensitive to steering inputs and more likely to be pushed around in windy conditions or when being passed by large vehicles. In addition, you will need a longer distance to pass, due to slower acceleration and increased length. With this in mind:

- Be alert for slippery conditions. You are more likely to be affected by slippery road surfaces when driving a tow vehicle with a trailer, than driving a tow vehicle without a trailer.
- Anticipate the trailer “swaying.” Swaying can be caused by excessive steering, wind gusts, roadway edges, or by the trailer reaction to the pressure wave created by passing trucks and busses.
- When encountering trailer sway, take your foot off the accelerator, and steer as little as possible in order to stay on the road. Use small “trim-like” steering adjustments. Do not attempt to steer out of the sway; you’ll only make it worse. Also, do not apply the tow vehicle brakes to correct trailer swaying. The application of the trailer brakes alone will tend to straighten out the combination, especially when going downhill.
- Check rearview mirrors frequently to observe the trailer and traffic.
- Use lower gear when driving down steep or long grades. Use the engine and transmission as a brake. Do not ride the brakes, as they can overheat and become ineffective.
- Be aware of your trailer height, especially when approaching bridges, roofed areas and around trees.

1.2.4 Improper Loading

The total weight of the load you put in or on the trailer, plus the empty weight of the trailer itself, must not exceed the trailer's Gross Vehicle Weight Rating (GVWR). If you do not know the empty weight of the trailer, you must measure it at a commercial scale. In addition, you must distribute the load in the trailer such that the load on any axle does not exceed the Gross Axle Weight Rating (GAWR). The GVWR and GAWR's are listed on the Certification / VIN label mounted on the front left side of the trailer.

WARNING

An overloaded trailer can result in failure or in loss of control of the trailer, leading to death or serious injury.

Never load a trailer so that the weight on any tire exceeds its rating.

Never exceed the trailer Gross Vehicle Weight Rating (GVWR).

Never exceed an axle Gross Axle Weight Rating (GAWR).

1.2.5 Trailer Not Properly Coupled to the Hitch

It is critical that the trailer be securely coupled to the hitch, and that the safety chains and emergency breakaway brake lanyard are correctly attached. Uncoupling may result in death or serious injury to you and to others.

WARNING

Coupler and hitch selection and condition are critical for safe towing.

Uncoupling can result in death or serious injury.

- **Make sure the hitch and ball are rated for the trailer.**
- **Make sure the hitch [ball size] matches the coupler.**
- **Check the hitch ball for wear, corrosion and cracks before coupling. Replace worn, corroded or cracked hitch ball before coupling to the trailer.**
- **Make sure the hitch ball is tight to the hitch before coupling the trailer.**

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WARNING

An improperly coupled trailer can result in death or serious injury.

Do not move the trailer until:

- The coupler is secured and locked;
- The safety chains are secured to the tow vehicle; and
- The trailer jacks are fully retracted.

Do not tow the trailer on the road until:

- The trailer brakes are checked;
- The breakaway switch is connected to the tow vehicle;
- The load is secured to the trailer; and
- The trailer lights are connected and checked.

WARNING

An ineffective breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or ball hitch fails.

Test the function of the breakaway brake system before towing the trailer. Do not tow the trailer if the breakaway brake system is not working; have it serviced or repaired.

Connect the breakaway lanyard to the tow vehicle -

NOT to the safety chain; and

NOT to the hitch, ball or support.

1.2.6 Proper Use of Safety Chains

Safety chains are provided so that control of the trailer can still be maintained if the trailer comes loose from the tow vehicle for any reason.

WARNING

Incorrect rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

Chains must:

- Fasten to frame of tow vehicle, not to hitch or ball.
- Cross underneath hitch and coupler with minimum slack to permit turning and to hold tongue up, if the trailer comes loose.

1.2.7 Proper Connection of Breakaway Brake

If equipped with brakes, your trailer will be equipped with a breakaway brake system that can apply the brakes on your trailer, if your trailer comes loose from the hitch for any reason. You will have a separate set of instructions for the breakaway brake if your trailer is so equipped. The breakaway brake system, including battery, must be in good condition and properly rigged to be effective.

1.2.8 Matching Trailer and Hitch

DANGER

Use of an under-rated hitch, ball or tow vehicle can result in loss of control leading to death or serious injury.

Make certain your hitch and tow vehicle are rated for your trailer.

1.2.9 Worn Tires, Loose Wheels and Lug Nuts

Just as with your tow vehicle, the trailer tires and wheels are important safety items. Therefore, it is essential to inspect the trailer tires before each tow.

If a tire has a bald spot, bulge, cut, cracks, or is showing any cords, replace the tire before towing. If a tire has uneven tread wear, take the trailer to a dealer service center for diagnosis. Uneven tread wear can be caused by tire imbalance, axle misalignment or incorrect inflation.

Tires with too little tread will not provide adequate frictional forces on wet roadways and can result in loss of control, leading to death or serious injury.

Improper tire pressure causes increased tire wear and may reduce trailer stability, which can result in a tire blowout or possible loss of control. Therefore, before each tow you must also check the tire pressure. Remember, the proper tire pressure is listed on the Certification (VIN) label, and should be checked when tires are cold. Allow 3 hours cool-down after driving as much as 1 mile at 40 mph before checking tire pressure.

Section 1 - Safety Information

WARNING

Improper tire pressure may cause an unstable trailer. Blowout and loss of control may occur. Death or serious injury can result.

Make sure of proper tire pressure before towing trailer. Inflate tires to pressure indicated on Certification / VIN label.

The tightness of the lug nuts is very important in keeping the wheels properly seated to the hub.

Before each tow, check to make sure they are tightened to the proper torque.

WARNING

Metal creep between the wheel rim and lug nuts (bolts) will cause rim to loosen.

Death or injury can occur if wheel comes off.

Tighten lug nuts (bolts) before each tow.

The proper tightening sequence and tightness (torque) for lug nuts is listed in the "Inspection, Service & Maintenance" chapter of this manual. Use a calibrated torque wrench to tighten the lug nuts.

Lug nuts are also prone to loosen after first being assembled. When driving a new trailer (or after wheels have been remounted), check to make sure they are tightened to the proper torque after the **first** 10, 25 and 50 miles of driving and before each tow thereafter.

Failure to perform this check can result in a wheel parting from the trailer and a crash, leading to death or serious injury.

WARNING

Lug nuts are prone to loosen after being first assembled. Death or serious injury can result.

Check lug nuts for tightness on a new trailer, and after re-mounting a wheel at 10, 25 and 50 miles.

WARNING

Inadequate lug nut torque can cause a wheel to part while towing. Death or serious injury can result.

Make sure lug nuts are tight before towing trailer.

1.2.10 Weight And Load Distribution

Proper loading of your trailer is essential for your safety. Tire, wheel, axle or structural failure can be caused by overloading.

WARNING

An overloaded trailer can result in failure or in loss of control of the trailer, leading to death or serious injury.

Never load a trailer so that the weight on any tire exceeds its rating.

Never exceed the trailer Gross Vehicle Weight Rating (GVWR).

Never exceed an axle Gross Axle Weight Rating (GAWR).

Improper front / rear load distribution can lead to poor trailer sway stability or poor tow vehicle handling. Poor trailer sway stability results from tongue weights that are too low, and poor tow vehicle stability results from tongue weights that are too high.

In figure 1-1, the second column shows the rule of thumb percentage of total weight of the trailer, plus its cargo (Gross Trailer Weight, or "GTW") that should appear on the tongue of the trailer. For example, a trailer with a gooseneck hitch, with a loaded weight of 12,000 pounds, should have 20-25% of 12,000 pounds (2400-3000 lbs.) on the gooseneck. After loading, be sure to check that none of the axles are overloaded.

Approximate Tongue Weight as a Percentage of Loaded Trailer Weight	
Type of Hitch	Percentage
Ball Hitch (or Bumper Hitch)	15%
Gooseneck Hitch	20-25%
Fifth Wheel Hitch	

Tongue Weight Chart - Figure 1-1

Section 1 - Safety Information

Uneven left / right load distribution can cause tire, wheel, axle or structural failure. Be sure your trailer is evenly loaded left / right.

Towing stability also depends on keeping the center of gravity as low as possible.

WARNING

An improperly distributed load can result in loss of control of the trailer, and can lead to death or serious injury.

Proper tongue weight is essential for stable trailer handling.

Distribute the load front to rear to provide proper tongue weight.

Distribute the load evenly, right and left, to avoid tire overload.

Keeping the center of gravity low and centered is essential to minimize the risk of tip-over.

1.2.11 Shifting Cargo

Since the trailer “ride” can be bumpy and rough, you must secure your cargo so that it does not shift while the trailer is being towed.

WARNING

A shifting load can result in failure, or to loss of control of the trailer, and can lead to death or serious injury.

You must tie down all loads with proper sized fasteners, ropes, straps, etc. to prevent the load from shifting while trailering.

If the door latch is equipped with a catch that has a hole for a linchpin, use a linchpin to prevent the door latch from opening.

WARNING

Always secure the door latch after closing. Place a linchpin in the catch.

If the door opens, your cargo may be ejected onto the road, resulting in death or serious injury to the animals or other drivers.

1.2.12 Inappropriate Cargo

Your trailer may be designed for specific cargo, for example, only for horses. If your trailer is designed for specific cargo, only carry that cargo in the trailer. Your trailer must not be used to carry certain items, such as people, containers of hazardous substances or containers of flammable substances. A trailer not designed with living quarters should only be used for transportation of its intended cargo.

DANGER

You can die or be brain damaged by Carbon Monoxide.

Do not operate a generator, portable grills, portable heaters, portable lanterns or portable stoves inside the trailer.

WARNING

Never transport people inside your Haulmark trailer, even if it has living quarters. Besides putting their lives at risk, the transport of people may be illegal.

WARNING

Do not sleep in a trailer not equipped with living quarters.

A trailer not designed with living quarters should only be used for transportation of its intended cargo.

WARNING

Your Haulmark trailer is not capable of safely transporting flammable, explosive, poisonous or other dangerous materials.

1.2.13 Inoperable Brakes, Lights or Mirrors

Be sure that the brakes (if equipped) and all of the lights on your trailer are functioning properly before towing your trailer. Electric brakes and lights on a trailer are controlled via a connection to the tow vehicle, generally a multi-pin electrical connector. Check the trailer taillights by turning on your tow vehicle headlights. Check the trailer brake lights by having someone step on the tow vehicle brake pedal while you look at trailer lights. Check the turn signal lights by operating the turn signal lever in the tow vehicle.

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If your trailer has electric brakes, your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you must operate the brake controller while trying to pull the trailer in order to confirm that the electric brakes operate. While towing the trailer at less than 5 mph, manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

WARNING

Failure to connect the tow vehicle lighting and braking to the trailer will result in inoperable lights and brakes, and can lead to collision.

Check that all the trailer lights and brakes work before each tow.

If your trailer has hydraulic “surge” brakes, pull the emergency breakaway brake lanyard to check the operation of the surge mechanism.

Standard mirrors usually do not provide adequate visibility for viewing traffic to the sides and rear a towed trailer. You must provide mirrors that allow you to safely observe approaching traffic.

1.2.14 Hazards From Modifying Your Trailer

Essential safety items and structural integrity can be damaged by altering your trailer. Even simply driving a nail or screw can damage an electrical circuit, LP gas line or other feature of the trailer.

Before making any alteration to your trailer, contact your dealer or Haulmark Industries, Inc. at 800-348-7530 and describe the alteration you are contemplating. Alteration of the trailer structure or modification of mechanical, electrical, plumbing, heating or other systems on your trailer must be performed only by qualified technicians who are familiar with the system as installed on your trailer.

1.2.15 Hazards from Accessories

The “Accessories” chapter of this manual contains some information about certain optional accessories that may be on your trailer. Read and follow all of these instructions before operating the accessories. The major hazards from some of these accessories are:

1.2.16 Generator

If your trailer is equipped with a gasoline or diesel generator, you must have and follow the generator manufacturer’s instructions. You must also have one or

more carbon monoxide detectors in the trailer’s accommodation spaces.

Carbon Monoxide is an odorless gas that can cause death. Be certain exhaust from a running generator does not accumulate in or around your trailer, by situations such as:

- Being drawn in by fans or ventilators operated in a trailer;
- Prevailing wind;
- Being trapped between your trailer and other trailers, vehicles or buildings; or
- Being trapped between your trailer and, or in a snow bank, or other nearby objects

WARNING

Gasoline and diesel generators pose a risk of death from:

- Carbon Monoxide
- Fire and Explosion
- Electrocutation

Do not operate a generator without having a working carbon monoxide detector.

Do not refuel a running generator.

Do not refuel near ignition sources.

1.2.17 Shore Power

“Shore Power” is the name given to connecting your trailer to a source of electrical power using a cord specifically designed for that purpose.

WARNING

Shore power poses a risk of death due to electrocution.

Always use a grounded connection.

Never connect to an ungrounded source of shore power.

Never remove the “third prong” from the shore power plug.

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WARNING

Risk of fire.

Connect only to source of correct voltage.

Do not overload electrical circuits.

Do not use an extension cord to connect to shore power.

Replace fuses with like rating.

1.2.18 LP Gas Fuel System

DANGER

You can die or be brain damaged by Carbon Monoxide.

Make certain the exhaust from LP appliances is directed to the outdoors.

Have a working carbon monoxide detector in the accommodation spaces of your trailer before operating any LP gas appliance.

Do not operate portable grills, portable stoves, portable lanterns or portable heaters inside the trailer.

WARNING

Risk of death due to fire or explosion.

Do not connect an LP gas system to a supply of natural gas.

Extinguish all pilot lights and turn off all appliances before refilling fuel or LP gas tanks.

Do not fill the tank with any gas other than LP (butane or propane).

Do not store LP gas tanks inside the trailer.

WARNING

Risk of fire or explosion

If LP gas is detected (by smell or by the LP gas detector):

- Do not touch electrical switches
- Extinguish flames and pilot lights
- Open doors for ventilation
- Shut off LP gas supply at the LP tank
- Leave the area until odor clears

Correct the source of LP gas leakage before using LP appliances.

Do not use a flame to locate the source of an LP gas leak.

1.2.19 Gas And Fuel Storage

WARNING

Do not transport flammable explosive, poisonous or other dangerous materials in your trailer. Exceptions:

- Fuel in the tanks of vehicles that are being towed
- Fuel stored in proper containers used in trailer living quarters for cooking

Fuel stored in the tank of an on-board generator

WARNING

Accumulation of hazardous fumes can cause death or serious injury.

Do not block access to ventilation ports.

Section 1 - Safety Information

WARNING

Gasoline and diesel generators pose a risk of death from:

- Carbon Monoxide
- Fire and Explosion
- Electrocutation

Do not operate a generator without having a working carbon monoxide detector.

Do not refuel a running generator.

Do not refuel near ignition sources.

WARNING

Shore power poses a risk of death due to electrocution or fire

Always use an electrical cord specifically designed for shore power connection. Never use an ordinary extension cord.

Always connect the electrical cord to a grounded source of shore power.

Do not remove the “third prong” from the shore power plug.

Connect only to source of proper voltage.

Make certain polarity is correct.

Do not overload electrical circuits.

Always replace fuses or circuit breakers with correct rating.

WARNING

Risk of fire or explosion Never use a flame, heat lamp or hair dryer to thaw an LP gas regulator. Use an incandescent light bulb.

Do not remove the regulator cover of attempt to service the LP gas regulator.

WARNING

Do not transport flammable explosive, poisonous or other dangerous materials in your trailer. Exceptions:

- Fuel in the tanks of vehicles that are being towed
- Fuel stored in proper containers used in trailer living quarters for cooking

Fuel stored in the tank of an on-board generator

1.2.20 Trailer Towing Guide

Driving a vehicle with a trailer in tow is vastly different from driving the same vehicle without a trailer in tow. Acceleration, maneuverability and braking are all diminished with a trailer in tow. It takes longer to get up to speed, you need more room to turn and pass, and more distance to stop when towing a trailer. You will need to spend time adjusting to the different feel and maneuverability of the tow vehicle with a loaded trailer. Because of the significant differences in all aspects of maneuverability when towing a trailer, the hazards and risks of injury are also much greater than when driving without a trailer. You are responsible for keeping your vehicle and trailer in control, and for all the damage that is caused if you lose control of your vehicle and trailer.

As you did when learning to drive an automobile, find an open area with little or no traffic for your first practice trailering. Of course, before you start towing the trailer, you must follow all of the instructions for inspection, testing, loading and coupling. Also, before you start towing, adjust the mirrors so you can see the trailer as well as the area to the rear of it.

Drive slowly at first, 5 m.p.h. or so, and turn the wheel to get the feel of how the tow vehicle and trailer combination responds. Next, make some right and left hand turns. Watch in your side mirrors to see how the trailer follows the tow vehicle. Turning with a trailer attached requires more room.

Stop the rig a few times from speeds no greater than 10 m.p.h. If your trailer is equipped with brakes, try using different combinations of trailer/electric brake and tow vehicle brake. Note the effect that the trailer brakes have when they are the only brakes used. When properly adjusted, the trailer brakes will come on just before the tow vehicle brakes.

It will take practice to learn how to back up a tow vehicle with a trailer attached. Take it slow. Before backing up, get out of the tow vehicle and look behind the trailer to make sure that there are no obstacles. Some

Section 1 - Safety Information

drivers place their hands at the bottom of the steering wheel, and while the tow vehicle is in reverse, “think” of the hands as being on the top of the wheel. When the hands move to the right (counter-clockwise, as you would do to turn the tow vehicle to the left when moving forward), the rear of the trailer moves to the right. Conversely, rotating the steering wheel clockwise with your hands at the bottom of the wheel will move the rear of the trailer to the left, while backing up. If you are towing a bumper hitch rig, be careful not to allow the trailer to turn too much, because it will hit the rear of the tow vehicle. To straighten the rig, either pull forward, or turn the steering wheel in the opposite direction.

1.2.21 Safe Trailer Towing Guidelines

- Recheck the load tiedowns to make sure the load will not shift during towing.
- Before towing, check coupling, safety chain, safety brake, tires, wheels and lights.
- Check the lug nuts or bolts for tightness.
- Check coupler tightness after towing 50 miles.
- Adjust the brake controller to engage the trailer brakes before the tow vehicle brakes. Your dealer can assist you by making this adjustment.
- Use your mirrors to verify that you have room to change lanes or pull into traffic.
- Use your turn signals well in advance.
- Allow plenty of stopping space for your trailer and tow vehicle.
- Do not drive so fast that the trailer begins to sway due to speed. Never drive faster than 60 m.p.h.
- Allow plenty of room for passing. A rule of thumb is that the passing distance with a trailer is 4 times the passing distance without a trailer.
- Shift your automatic transmission into a lower gear for city driving.
- Use lower gears for climbing and descending grades.
- Do not ride the brakes while descending grades, they may get so hot that they stop working. Then you will potentially have a runaway tow vehicle and trailer.
- To conserve fuel, don't use full throttle to climb a hill. Instead, build speed on the approach.
- Slow down for bumps in the road. Take your foot off the brake when crossing the bump.
- Do not brake while in a curve unless absolutely necessary. Instead, slow down before you enter the curve and power through the curve. This way, the towing vehicle remains “in charge.”
- Do not apply the brakes to correct extreme trailer swaying. The application of the trailer brakes alone will tend to straighten out the combination, especially when going downhill.
- Make regular stops, about once each hour. Confirm that
 - the coupler is secure to the hitch and is locked,
 - electrical connectors are made,
 - there is appropriate slack in the safety chains,
 - there is appropriate slack in the breakaway switch pullpin lanyard,
 - the tires are not visibly low on pressure, and
 - the cargo is secure and in good condition.

Section 1 - Safety Information


1.2.22 Safety Warning Labels on Your Trailer

Check your Haulmark trailer for the warning and instruction labels on the following pages. Many of those listed are mandated by the U. S. government and others will help you in the safe operation of your trailer. The following information is provided in the event that any of the labels are missing.

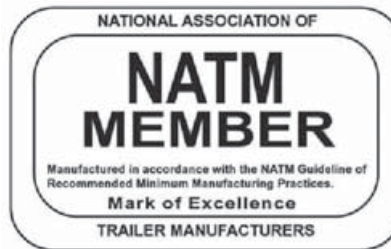
Federal Certification/VIN plate mounted on driver side of trailer

MANUFACTURED BY / FABRIQUE PAR:		DATE:	
Haulmark Ind., Inc.			
P.O. Box 281 Bristol IN 46507-0281 (574) 825-5867			
GVWR/PMBV	KG (LB)	TIRES/PNEU	RIMS/JANTE
FRONT/AVANT	KG (LB)		
INTERM/INTERM	KG (LB)		
REAR/ARRIERE	KG (LB)		
COLD INFL. PRESS./PRESS. DE CONF. A FROID		KPA SINGLE DUAL	
		PSULPC) <input type="checkbox"/> <input type="checkbox"/>	
		KPA SINGLE DUAL	
		PSULPC) <input type="checkbox"/> <input type="checkbox"/>	
		KPA SINGLE DUAL	
		PSULPC) <input type="checkbox"/> <input type="checkbox"/>	
THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.			
THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE. - CE VEHICULE EST CONFORME A TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU REGLEMENT SUR LA SECURITE DES			
V.I.N./I.L.V.:		TYPE/TYPER: TRAILER	HA2099

Located on the driver side wall of trailer

 TIRE AND LOADING INFORMATION			
The weight of cargo should never exceed Kg or Lbs.			
TIRE	SIZE	COLD TIRE PRESSURE	SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION
FRONT			
REAR			
SPARE			

16HGB24265H130090



Located at transfer switch or junction box

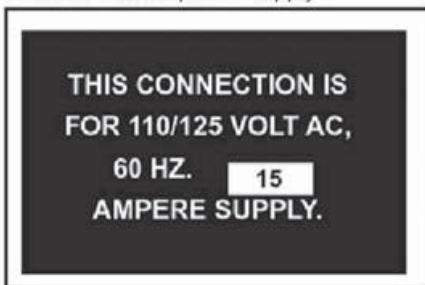
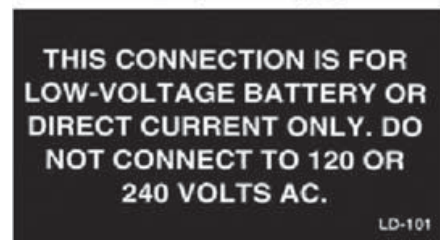
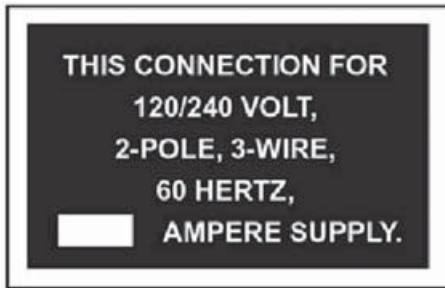
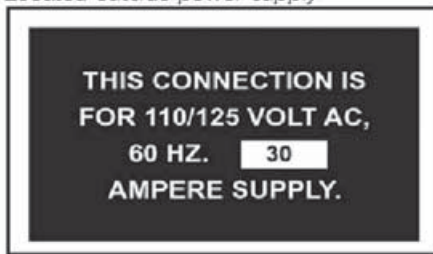
GENERATOR CIRCUIT. THIS CONNECTION IS FOR GENERATORS RATED 110-125 vOLT AC. 60 HZ _____ AMPERES MAXIMUM

AIR-CONDITIONING CIRCUIT. THIS CONNECTION IS FOR AIR CONDITIONERS RATED 110-125 VOLT AC, 60 HZ _____ AMPERES MAXIMUM. DO NOT EXCEED CIRCUIT RATING.

LD-101

Section 1 - Safety Information

Located outside power supply



Located on battery box



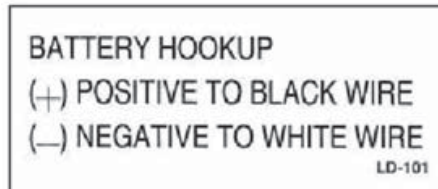
Each Trip:
Disconnect electrical plug.
Pull breakaway pin.
Bright light-battery o.k.
No light-charge battery.
Try to pull forward,
... ..

Section 1 - Safety Information

Located above fuel filter door/cap on trailers with tank for diesel fuel



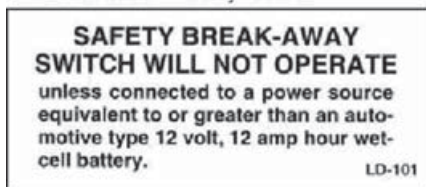
Located on marine battery



Located above fuel filter door/cap on trailers with tank for gasoline



Located on breakaway switch



Located over side door



Section 1 - Safety Information



Roadside location inside trailer



Roadside location inside trailer indicating slippery ramp door



Located on all trailers with ladder racks and all Edge trailers



Located above doors with low openings



Section 1 - Safety Information

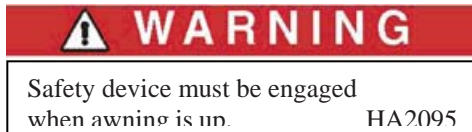
Located near all ramp doors



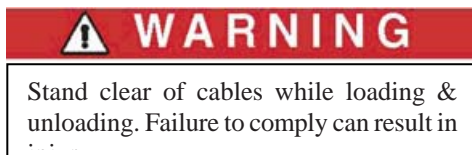
Located on or near generator



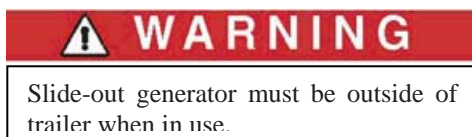
Located near awning door



Located on all ramp doors



Located on or near slide-out generator



Section 1 - Safety Information

Located above water inlet on exterior, for trailers with city water connections



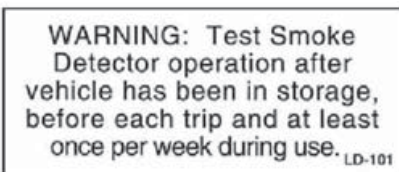
Located on roadside exterior



Located on roadside exterior



Located next to smoke detector



Located on all roof and luggage racks

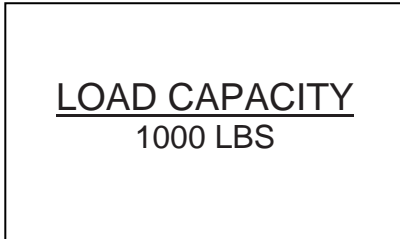


Located on roof rack

Section 1 - Safety Information



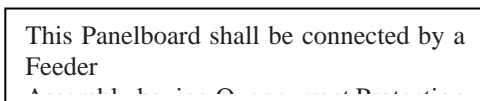
Located on all roof and luggage racks



Located on roof rack



Located on electrical box cover of trailers with electrical connections



Located on interior sidewall of trailer



Located on swing-out lamp arm



Located inside closet door

Section 1 - Safety Information

WARNING

Any motorized vehicle or any motorized equipment powered with flammable liquid can cause fire or explosion or asphyxiation if stored or transported within the recreational vehicle. To reduce the risk of fire, explosion, or asphyxiation:

1. Do not allow passengers to ride inside internal combustion engine vehicle storage area while vehicles are present.
2. Doors and windows in walls of separation are to be closed while the vehicles are present.
3. Run fuel out of engine after shutting off fuel at the tank.
4. Do not store or transport supplementary motor fuel within this vehicle.
5. Ventilate the interior of the vehicle to reduce the risk of fire, explosion, or asphyxiation.
6. Do not operate gas appliances, pilot lights, or electrical equipment when motorized vehicles or motorized equipment are inside vehicle.

AD-100

Stickers in location 1:

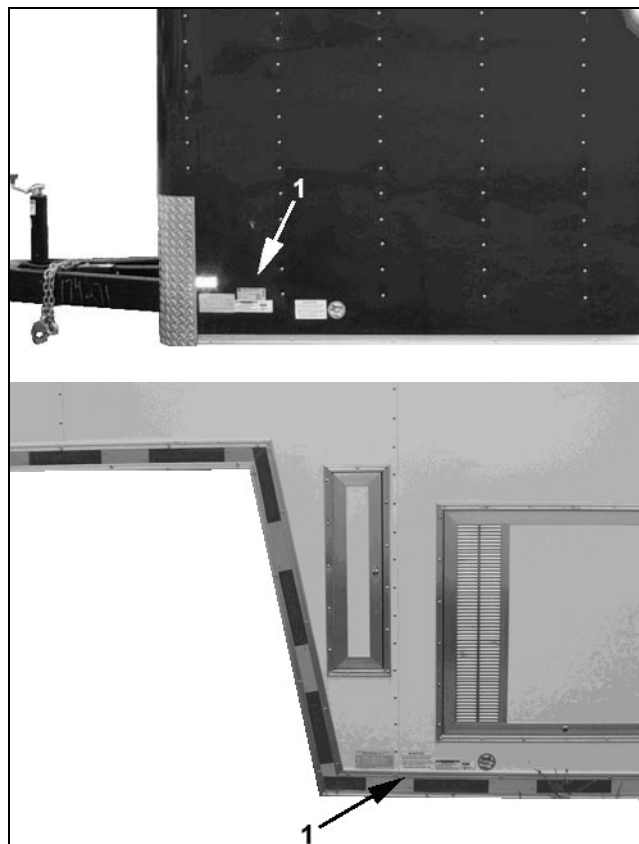
ICC

Tire and Loading Information (HA2006)

Overload Hazard Warning

Wheel Lug Tightness Notice

NATM



Warning Labels and Locations - Figure 1-1

Section 1 - Safety Information

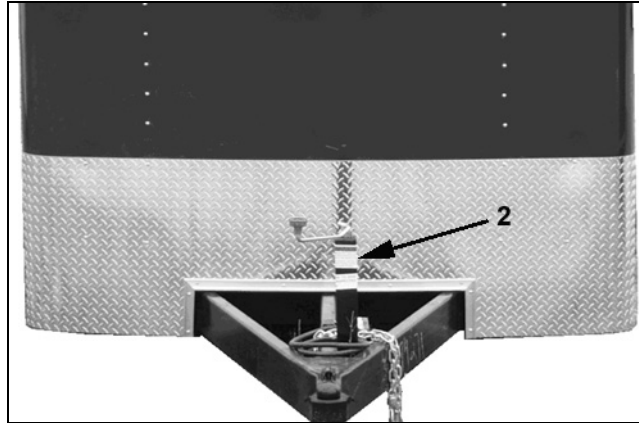
Stickers in location 2:

OK to Ship / Inspection

Read Owner's Manual Warning (HA2068)

Breakaway Battery Notice (HA2049) (on battery box, if applicable)

Breakaway Battery Care Instructions (HA2059) (on battery box, if applicable)

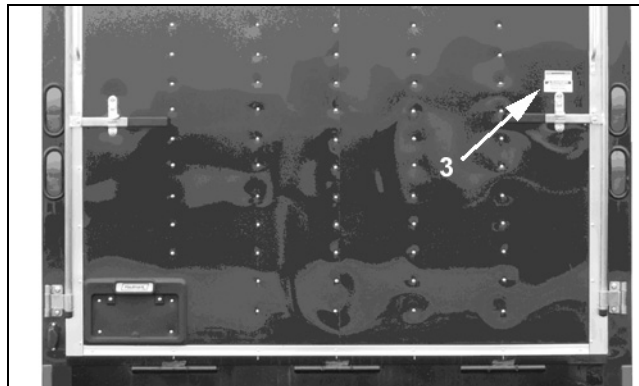


Warning Labels and Locations - Figure 1-2

Stickers in location 3:

Stand clear of cable warning (HA2047)

DANGER Heavy Door, Stand Clear (HA2067)



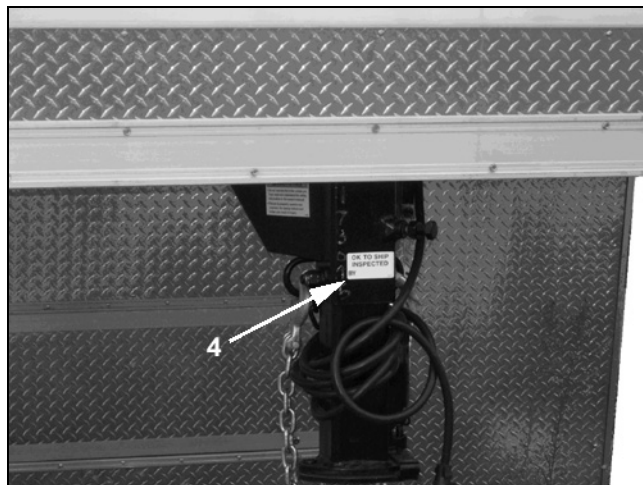
Warning Labels and Locations - Figure 1-3

Section 1 - Safety Information

Stickers in location 4:

OK to Ship / Inspection

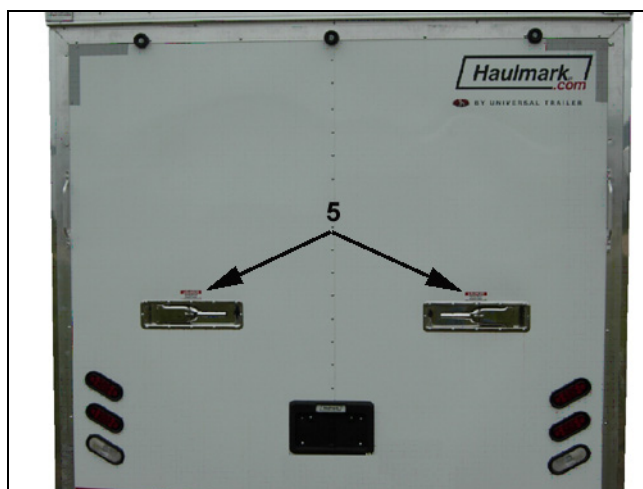
Read Owner's Manual Warning (HA2068)



Warning Labels and Locations - Figure 1-4

Stickers in location 5:

DANGER Heavy Door, Stand Clear (HA2067) (2 places)



Warning Labels and Locations - Figure 1-5

Section 1 - Safety Information



WARNING

To protect you and others against death or serious injury, all of the labels shown above must be on the trailer and must be legible.

If any of these safety labels are missing or cannot be read, call Haulmark Industries Inc. at 800-348-7530 for free replacement labels.

You will need to provide us with the number shown at the bottom of the label(s) in order for us to send the correct one(s).

1.2.23 Reporting Safety Defects

If you believe that your vehicle has a defect that could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying us.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or us.

To contact NHTSA, you may either call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153), go to <http://www.safercar.gov>, or write to:

Administrator
NHTSA
1200 New Jersey Ave., SE
Washington, DC 20590.

You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

Call 800-348-7530 to reach Haulmark Industries, Inc.

Section 2 - TIRE SAFETY INFORMATION

This portion of the User's Manual contains tire safety information as required by 49 CFR 575.6.

Section 2.1 contains "Trailer Tire Information"

Section 2.2 contains "Steps for Determining Correct Load Limit - Trailer".

Section 2.3 contains "Steps for Determining Correct Load Limit – Tow Vehicle".

Section 2.4 contains a Glossary of Tire Terminology, including "cold inflation pressure", "maximum inflation pressure", "recommended inflation pressure", and other non-technical terms.

Section 2.5 contains information from the NHTSA brochure entitled "Tire Safety – Everything Rides On It".

This brochure, as well as the preceding subsections, describes the following items;

- Tire labeling, including a description and explanation of each marking on the tires, and information about the DOT Tire Identification Number (TIN).
- Recommended tire inflation pressure, including a description and explanation of:
 - Cold inflation pressure.
 - Vehicle Placard and location on the vehicle.
 - Adverse safety consequences of under inflation (including tire failure).
 - Measuring and adjusting air pressure for proper inflation.
- Tire Care, including maintenance and safety practices.
- Vehicle load limits, including a description and explanation of the following items:
 - Locating and understanding the load limit information, total load capacity, and cargo capacity.
 - Calculating total and cargo capacities with varying seating configurations including quantitative examples showing / illustrating how the vehicles cargo and luggage capacity decreases as combined number and size of occupants' increases. This item is also discussed in Section 3.
 - Determining compatibility of tire and vehicle load capabilities.

- Adverse safety consequences of overloading on handling and stopping on tires.

2.1 TRAILER TIRE INFORMATION

Trailer tires may be worn out even though they still have plenty of tread left. This is because trailer tires have to carry a lot of weight all the time, even when not in use. It is actually better for the tire to be rolling down the road than to be idle. During use, the tire releases lubricants that are beneficial to tire life. Using the trailer tires often also helps prevent flat spots from developing.

The main cause of tire failure is improper inflation. Check the cold tire inflation pressures at least once a week for proper inflation levels. "Cold" means that the tires are at the same temperature as the surrounding air, such as when the vehicle has been parked overnight. Wheel and tire manufacturers recommend adjusting the air pressure to the trailer manufacturer's recommended cold inflation pressure, in pounds per square inch (PSI) stated on the vehicle's Federal Certification Label or Tire Placard when the trailer is loaded to its gross vehicle weight rating (GVWR). If the tires are inflated to less than the recommended inflation level or the GVWR of the trailer is exceeded, the load carrying capacity of the tire could be dramatically affected. If the tires are inflated more than the recommended inflation level, handling characteristics of the tow vehicle/trailer combination could be affected. Refer to the owner's manual or talk to your dealer or vehicle manufacturer if you have any questions regarding proper inflation practices.

Tires can lose air over a period of time. In fact, tires can lose 1 to 3 PSI per month. This is because molecules of air, under pressure, weave their way from the inside of the tire, through the rubber, to the outside. A drop in tire pressure could cause the tire to become overloaded, leading to excessive heat build up. If a trailer tire is under-inflated, even for a short period of time, the tire could suffer internal damage.

High speed towing in hot conditions degrades trailer tires significantly. As heat builds up during driving, the tire's internal structure starts to breakdown, compromising the strength of the tire. It is recommended to drive at moderate speeds.

Statistics indicate the average life of a trailer tire is about five years under normal use and maintenance conditions.

Section 2 - Tire Safety Information

After three years, replacing the trailer tires with new ones should be considered, even if the tires have adequate tread depth. Some experts claim that after five years, trailer tires are considered worn out and should be replaced, even if they have had minimal or no use. This is such a general statement that it may not apply in all cases. It is best to have your tires inspected by a tire supplier to determine if your tires need to be replaced.

2.2 STORING YOUR VEHICLE WITHOUT REMOVING THE TIRES

Ideally, a vehicle in storage should be placed on blocks to remove all weight from the tires. If the vehicle cannot be put on blocks, follow these steps for tire protection:

- Completely unload the vehicle so the minimum weight will be placed on the tires.
- Keep the tires inflated to recommended operating inflation pressure.
- Be sure the storage surface is firm, clean, well drained, and reasonably level.

Move the vehicle at least every three months to prevent ozone cracking in the tire bulge area as well as “flat spotting” from the prolonged strain of sidewall and tread deflection. Adjust inflation to recommended operating pressure before putting the vehicle back into service.

2.3 STEPS FOR DETERMINING CORRECT LOAD LIMIT – TRAILER

Determining the load limits of a trailer includes more than understanding the load limits of the tires alone. On all trailers there is a Federal Certification / VIN label that is located on the forward half of the left (road) side of the unit. This certification/VIN label will indicate the trailer’s Gross Vehicle Weight Rating (GVWR). This is the most weight the fully loaded trailer can weigh. It will also provide the Gross Axle Weight Rating (GAWR). This is the most a particular axle can weigh. If there are multiple axles, the GAWR of each axle will be provided.

If your trailer has a GVWR of 10,000 pounds or less, there is a vehicle placard located in the same location as the certification label described above. This placard provides tire and loading information. In addition, this placard will show a statement regarding maximum cargo capacity. Cargo can be added to the trailer, up to the maximum weight specified on the placard. The combined weight of the cargo is provided as a single number. In any case, remember: the total weight of a fully loaded trailer can not exceed the stated GVWR.

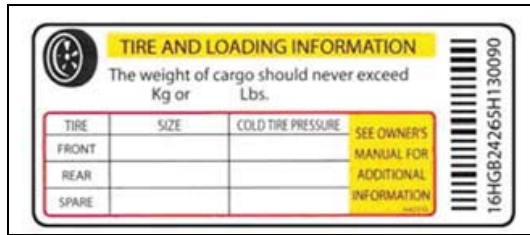
For trailers with living quarters installed, the weight of water and propane also need to be considered. The weight of fully filled propane containers is considered part of the weight of the trailer before it is loaded with cargo, and is not considered part of the disposable cargo load. Water however, is a disposable cargo weight and is treated as such. If there is a fresh water storage tank of 100 gallons, this tank when filled would weigh about 800 pounds. If more cargo is being transported, water can be off-loaded to keep the total amount of cargo added to the vehicle within the limits of the GVWR so as not to overload the vehicle. Understanding this flexibility will allow you, the owner, to make choices that fit your travel needs.

When loading your cargo, be sure it is distributed evenly to prevent overloading front to back and side to side. Heavy items should be placed low and as close to the axle positions as reasonable. Too many items on one side may overload a tire. The best way to know the actual weight of the vehicle is to weigh it at a public scale. Talk to your dealer to discuss the weighing methods needed to capture the various weights related to the trailer. This would include the weight empty or unloaded, weights per axle, wheel, hitch or king-pin, and total weight.

Excessive loads and/or underinflation cause tire overloading and, as a result, abnormal tire flexing occurs. This situation can generate an excessive amount of heat within the tire. Excessive heat may lead to tire failure. It is the air pressure that enables a tire to support the load, so proper inflation is critical. The proper air pressure may be found on the Certification / VIN label and/or on the Tire Placard. This value should never exceed the maximum cold inflation pressure stamped on the tire. It is recommended that your fully loaded vehicle (with any tow vehicles attached) be weighed to determine the tire loading at each wheel position. **Inflation** pressure should be adjusted to handle the maximum tire load, and all tires on the axle **should carry the same inflation pressure.** Tire pressure should be checked cold, or before driving each day, and at least once a month. Valves and caps should be free of dirt and moisture.

Section 2 - Tire Safety Information

2.3.1 Trailers 10,000 Pounds GVWR or Less



Tire Information Placard - Figure 2-1

1. Locate the statement, “The weight of cargo should never exceed XXX kg or XXX lbs.,” on your vehicle’s placard. See figure 2-1.
2. This figure equals the available amount of cargo and luggage load capacity.
3. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity.

The trailer’s placard refers to the Tire Information Placard attached adjacent to or near the trailer’s VIN (Certification) label at the left front of the trailer.

2.3.2 Trailers Over 10,000 Pounds GVWR

Note: These trailers are not required to have a tire information placard on the trailer and may not have one installed.

4. Determine the empty weight of your trailer by weighing the trailer using a public scale or other means. This step does not have to be repeated.
5. Locate the GVWR (Gross Vehicle Weight Rating) of the trailer on your trailer’s VIN (Certification) label.
6. Subtract the empty weight of your trailer from the GVWR stated on the VIN label. That weight is the maximum available cargo capacity of the trailer and may not be safely exceeded.



2.4 STEPS FOR DETERMINING CORRECT LOAD LIMIT – TOW VEHICLE

7. Locate the statement, “The combined weight of occupants and cargo should never exceed XXX lbs.,” on your vehicle’s placard.
8. Determine the combined weight of the driver and passengers who will be riding in your vehicle.
9. Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds.

10. The resulting figure equals the available amount of cargo and luggage capacity. For example, if the “XXX” amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbs. (1400-750 (5 x 150) = 650 lbs.).
11. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity calculated in Step # 4.
12. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult the tow vehicle’s manual to determine how this weight transfer reduces the available cargo and luggage capacity of your vehicle.

2.5 GLOSSARY OF TIRE TERMINOLOGY

Accessory weight

The combined weight (in excess of those standard items which may be replaced) of automatic transmission, power steering, power brakes, power windows, power seats, radio and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

Bead

The part of the tire that is made of steel wires, wrapped or reinforced by ply cords and that is shaped to fit the rim.

Bead separation

This is the breakdown of the bond between components in the bead.

Bias ply tire

A pneumatic tire in which the ply cords that extend to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tread.

Carcass

The tire structure, except tread and sidewall rubber which, when inflated, bears the load.

Chunking

The breaking away of pieces of the tread or sidewall.

Cold inflation pressure

The pressure in the tire before you drive.

Cord

The strands forming the plies in the tire.

Cord separation

The parting of cords from adjacent rubber compounds.

Cracking

Any parting within the tread, sidewall, or inner liner of the tire extending to cord material.

Section 2 - Tire Safety Information

CT

A pneumatic tire with an inverted flange tire and rim system in which the rim is designed with rim flanges pointed radially inward and the tire is designed to fit on the underside of the rim in a manner that encloses the rim flanges inside the air cavity of the tire.

Curb weight

The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, and, if so equipped, air conditioning and additional weight optional engine.

Extra load tire

A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Groove

The space between two adjacent tread ribs.

Gross Axle Weight Rating

The maximum weight that any axle can support, as published on the Certification / VIN label on the front left side of the trailer. Actual weight determined by weighing each axle on a public scale, with the trailer attached to the towing vehicle.

Gross Vehicle Weight Rating

The maximum weight of the fully loaded trailer, as published on the Certification / VIN label. Actual weight determined by weighing trailer on a public scale, without being attached to the towing vehicle.

Hitch Weight

The downward force exerted on the hitch ball by the trailer coupler.

Innerliner

The layer(s) forming the inside surface of a tubeless tire that contains the inflating medium within the tire.

Innerliner separation

The parting of the innerliner from cord material in the carcass.

Intended outboard sidewall

The sidewall that contains a white-wall, bears white lettering or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same molding on the other sidewall of the tire or the outward facing sidewall of an asymmetrical tire that has a particular side that must always face outward when mounted on a vehicle.

Light truck (LT) tire

A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles. May be used on trailers.

Load rating

The maximum load that a tire is rated to carry for a given inflation pressure.

Maximum load rating

The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum permissible inflation pressure

The maximum cold inflation pressure to which a tire may be inflated.

Maximum loaded vehicle weight

The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Measuring rim

The rim on which a tire is fitted for physical dimension requirements.

Non-pneumatic rim

A mechanical device which, when a non-pneumatic tire assembly incorporates a wheel, supports the tire, and attaches, either integrally or separably, to the wheel center member and upon which the tire is attached.

Non-pneumatic spare tire assembly

A non-pneumatic tire assembly intended for temporary use in place of one of the pneumatic tires and rims that are fitted to a passenger car in compliance with the requirements of this standard.

Non-pneumatic tire

A mechanical device which transmits, either directly or through a wheel or wheel center member, the vertical load and tractive forces from the roadway to the vehicle, generates the tractive forces that provide the directional control of the vehicle and does not rely on the containment of any gas or fluid for providing those functions.

Non-pneumatic tire assembly

A non-pneumatic tire, alone or in combination with a wheel or wheel center member, which can be mounted on a vehicle.

Normal occupant weight

This means 68 kilograms (150 lbs.) times the number of occupants specified in the second column of Table I of 49 CFR 571.110.

Occupant distribution

The distribution of occupants in a vehicle as specified in the third column of Table I of 49 CFR 571.110.

Section 2 - Tire Safety Information

Open splice

Any parting at any junction of tread, sidewall, or innerliner that extends to cord material.

Outer diameter

The overall diameter of an inflated new tire.

Overall width

The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to labeling, decorations, or protective bands or ribs.

Pin Weight

The downward force applied to the 5th wheel or gooseneck ball, by the trailer kingpin or gooseneck coupler.

Ply

A layer of rubber-coated parallel cords.

Ply separation

A parting of rubber compound between adjacent plies.

Pneumatic tire

A mechanical device made of rubber, chemicals, fabric and steel or other materials, that, when mounted on an automotive wheel, provides the traction and contains the gas or fluid that sustains the load.

Production options weight

The combined weight of those installed regular production options weighing over 2.3 kilograms (5 lbs.) in excess of those standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty brakes, ride levelers, roof rack, heavy duty battery, and special trim.

Radial ply tire

A pneumatic tire in which the ply cords that extend to the beads are laid at substantially 90 degrees to the centerline of the tread.

Recommended inflation pressure

This is the inflation pressure provided by the vehicle manufacturer on the Tire Information label and on the Certification / VIN tag.

Reinforced tire

A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Rim

A metal support for a tire or a tire and tube assembly upon which the tire beads are seated.

Rim diameter

This means the nominal diameter of the bead seat.

Rim size designation

This means the rim diameter and width.

Rim type designation

This means the industry of manufacturer's designation for a rim by style or code.

Rim width

This means the nominal distance between rim flanges.

Section width

The linear distance between the exteriors of the sidewalls of an inflated tire, excluding elevations due to labeling, decoration, or protective bands.

Sidewall

That portion of a tire between the tread and bead.

Sidewall separation

The parting of the rubber compound from the cord material in the sidewall.

Special Trailer (ST) Tire

The "ST" is an indication the tire is for trailer use only.

Test rim

The rim on which a tire is fitted for testing, and may be any rim listed as appropriate for use with that tire.

Tread

That portion of a tire that comes into contact with the road.

Tread rib

A tread section running circumferentially around a tire.

Tread separation

Pulling away of the tread from the tire carcass.

Treadwear indicators (TWI)

The projections within the principal grooves designed to give a visual indication of the degrees of wear of the tread.

Vehicle capacity weight

The rated cargo and luggage load plus 68 kilograms (150 lbs.) times the vehicle's designated seating capacity.

Vehicle maximum load on the tire

The load on an individual tire that is determined by distributing to each axle its share of the maximum loaded vehicle weight and dividing by two.

Vehicle normal load on the tire

The load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight

Section 2 - Tire Safety Information

(distributed in accordance with Table I of CRF 49 571.110) and dividing by 2.

Weather side

The surface area of the rim not covered by the inflated tire.

Wheel center member

In the case of a non-pneumatic tire assembly incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic rim and provides the connection between the non-pneumatic rim and the vehicle; or, in the case of a non-pneumatic tire assembly not incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic tire and provides the connection between tire and the vehicle.

Wheel-holding fixture

The fixture used to hold the wheel and tire assembly securely during testing.

2.6 TIRE SAFETY - EVERYTHING RIDES ON IT

The National Traffic Safety Administration (NHTSA) has published a brochure (DOT HS 809 361) that discusses all aspects of Tire Safety, as required by CFR 575.6. This brochure is reproduced in part below. It can be obtained and downloaded from NHTSA, free of charge, from the following web site:

http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/tires_index.html

Studies of tire safety show that maintaining proper tire pressure, observing tire and vehicle load limits (not carrying more weight in your vehicle than your tires or vehicle can safely handle), avoiding road hazards, and inspecting tires for cuts, slashes, and other irregularities are the most important things you can do to avoid tire failure, such as tread separation or blowout and flat tires. These actions, along with other care and maintenance activities, can also:

- Improve vehicle handling
- Help protect you and others from avoidable breakdowns and accidents
- Improve fuel economy
- Increase the life of your tires.

This booklet presents a comprehensive overview of tire safety, including information on the following topics:

- Basic tire maintenance
- Uniform Tire Quality Grading System
- Fundamental characteristics of tires
- Tire safety tips.

Use this information to make tire safety a regular part of your vehicle maintenance routine. Recognize that the time you spend is minimal compared with the inconvenience and safety consequences of a flat tire or other tire failure.

2.6.1 Safety First—Basic Tire Maintenance

Properly maintained tires improve the steering, stopping, traction, and load-carrying capability of your vehicle. Underinflated tires and overloaded vehicles are a major cause of tire failure. Therefore, as mentioned above, to avoid flat tires and other types of tire failure, you should maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and regularly inspect your tires.

2.6.2 Finding Your Vehicle's Recommended Tire Pressure and Load Limits

Tire information placards and vehicle certification labels contain information on tires and load limits. These labels indicate the vehicle manufacturer's information including:

- Recommended tire size
- Recommended tire inflation pressure
- Vehicle capacity weight (VCW—the maximum occupant and cargo weight a vehicle is designed to carry)
- Front and rear gross axle weight ratings (GAWR—the maximum weight the axle systems are designed to carry).

Both placards and certification labels are permanently attached to the trailer near the left front.

2.6.3 Understanding Tire Pressure and Load Limits

Tire inflation pressure is the level of air in the tire that provides it with load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure—measured in pounds per square inch (psi)—a tire requires to be properly inflated. (You will also find this number on the vehicle information placard expressed in kilopascals (kPa), which is the metric measure used internationally.)

Manufacturers of passenger vehicles and light trucks determine this number based on the vehicle's design load limit, that is, the greatest amount of weight a vehicle can safely carry and the vehicle's tire size. The proper tire pressure for your vehicle is referred to as the "recommended cold inflation pressure." (As you will read below, it is difficult to obtain the recommended tire pressure if your tires are not cold.)

Because tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This

Section 2 - Tire Safety Information

number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

2.6.4 Checking Tire Pressure

It is important to check your vehicle's tire pressure at least once a month for the following reasons:

- Most tires may naturally lose air over time.
- Tires can lose air suddenly if you drive over a pothole or other object or if you strike the curb when parking.
- With radial tires, it is usually not possible to determine underinflation by visual inspection.

For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets. The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. The term cold does not relate to the outside temperature. Rather, a cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure within them to increase. Therefore, to get an accurate tire pressure reading, you must measure tire pressure when the tires are cold or compensate for the extra pressure in warm tires.

2.6.5 Steps for Maintaining Proper Tire Pressure

- Step 1: Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual.
- Step 2: Record the tire pressure of all tires.
- Step 3: If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until you get to the correct pressure.
- Step 4: If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you will need to add.
- Step 5: At a service station, add the missing pounds of air pressure to each tire that is underinflated.
- Step 6: Check all the tires to make sure they have the same air pressure (except in cases in which the front and rear tires are supposed to have different amounts of pressure).

If you have been driving your vehicle and think that a tire is underinflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may still be slightly underinflated due to the extra pounds of pressure in the warm tire, it is safer to drive with air pressure that is slightly lower than the vehicle

manufacturer's recommended cold inflation pressure than to drive with a significantly underinflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

2.6.6 Tire Size

To maintain tire safety, purchase new tires that are the same size as the vehicle's original tires or another size recommended by the manufacturer. Look at the tire information placard, the owner's manual, or the sidewall of the tire you are replacing to find this information. If you have any doubt about the correct size to choose, consult with the tire dealer.

2.6.7 Tire Tread

The tire tread provides the gripping action and traction that prevent your vehicle from slipping or sliding, especially when the road is wet or icy. In general, tires are not safe and should be replaced when the tread is worn down to 1/16 of an inch. Tires have built-in treadwear indicators that let you know when it is time to replace your tires. These indicators are raised sections spaced intermittently in the bottom of the tread grooves. When they appear "even" with the outside of the tread, it is time to replace your tires. Another method for checking tread depth is to place a penny in the tread with Lincoln's head upside down and facing you. If you can see the top of Lincoln's head, you are ready for new tires.

2.6.8 Tire Balance and Wheel Alignment

To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned correctly relative to the vehicle's frame. This adjustment maximizes the life of your tires. These adjustments require special equipment and should be performed by a qualified technician.

2.6.9 Tire Repair

If a tire loses all or most of its air pressure, it should be removed from the wheel for a complete inspection for possible internal damage. Tires that are run even for short distances while flat are often damaged beyond repair. Remember these important points on tire repair:

- Most punctures and nail holes in the tread area up to 1/4" can be repaired.
- Only trained personnel, using industry approved methods and materials, should repair a tire.
- Tires with sidewall punctures or a tread depth of less than 1/16" should be replaced and not repaired.

The proper repair of a punctured tire requires a plug for the hole and a patch for the area inside the tire that surrounds the puncture hole.

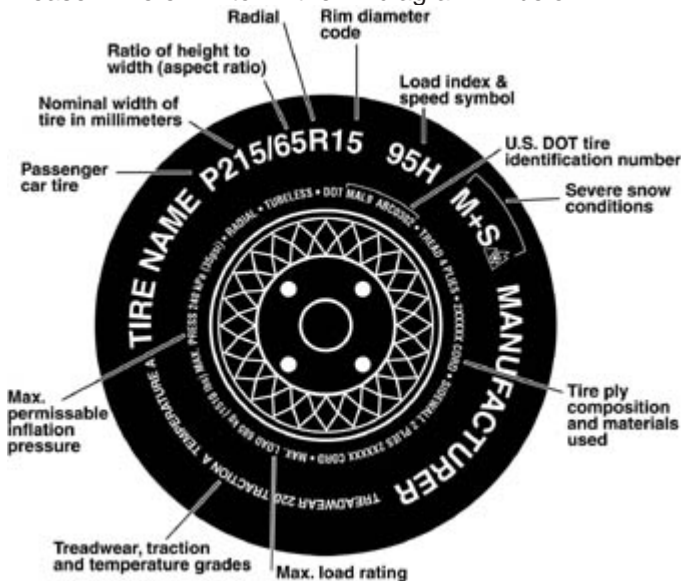
Section 2 - Tire Safety Information

2.6.10 Tire Fundamentals

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a tire identification number for safety standard certification and in case of a recall.

2.6.10.a Information on Passenger Vehicle Tires

Please refer to the diagram below.



P

The "P" indicates the tire is for passenger vehicles.

Next Number

This three-digit number gives the width in millimeters of the tire from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

Next Number

This two-digit number, known as the aspect ratio, gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall for improved steering response and better overall handling on dry pavement.

R

The "R" stands for radial. Radial ply construction of tires has been the industry standard for the past 20 years.

Next Number

This two-digit number is the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

Next Number

This two- or three-digit number is the tire's load index. It is a measurement of how much weight each tire can support. You may find this information in your owner's

manual. If not, contact a local tire dealer. Note: You may not find this information on all tires because it is not required by law.

M+S

The "M+S" or "M/S" indicates that the tire has some mud and snow capability. Most radial tires have these markings; hence, they have some mud and snow capability.

Speed Rating

The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time. Note: You may not find this information on all tires because it is not required by law.

U.S. DOT Tire Identification Number

This begins with the letters "DOT" and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and year the tire was built. For example, the numbers 3197 means the 31st week of 1997. The other numbers are marketing codes used at the manufacturer's discretion. This information is used to contact consumers if a tire defect requires a recall.

Tire Ply Composition and Materials Used

The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.

Maximum Load Rating

This number indicates the maximum load in kilograms and pounds that can be carried by the tire.

Maximum Permissible Inflation Pressure

This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

2.6.10.b UTQGS Information

Treadwear Number

This number indicates the tire's wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire graded 400 should last twice as long as a tire graded 200.

Traction Number

This letter indicates a tire's ability to stop on wet pavement. A higher graded tire should allow you to stop your car on wet roads in a shorter distance than a tire with a lower grade. Traction is graded from highest to lowest as "AA", "A", "B", and "C".

Temperature Letter

Section 2 - Tire Safety Information

This letter indicates a tire's resistance to heat. The temperature grade is for a tire that is inflated properly and not overloaded. Excessive speed, underinflation or excessive loading, either separately or in combination, can cause heat build-up and possible tire failure. From highest to lowest, a tire's resistance to heat is graded as "A", "B", or "C".

2.6.10.c Information on Light Truck (LT) Tires

Please refer to the following diagram.



Tires for light trucks have other markings besides those found on the sidewalls of passenger tires.

LT

The "LT" indicates the tire is for light trucks or trailers.

Max. Load Dual kg (lbs) at kPa (psi) Cold

This information indicates the maximum load and tire pressure when the tire is used as a dual, that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle).

Max. Load Single kg (lbs) at kPa (psi) Cold

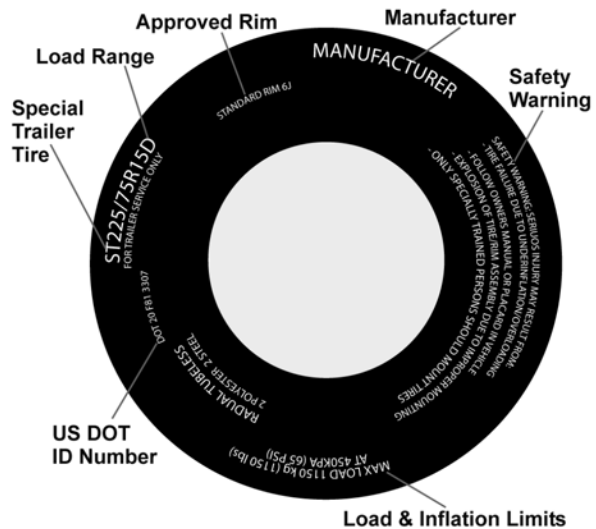
This information indicates the maximum load and tire pressure when the tire is used as a single.

Load Rating

This information identifies the tire's load-carrying capabilities and its inflation limits.

2.6.10.d Information on Special Trailer (ST) Tires

Please refer to the following diagram.



Tires designated for trailers only have other markings besides those found on the sidewalls of passenger tires.

ST

An "ST" is an indication the tire is for trailer use only. "ST" tires are designed for carrying heavy loads at lower speeds.

The Tire and Rim Association Standard indicates that for operation at speeds up to 65 mph, no change in maximum cold tire inflation pressure or load is required. For speeds between 66-75 mph, increase the maximum cold tire inflation pressure 10 psi.

Max. Load Dual kg (lbs) at kPa (psi) Cold

This information indicates the maximum load and tire pressure when the tire is used as a dual, that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle).

Max. Load Single kg (lbs) at kPa (psi) Cold

This information indicates the maximum load and tire pressure when the tire is used as a single.

Load Range

This information identifies the tire's load-carrying capabilities and its inflation limits.

2.6.11 Tire Safety Tips

Preventing Tire Damage

- Slow down if you have to go over a pothole or other object in the road.
- Do not run over curbs or other foreign objects in the roadway, and try not to strike the curb when parking.

Tire Safety Checklist

Section 2 - Tire Safety Information

- Check tire pressure regularly (at least once a month), including the spare.
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.
- Make sure your tire valves have valve caps.
- Check tire pressure before going on a long trip.
- Do not overload your vehicle. Check the tire information placard or owner's manual for the maximum recommended load for the vehicle.

Section 3 - COUPLING TO THE TOW VEHICLE

This manual provides instructions for the operation and care of Haulmark trailers. The instructions in the manual must be followed to ensure safety of persons, and cargo, and satisfactory life of the trailer. Safety precautions to protect against injury or property damage must be followed at all times.

This section of the manual is organized into the following subsections:

- Using an adequate tow vehicle and hitch
- Coupling the trailer to the tow vehicle
- Loading the trailer
- Checking the trailer for safety before each tow
- Breaking in a new trailer
- Synchronizing the brakes
- Uncoupling the trailer

Trailer Accessories

Haulmark offers trailers with a wide range of accessories. Instructions for safe use of these accessories are located in separate instruction manuals, some of which are provided by the accessory manufacturer.

Section 7 of this manual contains instructions regarding the use of some accessory items, such as:

- Gasoline or diesel generators
- Accessory Battery
- “Shore Power” connections to provide power by “plugging the trailer in” to an external source of electrical power
- LP (Liquid Petroleum Gas) facilities for heating or other uses
- Electric-powered hydraulic landing gear
- Vending or Accessory Doors

Your Haulmark trailer has been built using parts from various component manufacturers. Where this manual indicates that you should read another manual, and you do not have that manual, call Haulmark Industries, Inc. at 1-800-348-7530 for assistance.

3.1 USE AN ADEQUATE TOW VEHICLE AND HITCH

If the tow vehicle or hitch is not properly selected and matched to the Gross Vehicle Weight Rating (GVWR) of your trailer, you can cause an accident that could lead to death or serious injury. Tow vehicle and hitch manufacturers are the appropriate source of competent advice.

If you already have a tow vehicle, know your vehicle tow rating and make certain the trailer's rated capacity is less than or equal to the tow vehicle's rated towing capacity.

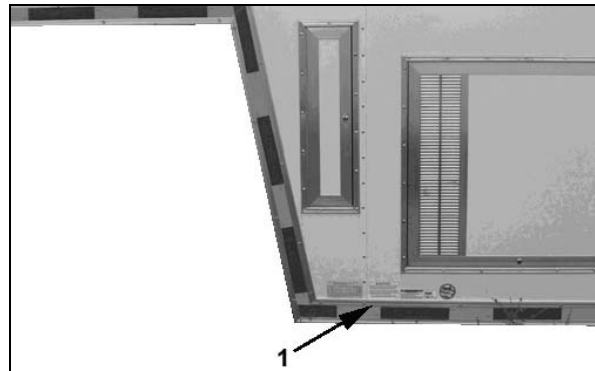
DANGER

Use of an under-rated hitch, ball or tow vehicle can result in loss of control leading to death or serious injury.

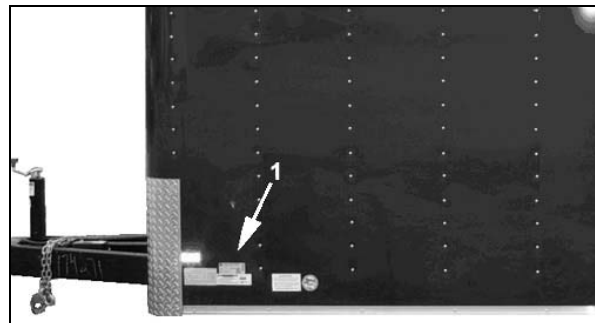
Make certain your hitch and tow vehicle are rated for your trailer.

3.1.1 Trailer Information

The “Trailer Certification (VIN) Tag” (1) location figure shows the location of the Certification / Vehicle Identification Number (VIN) tag on your trailer. See figure 3-1 or 3-2.



*Gooseneck Certification (VIN) Tag
Location - Figure 3-1*



*Bumper Pull Certification (VIN) Tag
Location - Figure 3-2*

Section 3 - Coupling To The Tow Vehicle

The trailer Certification (VIN) tag contains the following critical safety information for the use of your trailer:

MANUFACTURER: Name of trailer manufacturer

DATE OF MANUFACTURE: Month and year the trailer was manufactured.

GAWR: The Gross Axle Weight Rating is the maximum gross weight that an axle can support. It is the lowest of axle, wheel, or tire rating. Sometimes the tire or wheel rating is lower than the axle manufacturers rating, and will then determine GAWR.

GVWR: The Gross Vehicle Weight Rating is the maximum allowable gross weight of the trailer and its contents. The gross weight of the trailer includes the weight of the trailer and all of the items within it (such as cargo, water, food and other supplies). GVWR is sometimes referred to as GTW (Gross Trailer Weight), or MGTW (Maximum Gross Trailer Weight). GVWR, GTW and MGTW are all the same rating.

The sum total of the GAWR for all trailer axles may be less than the GVWR for the trailer, because some of the trailer load is carried by the tow vehicle, rather than by the trailer axle(s). **The total weight of the cargo and trailer must not exceed the GVWR, and the load on an axle must not exceed its GAWR.**

PSIC: The “pounds per square inch-cold” is the tire pressure (Kilopascals / Pounds per Square Inch) measured when Cold.

VIN: The Vehicle Identification Number.

VEHICLE TYPE: Trailer plus the model number of the trailer.

Certification Statement: “This trailer meets all the Federal Motor Vehicle Safety Standards in effect on the date of manufacture shown above.”

There are two additional weights that are not provided on the Certification (VIN) tag that are important, and that should be put somewhere on the trailer. These are the “empty weight” and “maximum cargo weight”.

The “empty weight” is sometimes put on the Manufacturer’s Certificate of Origin (Title) but may not be accurate for your particular trailer, due to accessories, optional equipment, etc. The best way to determine empty weight is to weigh the entire trailer on a “Certified” scale at a truck stop. This requires detaching the trailer and leaving the entire trailer on the scale. Furthermore, it is desirable to weigh the tongue weight. This can be done by re-attaching the trailer to the tow vehicle, after getting the empty weight, and then just

weighing the trailer axles(s). Subtracting the axle weight from the empty weight gives you the tongue weight.

Knowing the empty weight now allows you to calculate the “maximum cargo weight”. Simply subtract the empty weight from the GVWR shown on the Certification / VIN tag.

While you’re at the scale it is also a good idea to weigh the towing vehicle, with driver, in the typical towing scenario. This will provide you with the total “combination vehicle weight”, which can then be compared to the allowable Gross Combined Weight Rating (GCWR) provided by the tow vehicle manufacturer, as discussed below.

3.1.2 Tow Vehicle

When equipping a new vehicle or an older vehicle to tow your trailer, ask the vehicle dealer for advice on how to outfit the towing vehicle. Discuss the following information and equipment with the vehicle dealer.

Overall Carrying and Towing Capacity of Vehicle: Vehicle manufacturers will provide you with the maximum towing capacities of their various models, as well as the GCWR. No amount of reinforcement will give a 100 horsepower, 2,500 pound truck the towing capacity that a 300 horsepower, 5,000 pound truck has.

Towing Hitch: The towing hitch attached to your tow vehicle must have a capacity equal to or greater than the load rating of the trailer you intend to tow. The hitch capacity must also be matched to the tow vehicle capacity.

Suspension System: A tow vehicle equipped with a factory installed “Towing Package” likely comes equipped with heavy duty springs, heavy duty tires and other suspension components which are able to serve the size and weight of the trailer that the vehicle is rated to tow. However, the addition of additional equipment may further improve the tow vehicle performance. These may include adjustable air shocks, helper springs, etc.

Brake Controller: The brake controller is part of the tow vehicle and is essential in the operation of the electric brakes on the trailer. If your trailer has electric brakes it requires a brake controller be installed at the driver’s position. The brake controller is not the same as the safety breakaway brake system that is installed on the trailer.

Side View Mirrors: The size of the trailer that is being towed and your state law regulations determine the size of the mirrors. However, some states prohibit extended mirrors on a tow vehicle, except while a trailer is actually being towed. In this situation, detachable extended mirrors are necessary. Check with your dealer or the appropriate state agency for mirror requirements.

Section 3 - Coupling To The Tow Vehicle

Heavy Duty Flasher: A Heavy Duty Flasher is an electrical component that may be required when your trailer turn signal lights are attached to the tow vehicle flasher circuit.

Electrical Connector: An Electrical Connector connects the light and brake systems on the trailer to the light and brake controls on the towing vehicle.

Heavy Duty Engine Oil Cooling System: The tow vehicle engine works harder when a trailer is being towed. Depending on the size of the trailer, you may need to install a separate engine oil cooler. Inadequate cooling may result in sudden engine failure. Ask the tow vehicle dealer if it is necessary to install a heavy duty cooling system.

Automatic Transmission Oil Cooler: The automatic transmission of a towing vehicle handles more power when a trailer is being towed. Inadequate cooling will shorten transmission life, and may result in sudden transmission failure. Ask the tow vehicle dealer if it is necessary to install a separate oil cooler for the automatic transmission.

Fire Extinguisher: It is sensible to have a fire extinguisher in the tow vehicle.

Emergency Flares and Emergency Triangle Reflectors: It is wise to carry these warning devices even if you are not towing a trailer. It is particularly important to have these when towing a trailer because the hazard flashers of your towing vehicle will not operate for as long a period of time when the battery is running both the trailer lights and tow vehicle lights.

3.2 COUPLING AND UNCOUPLING THE TRAILER

A secure coupling (or fastening) of the trailer to the tow vehicle is essential. A loss of coupling may result in death or serious injury. Therefore, you must understand and follow all of the instructions for coupling.

The following parts are involved in making a secure coupling between the trailer and tow vehicle:

Coupling: That part of the trailer connecting mechanism by which the connection is actually made to the trailer hitch. This does not include any structural member, extension of the trailer frame, or brake controller. (per SAE J684)

Hitch: That part of the connecting mechanism including the ball support platform and ball and those components that extend and are attached to the towing vehicle,

including bumpers intended to serve as hitches. (per SAE J684)

Safety chains: Chains are permanently attached to the trailer such that if the coupler connection comes loose, the safety chains can keep the trailer attached to the tow vehicle. With properly rigged safety chains, it is possible to keep the tongue of the trailer from digging into the road pavement, even if the coupler-to-hitch connection comes apart.

Trailer lighting (and braking) connector: A device that connects electrical power from the tow vehicle to the trailer. Electricity is used to turn on brake lights, running lights, and turn signals as required. In addition, if your trailer has a separate braking system, the electrical connector will also supply power to the trailer brakes from the tow vehicle.

Breakaway switch: If the trailer becomes de-coupled from the towing vehicle, the breakaway switch lanyard, attached independently to the tow vehicle hitch, will pull a pin in the emergency electrical breakaway switch on the trailer. The breakaway switch is activated by a separate battery supply in the trailer such as to energize the trailer brakes independently of the towing vehicle. It is important to check the state of charge of the emergency breakaway battery before each trip. Simply pull the pin out of the switch by hand and then try to pull the trailer. If you feel a significant drag force the brakes are activated. Be sure to re-insert the pin in the breakaway switch. Also be sure to allow enough slack in the breakaway brake lanyard such that the switch will only activate (pin pulls out) if the coupler connection comes loose.

Jack: A device on the trailer that is used to raise and lower the trailer tongue. On larger trailers the jack is sometimes called the "landing gear."

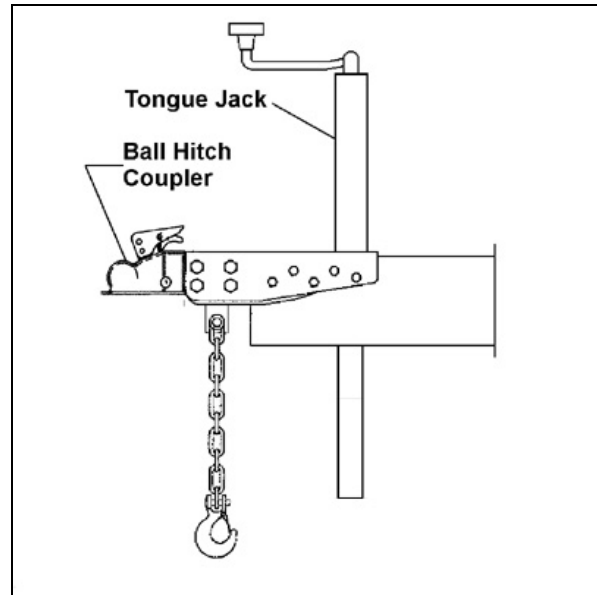
Section 3 - Coupling To The Tow Vehicle

WARNING

An improperly coupled trailer can result in death or serious injury.

Do not move the trailer until:

- The coupler is secured and locked;
- The safety chains are secured to the tow vehicle; and
- The trailer jacks are fully retracted.
- Do not tow the trailer on the road until:
- The trailer brakes are checked;
- The breakaway switch is connected to the tow vehicle;
- The load is secured to the trailer; and
- The trailer lights are connected and checked.



Trailer with Ball Hitch Coupler - Figure

3-3

Couplers

Haulmark trailers are produced with a variety of coupler devices. One of the sections below will pertain to your trailer.

- Bumper pull (Ball Hitch) Coupler
- Gooseneck Ball Hitch Coupler
- Gooseneck Fifth Wheel Coupler

If you need information or assistance with your coupler, call Haulmark Industries, Inc. at 800-348-7530 or your dealer.

3.2.1 Trailer with Ball Hitch Coupler

A ball hitch coupler connects to a ball that is located on or under the rear bumper of the tow vehicle. This system of coupling a trailer to a tow vehicle is sometimes referred to as “bumper pull.”

A ball hitch trailer may be fitted with a tongue jack that can raise and lower the coupler. The tongue jack is mounted to the A-frame (front, or tongue) part of the trailer. By rotating the jack handle clockwise, the jack will extend and raise the tongue of the trailer. Figure 3-3 shows a trailer with a ball hitch coupler.

Be sure the Ball Hitch coupler is suitable for the size and weight of the trailer. The load rating of the coupler and the necessary ball size are listed on the trailer tongue. You must provide a hitch and ball for your tow vehicle, where the load rating of the hitch and ball is equal to or greater than that of your trailer. Also, the ball size must be the same as the coupler size. If the hitch ball is too small, too large, is underrated, is loose or is worn, the trailer can come loose from the tow vehicle, and may cause death or serious injury.

THE TOW VEHICLE, HITCH AND BALL MUST HAVE A RATED TOWING CAPACITY EQUAL TO OR GREATER THAN THE TRAILER Gross Vehicle Weight Rating (GVWR).

IT IS ESSENTIAL THAT THE HITCH BALL BE OF THE SAME SIZE AS THE COUPLER.

IF THE HITCH BALL IS TOO SMALL, IS UNDERRATED, IS LOOSE OR IS WORN, THE TRAILER CAN COME LOOSE FROM THE TOW VEHICLE, RESULTING IN DEATH OR SERIOUS INJURY.

The ball size and load rating (capacity) are marked on the ball; hitch capacity is marked on the hitch.

3.2.1.a Before Coupling the Trailer to the Tow Vehicle

- Be sure the size and rating of hitch ball match the size and rating of the coupler. Hitch balls and couplers are marked with their size and rating.

Section 3 - Coupling To The Tow Vehicle

⚠ WARNING

Coupler-to-hitch mismatch can result in uncoupling, leading to death or serious injury.

Make sure the hitch and ball are rated for the trailer coupling.

Make sure the hitch [ball size] matches the coupler.

- Wipe the hitch ball clean and inspect it visually and by feel for flat spots, cracks and pits.

⚠ WARNING

A worn, cracked or corroded hitch ball can fail while towing, and may result in death or serious injury.

Check the hitch ball for wear, corrosion and cracks before coupling the trailer.

Replace worn, corroded or cracked hitch ball before coupling the trailer.

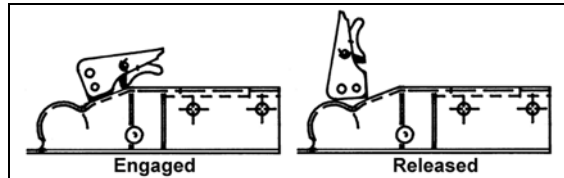
- Rock the ball to make sure it is tight to the hitch, and visually check that the hitch ball nut is solid against the lock washer and hitch frame.
- Wipe the inside and outside of the coupler clean and inspect it visually for cracks and deformations; feel the inside of the coupler for worn spots and pits.
- Be sure the coupler is tight to the tongue of the trailer. All coupler fasteners must be visibly solid against the trailer frame.

⚠ WARNING

A loose hitch ball nut can result in uncoupling, leading to death or serious injury.

Make sure the hitch ball is tight to the hitch before coupling the trailer.

- In the open or released position, the coupler is able to drop fully onto the hitch ball.
- Slowly back up the tow vehicle so that the hitch ball is near or aligned under the coupler, if the trailer jack has raised the coupler.



Ball Hitch Coupler Mechanism - Figure

3-4

3.2.1.c **Couple the Trailer to the Tow Vehicle**

- Using the jack, lower the trailer tongue until the coupler fully engages the hitch ball. If the coupler does not line up with the hitch ball, adjust the position of the tow vehicle.
- Engage the coupler locking mechanism. In the engaged position, the locking mechanism securely holds the coupler to the hitch ball.
- Insert a pin or lock through the hole in the locking mechanism.
- Be sure the coupler is all the way on the hitch ball and the locking mechanism is engaged. A properly engaged locking mechanism will allow the coupler to raise the rear of the tow vehicle. Using the trailer jack, test to see that you can raise the rear of the tow vehicle by 1 inch, after the coupler is locked to the hitch.

NOTICE

The tongue jack can be damaged by overloading. Do not use the tongue jack to raise the tow vehicle more than 1 inch.

If the coupler cannot be secured to the hitch ball, do not tow the trailer. Call Haulmark Industries, Inc. at 800-348-7530 or your dealer for assistance.

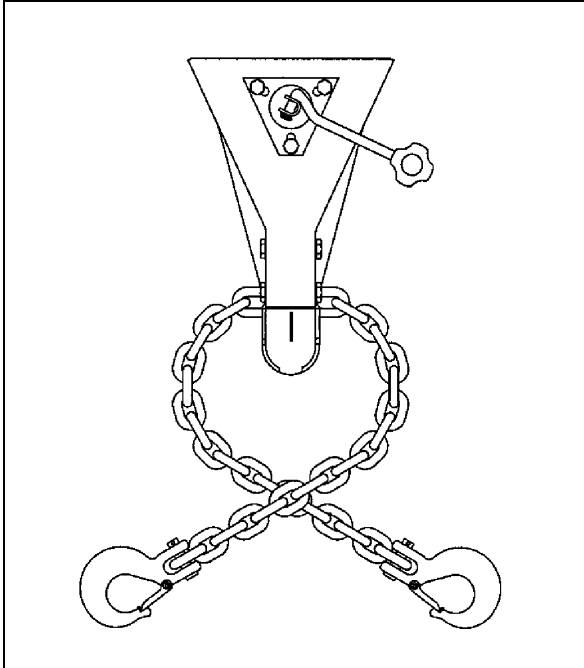
3.2.1.b **Prepare the Coupler and Hitch**

- Lubricate the hitch ball and the inside of the coupler with a thin layer of automotive bearing grease. Using the jack, raise the coupler above the ball height.
- Open the coupler locking mechanism. Ball couplers have a locking mechanism with an external moving piece (ball clamp) and an outside handle or latch. See figure 3-4.

- Lower the trailer so that its entire tongue weight is held by the hitch, and continue retracting the jack to its fully retracted position.

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3.2.1.d Rig the Safety Chains



Safety Chain Arrangement - Figure 3-5

- Visually inspect the safety chains and hooks for wear or damage. Replace worn or damaged safety chains and hooks before towing.
- Rig the safety chains so that they:
 - Cris-cross underneath the coupler so if the trailer uncouples, the safety chains can hold the tongue up above the road. See figure 3-5.
 - Loop around a frame member of the tow vehicle or to holes provided in the hitch system (but, do **not** attach them to an interchangeable part of the hitch assembly)
 - Attach hooks up from underneath the hole (do not just drop into hole); and
 - Provide enough slack to permit tight turns, but not be close to the road surface to drag.

⚠ WARNING

Incorrect rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

Chains must:

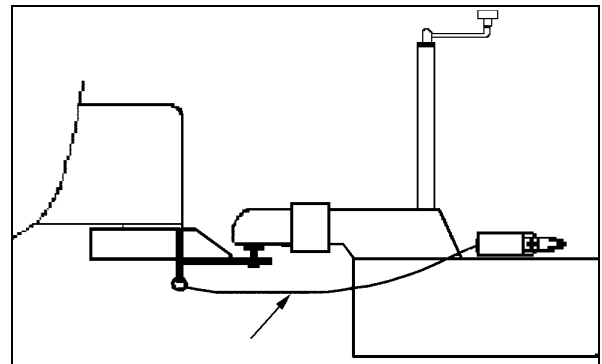
- Fasten to frame of tow vehicle, not to hitch or ball.
- Cross underneath hitch and coupler with minimum slack to permit turning and to hold tongue up, if the trailer comes loose.

3.2.1.e Attach and Test the Breakaway Brake System

If the coupler or hitch fails, a properly connected and working breakaway brake system will apply electric brakes on the trailer. The safety chains will keep the tow vehicle attached and as the brakes are applied at the trailer's axles, the trailer/tow vehicle combination will come to a controlled stop.

The breakaway brake system includes a controller, battery, and a switch with a pullpin, and lanyard. Read and follow the instructions here as well as the instructions that have been prepared by the breakaway brake manufacturer.

The breakaway brake system may be fitted with a "charging" capability that draws power from the tow vehicle. If the electrical system on your tow vehicle does not provide power to the breakaway brake battery, you must periodically charge the battery to keep the breakaway brake system in working order.



Breakaway Brake Connection - figure

3-6

Section 3 - Coupling To The Tow Vehicle

- Visually inspect the breakaway system for broken or missing parts. Repair or replace worn, damaged or missing parts before towing trailer.
- Connect the pullpin lanyard to the tow vehicle so that the pullpin will be pulled out before all of the slack in the safety chains is taken up (see Breakaway Brake Connection figure 3-6). Do **not** connect the pullpin lanyard to a safety chain or to the hitch ball or hitch ball assembly. This would keep the breakaway brake system from operating when it is needed.
- To test the breakaway brake battery, remove the pullpin from the switch and attempt to pull the trailer forward. You should feel the trailer resisting being towed, but the wheels will not necessarily be locked. If the brakes do not function, do not tow the trailer until brakes, or battery, are repaired.
- Immediately replace the pullpin. The breakaway brake system battery discharges rapidly when the pullpin is removed.

WARNING

An ineffective breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or ball hitch fails.

Test the function of the breakaway brake system before towing the trailer. Do not tow the trailer if the breakaway brake system is not working; have it serviced or repaired.

Connect the breakaway lanyard to the tow vehicle -

NOT to the safety chain; and

NOT to the hitch, ball or support.

Do **not** tow the trailer with the breakaway brake system ON because the brakes will overheat which can result in permanent brake failure.

WARNING

Failure to replace the pullpin can result in ineffective brakes, leading to loss of control, serious injury or death.

If you do not use your trailer for three or more months, or during winter months:

- Store the battery indoors; and
- Charge the battery every three months.

Replace the breakaway brake battery according to the intervals specified by the battery manufacturer.

3.2.1.f **Connect the Electrical Cables**

Connect the trailer lights to the tow vehicle's electrical system using the electrical connectors.

- Check all lights for proper operation.
 - Clearance and Running Lights (Turn on tow vehicle headlights).
 - Brake Lights (Step on tow vehicle brake pedal).
 - Turn Signals (Operate tow vehicle directional signal lever).
- Check electric brakes for proper operation using brake controller mounted in the cab.

If your trailer has electric brakes, your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you must operate the brake controller while trying to pull the trailer in order to confirm that the electric brakes operate. While towing the trailer at less than 5 m.p.h., manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

WARNING

Failure to connect the tow vehicle lighting and braking to the trailer will result in inoperable lights and brakes, and can lead to collision.

Check that all the trailer lights and brakes work before each tow.

3.2.1.g **Uncoupling the Ball Hitch Trailer**

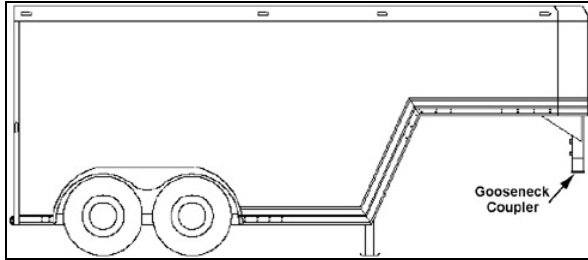
Follow these steps to uncouple your ball hitch trailer from the tow vehicle:

- Block trailer tires to prevent the trailer from rolling, before jacking the trailer up.
- Disconnect the electrical connector.
- Disconnect the breakaway brake switch lanyard.
- Disconnect the safety chains from the tow vehicle.
- Unlock the coupler and open it.
- Before extending jack, make certain the ground surface below the jack pad will support the tongue load.
- Rotate the jack handle (or crank) clockwise. This will slowly extend the jack and transfer the weight of the trailer tongue to the jack.

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3.2.2 Trailer with Gooseneck Coupler and Drop-Leg Jack

A gooseneck coupler on the trailer connects to a gooseneck ball that you must have installed in the bed of the tow vehicle. This system of coupling a trailer to a tow vehicle permits the tow vehicle to turn to sharper angles than are permitted by a bumper hitch system. A gooseneck coupler consists of a tube in an inverted “U” shape and a gooseneck ball receiver. Figure 3-7 shows a trailer with a gooseneck coupler.



Trailer with Gooseneck Coupler - Figure 3-7

We have utilized a Gooseneck ball receiver that is suitable for the size and weight of the trailer. The load rating of the coupler and the necessary ball size are listed on the gooseneck.

You must provide a gooseneck ball and support structure that is marked with a rating that meets or exceeds the GVW Rating of your trailer **and** matches the size of the gooseneck ball receiver. If the gooseneck ball is too small, is underrated, is loose or is worn, the trailer can come loose from the tow vehicle, and may lead to death or serious injury.

THE TOW VEHICLE, SUPPORT STRUCTURE AND GOOSENECK BALL MUST HAVE A RATED TOWING CAPACITY EQUAL TO OR GREATER THAN THE TRAILER Gross Vehicle Weight Rating (GVWR).

IT IS ESSENTIAL THAT THE GOOSENECK BALL BE OF THE SAME SIZE AS THE GOOSENECK BALL RECEIVER.

IF THE GOOSENECK BALL IS TOO SMALL, IS UNDERRATED, IS LOOSE OR IS WORN, THE TRAILER CAN COME LOOSE FROM THE TOW VEHICLE, RESULTING IN DEATH OR SERIOUS INJURY.

The gooseneck ball size and load rating (capacity) are marked on the ball; hitch capacity is marked on the hitch.

! WARNING

Coupler-to-hitch mismatch can result in uncoupling, leading to death or serious injury.

Make sure the hitch and ball are rated for the trailer coupling.

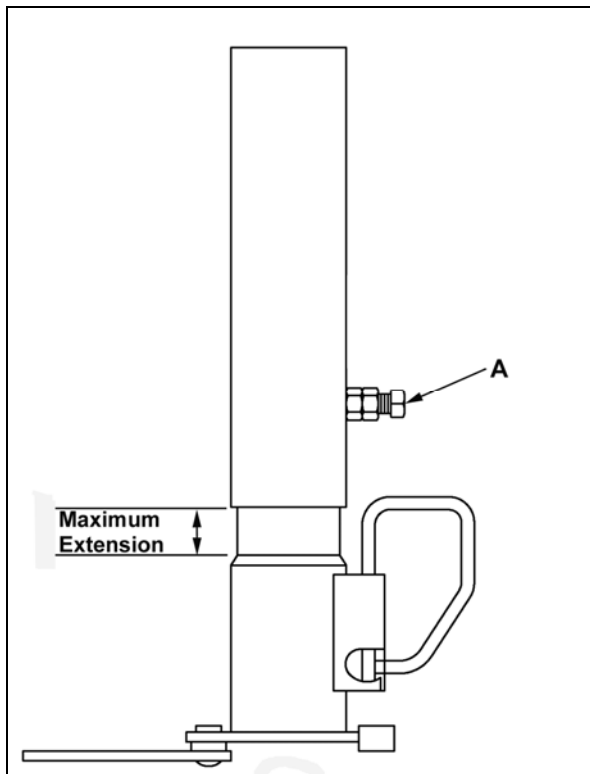
Make sure the hitch [ball size] matches the coupler.

3.2.2.a Adjust Gooseneck Hitch Height

It is your responsibility to have the height of the coupler adjusted to match the height of the gooseneck ball in your tow vehicle. Proper coupler height adjustment is required to provide clearance between the bottom of the trailer and sides of the tow vehicle bed, to obtain level running of the trailer and to permit equal weight distribution on the axles. Your Haulmark dealer is able to perform the coupler height adjustment to match the trailer to your towing vehicle.

- Loosen the jam nut and set screw (A) on the coupler. See figure 3-8.
- Remove retaining pin (B) and load bearing pin (C).
- Extend or retract the coupler as needed up to a maximum of 8 inches from the fully retracted position.
- Fully insert load bearing pin (B) through one set of holes in coupler and outer tube. **NEVER use the set screw or any other device as a replacement for the load bearing pin (B).**
- Install retaining pin (C) on load bearing pin (B).
- Tighten setscrew (A) to 75-100 lb/ft of torque.
- Tighten jam nuts to 80-90 lb/ft of torque.
- Check tightness after 50 miles of towing.

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Coupler Height Adjustment - Figure 3-8

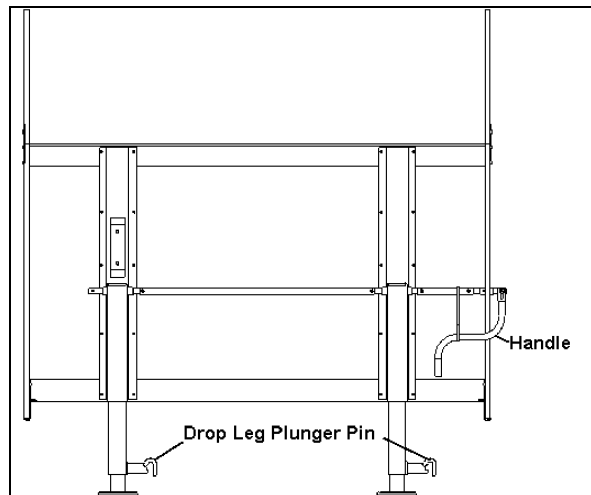
⚠ WARNING

Improper gooseneck height adjustment can result in overloaded tires, blowout and loss of control, leading to death or serious injury.

Adjust the gooseneck receiver so that the trailer runs level.

3.2.2.b Drop-Leg Jack(s)

A trailer having a gooseneck hitch will have one or two drop leg jacks for raising and lowering the gooseneck ball receiver. Because several drop leg jack mechanisms are available, the general instructions below may vary slightly from the jack manufacturer's instructions. If the trailer jack on your trailer does not resemble the jack shown in the figure 3-9, follow the jack instructions provided by the jack manufacturer.



Drop-Leg Jack Arrangement - Figure 3-9

3.2.2.c Before Coupling the Trailer to the Tow Vehicle

- Be sure the size and rating of the gooseneck ball match the size and rating of the receiver. Gooseneck balls and receivers are marked with their size and ratings.
- Wipe the gooseneck ball clean and inspect it visually and by feel for flat spots, cracks and pits.

⚠ WARNING

A worn, cracked or corroded gooseneck ball can fail while towing, and may result in death or serious injury.

Check the gooseneck ball for wear, corrosion and cracks before coupling the trailer.

Replace worn, corroded or cracked gooseneck ball before coupling the trailer.

- Rock the ball to make sure it is tight to the ball support, and visually check that the gooseneck ball nut is solid against the lock washer and ball support frame.

⚠ WARNING

A loose gooseneck ball can result in uncoupling, leading to death or serious injury.

Make sure the gooseneck ball nut is tight before coupling the trailer.

- Wipe the inside and outside of the receiver clean and inspect it visually for cracks; and feel the inside of the receiver for worn spots and pits. If any of

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these conditions exist, have the receiver replaced before coupling the trailer.

- Lubricate the inside of the gooseneck ball receiver with automotive bearing grease.
- Be sure the receiver is tight to the trailer. All receiver fasteners must be visibly solid against the trailer frame.
- Release the jack handle or crank from its holder (see "Drop Leg Jack" figure 3-9).
- Rotate the handle/crank clockwise to raise the bottom surface of the gooseneck to be above the top of the gooseneck ball.
- If the tow vehicle has a tailgate, lower it.

3.2.2.d Prepare the Ball Receiver and Gooseneck Ball

- Release the lock plate on the gooseneck ball receiver. With the spring-loaded lock plate locking pin in the OPEN position, rotate the lock plate to a position that allows the gooseneck ball to enter the receiver (see "Gooseneck Ball Receiver and Height Adjustment" figure 3-8).
- Slowly back up the tow vehicle so that the gooseneck ball is aligned under the gooseneck ball receiver.

WARNING

No one must be under the trailer or coupler during the coupling.

Death or serious injury can occur if the trailer drops.

3.2.2.e Couple the Trailer to the Tow Vehicle

- Rotate the jack handle counter-clockwise. This will retract the jack causing the gooseneck ball receiver to drop down so it can fully engage the gooseneck ball and transfer the weight of the trailer tongue to the towing vehicle hitch. If the receiver does not line up with the ball, raise the receiver again and adjust the position of the tow vehicle. Then lower the receiver over the ball. When the drop leg base is no longer resting on the ground, the towing vehicle hitch is holding all of the weight of the trailer tongue.
- Close the lock plate on the gooseneck ball receiver.
- Move the spring-loaded lock plate locking pin to the CLOSED position. Be sure the locking pin is holding the lock plate.
- Be sure the receiver is all the way on the gooseneck ball and the lock plate is engaged. A properly engaged locking mechanism will allow the coupler to raise the rear of the tow vehicle. Using the trailer

jack, test to see that you can raise the rear of the tow vehicle by 1 inch.

NOTICE

The drop leg jack can be damaged by overloading. Do not use the drop leg jack to raise the tow vehicle more than 1 inch.

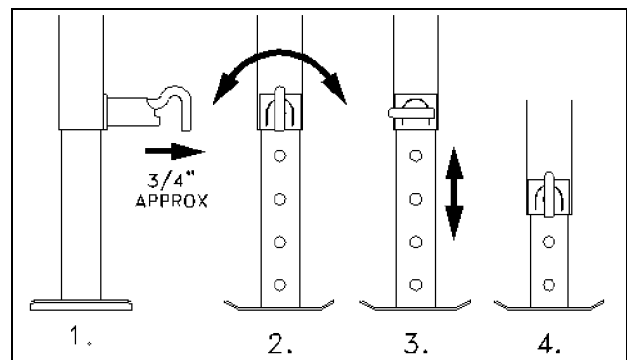
If the gooseneck ball cannot be secured to the receiver, do not tow the trailer. Call Haulmark Industries, Inc. at 800-348-7530 or your dealer for assistance.

- After testing to see that the receiver is properly secured and locked to the ball, retract the jack to its fully retracted position.
- Return the drop legs to their upper positions. The drop legs are held in the lowered position with a plunger pin. Rotating the plunger pin while pulling it outward will cause it to come out of engagement with the drop leg and the leg will rapidly rise. See figure 3-10.
- If the tow vehicle is equipped with a tailgate, raise it.
- Pick up the trailer wheel blocks.

CAUTION

The drop legs are heavily spring loaded in the lowered position. They will rapidly return to the upper position when released and can inflict serious bruises, scrapes or pinching.

Keep your feet, shins and hands well clear of the drop legs and drop leg bases when releasing the drop legs.



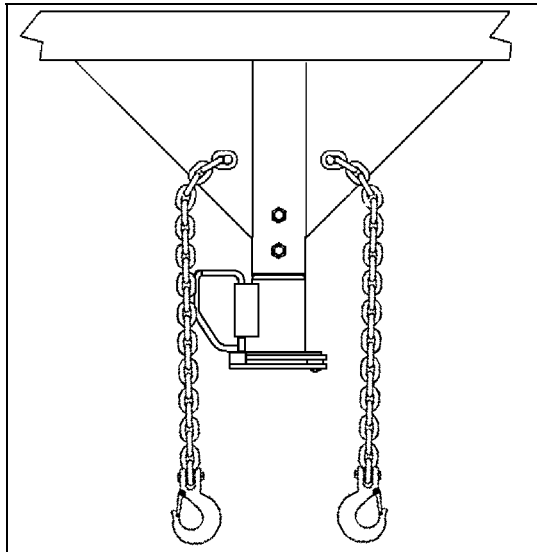
Drop Leg Jack Mechanism – Figure 3-10

3.2.2.f Rig the Safety Chains

- Visually inspect the safety chains and hooks for wear or damage. Replace worn or damaged safety chains and hooks before towing.

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- Rig the safety chains so that they attach to the “safety chain receivers” on the tow vehicle. If you are not certain of the hitch provisions for receiving safety chains, contact the hitch manufacturer or installer. Do NOT attach the safety chains to the gooseneck ball or its support; and
- Rig the safety chains so they have sufficient slack to permit turning, but not too much slack – the safety chains must keep the gooseneck on the tow vehicle bed if the trailer uncouples. See figure 3-11.



Safety Chain Arrangement - Figure 3-11

⚠ WARNING

Improper rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

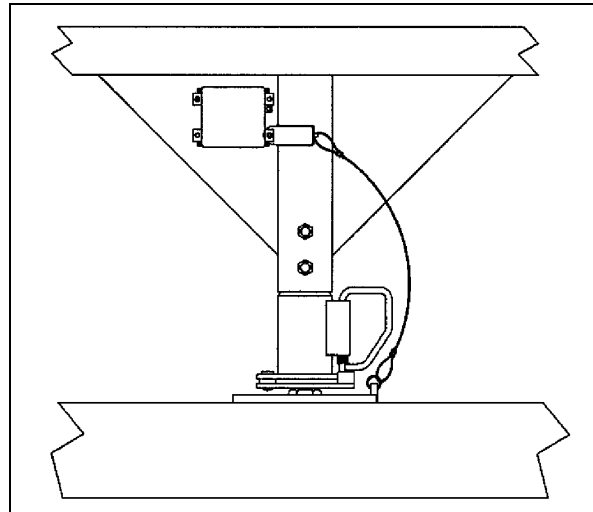
- **Fasten chains to safety chain receivers on the hitch, not to ball.**
- **Have sufficient slack to permit turning and to keep gooseneck on bed of tow vehicle, if the trailer comes loose.**

3.2.2.g **Attach and Test the Breakaway Brake System**

If the coupler or hitch fails, a properly connected and working breakaway brake system will apply electric brakes on the trailer. The safety chains will keep the tow vehicle attached and as the brakes are applied at the trailer's axles, the trailer/tow vehicle combination will come to a controlled stop. See figure 3-12.

The breakaway brake system includes a breakaway brake controller, battery, and a switch with a pullpin, and lanyard. Read and follow the instructions here as

well as the instructions that have been prepared by the breakaway brake controller manufacturer.



Breakaway Brake Connection - Figure 3-12

The breakaway brake system may be fitted with a charging facility that draws power from the tow vehicle. If the electrical system on your tow vehicle does not provide power to the breakaway brake battery you must periodically charge the battery on the trailer to keep the breakaway brake system in working order.

- Visually inspect the breakaway brake system for broken parts.
- Connect the pullpin lanyard to the tow vehicle so that the pullpin will be pulled out before all of the slack in the safety chains is taken up (see “Breakaway Brake Connection” figure 3-12). Do **not** connect the pullpin lanyard to a safety chain, safety chain receiver, or to the gooseneck ball or its support. This would keep the breakaway brake system from operating when it is needed. Contact the hitch manufacturer or installer if you are not certain of the hitch provisions for the breakaway brake connection.
- To test the breakaway brake battery, pull out the pullpin from the switch and attempt to pull the trailer forward. You should feel the trailer resisting being towed, but the wheels will not necessarily be locked. If the brakes do not function, do not tow the trailer until brakes, or battery, are repaired.
- Immediately replace the pullpin. The breakaway brake system battery discharges rapidly when the pullpin is removed.

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WARNING

An ineffective or inoperative breakaway brake system can result in a runaway trailer leading to death or serious injury if the coupler or hitch fails.

Connect the breakaway lanyard to the tow vehicle; and NOT to the safety chain, safety chain receiver, gooseneck ball or gooseneck ball support.

Test the function of the breakaway brake system before towing the trailer. Do not tow the trailer if the breakaway brake system is not working. Have it serviced or repaired.

Do **not** tow the trailer with the breakaway brake system ON because the brakes will overheat which can result in permanent brake failure.

WARNING

Failure to replace the pullpin can result in ineffective brakes, leading to loss of control, serious injury or death.

If you do not use your trailer for three or more months, or during winter months:

- Store the battery indoors; and
- Charge the battery every three months.

Replace the breakaway brake battery according to the intervals specified by the battery manufacturer.

3.2.2.h **Connect the Electrical Cables**

Connect the trailer lights to the tow vehicle's electrical system using the electrical connectors.

- Check all lights for proper operation:
 - Clearance and Running Lights (Turn on tow vehicle headlights).
 - Brake Lights (Step on tow vehicle brake pedal).
 - Turn Signals (Operate tow vehicle directional signal lever).
- Check electric brakes for proper operation using the controller mounted in the cab.

If your trailer has electric brakes, your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you

must operate the brake controller while trying to pull the trailer in order to confirm that the electric brakes operate. While towing the trailer at less than 5 m.p.h., manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

WARNING

Failure to connect the tow vehicle lighting and braking to the trailer will result in inoperable lights and brakes, and can lead to collision.

Check that all the trailer lights and brakes work before each tow.

3.2.2.i **Uncoupling the Gooseneck Trailer with Drop-Leg Jack**

Follow these steps to uncouple your gooseneck hitch trailer from the tow vehicle:

- Block trailer tires to prevent the trailer from rolling, before jacking the trailer up
- Disconnect the electrical connector.
- Disconnect the breakaway brake switch lanyard.
- Disconnect the safety chains from the tow vehicle.
- If the tow vehicle has a tailgate, lower it.
- Move the spring-loaded gooseneck receiver lock plate locking pin to the OPEN position (see "Gooseneck Ball Receiver and Height Adjustment" figure).
- Rotate the lock plate to a position that permits the gooseneck ball to exit the receiver.
- Before releasing dropleg jack, make certain ground surface below jack base will support the trailer tongue load.
- Rotate the drop leg plunger pin handle so that the plunger pin is released from the drop leg (see "Releasing Drop Leg Mechanism" figure).
- Push down on the drop leg base with your foot to place a drop leg to the desired lowered position.
- Rotate the plunger pin handle so that the plunger pin is attempting to engage the drop leg (see "Drop Leg Jack Mechanism" figure)
- Slowly raise your foot, permitting the drop leg to rise. The plunger pin will engage a hole in the drop leg.

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⚠ CAUTION

The drop legs are heavily spring loaded in the lowered position. They will rapidly return to the upper position when released and can inflict serious bruises, scrapes or pinching.

Keep your feet, shins and hands well clear of the drop legs and drop leg bases when releasing the drop legs.

- Be sure the plunger pin is fully engaged. Push it in by hand if necessary. The bent part of the plunger pin handle must be touching the plunger pin housing.
- If your trailer has two drop leg jacks, lower them both to the same level, following the above instructions.

NOTICE

If the drop legs are not set at the same level, one of the drop leg jacks can be overloaded and can be damaged.

- Release the handle (or crank) from its holder and engage it with the jack shaft (see “Drop Leg Jack Mechanism” figure 3-10).
- Rotate the handle (or crank) from its hold and engage it with the jack shaft.
- Rotate the handle (or crank) clockwise to slowly extend the jack and transfer the weight of the trailer tongue to the jack.
- On two speed jacks, pushing the handle shaft toward the gearbox can perform rapid extension. This shifts the gearbox into a high speed mode.
- When the drop leg base contacts the ground, shift the gearbox into low speed mode by pulling out on the handle shaft until it locks into low gear.

NOTICE

Do not use high speed to lift the trailer, the drop leg jack mechanism can be damaged.

High speed is used only to rapidly move the drop leg base into contact with the ground.

Continue to extend the jack(s), making sure that the ground is providing stable and level support for the trailer.

After the jack(s) are extended and the gooseneck ball receiver is well clear of the gooseneck ball, to permit

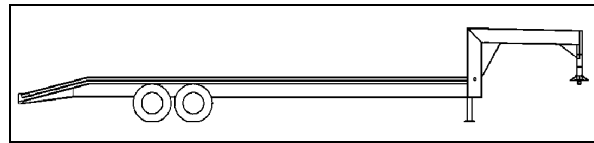
driving the tow vehicle away, disengage the handle from its shaft and return to its holder.

3.2.3 Trailer with Fifth Wheel Coupler and Drop-Leg Jack

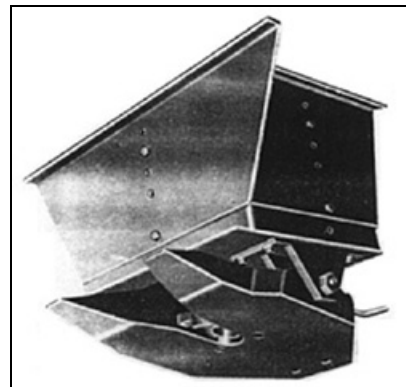
A fifth wheel coupler on the trailer connects to a kingpin that is installed on the tow vehicle. A fifth wheel coupler on the tow vehicle connects to a kingpin that is installed on the trailer. See figures 3-13 and 3-14.

A fifth wheel coupler includes a flat load-bearing plate with a slot, and a mechanism inside the slot that “grips” the kingpin.

Haulmark has selected a fifth wheel coupler that is suitable for the size and weight of the trailer. You must provide a kingpin and kingpin plate that match the fifth wheel, and that is rated for the Gross Vehicle Weight Rating (GVWR) of your trailer.



*Trailer with Fifth Wheel Coupler -
Figure 3-13*



Fifth Wheel Coupler - Figure 3-14

3.2.3.a Before Coupling the Trailer to the Tow Vehicle

- Be sure the size and rating of the fifth wheel and kingpin match.
- Wipe the kingpin clean and inspect it visually and by feel for flat spots, cracks and pits. Check the condition of the kingpin mounting in the bed of the tow vehicle.

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⚠ WARNING

A worn, bent, cracked or corroded kingpin can fail while towing, and may result in death or serious

Check the kingpin and kingpin plate for wear, bending, cracks or corrosion before coupling.

Replace worn, bent, cracked or corroded kingpin before coupling the trailer.

- Be sure the fifth wheel mechanism operates freely.
- Lubricate the fifth wheel plate surface with a light coat of Lithium-base, waterproof grease.
- Be sure the fifth wheel and kingpin fasteners are tight and any welds are solid.

⚠ WARNING

A loose fifth wheel or kingpin can result in uncoupling, leading to death or serious injury.

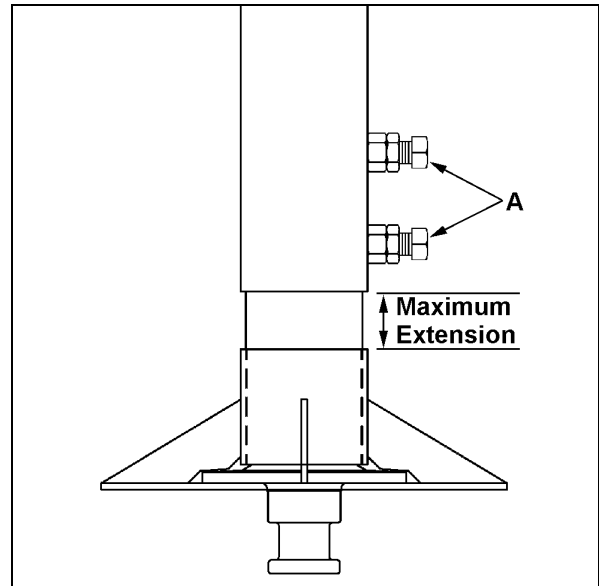
Make sure the fifth wheel and kingpin are tight before coupling the trailer.

- Be sure the brake line, electrical line, and any other lines are clear of the coupling area.

3.2.3.b Adjust Hitch Height

It is your responsibility to have the height of the king pin or fifth wheel adjusted to match the height of the fifth wheel or king pin in your tow vehicle. Proper height adjustment is required to provide clearance between the bottom of the trailer and sides of the tow vehicle bed, to obtain level running of the trailer and to permit equal weight distribution on the axles. Your Haulmark dealer is able to perform the coupler height adjustment to match the trailer to your towing vehicle.

- Loosen the jam nuts and set screws (A) on the rear side. See figure 3-15.
- Extend or retract the king pin or fifth wheel as needed, but do not exceed 8 inches maximum extension.
- Tighten setscrews (A) to 75-100 lb ft of torque.
- Tighten jam nuts to 80-90 lb/ft of torque.
- Check tightness after 50 miles of towing.



King Pin Height Adjustment - Figure 3-15

3.2.3.c Prepare the Fifth Wheel Coupler

- Be sure the locks are open (see “Fifth Wheel Checks” figure 3-16).
- If the tow vehicle is equipped with a tailgate, lower it.
- Block the trailer wheels, front and rear.
- Make certain that trailer fifth wheel plate is slightly above the kingpin plate on the tow vehicle.

3.2.3.d Couple the Trailer to the Tow Vehicle

⚠ WARNING

Incorrect rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

Chains must:

- **Fasten to frame of tow vehicle, not to hitch or ball.**
 - **Cross underneath hitch and coupler with minimum slack to permit turning and to hold tongue up, if the trailer comes loose.**
- Back tow vehicle up close to the trailer, centering the kingpin in the slot of the fifth wheel.
 - **STOP** before engaging the coupling.

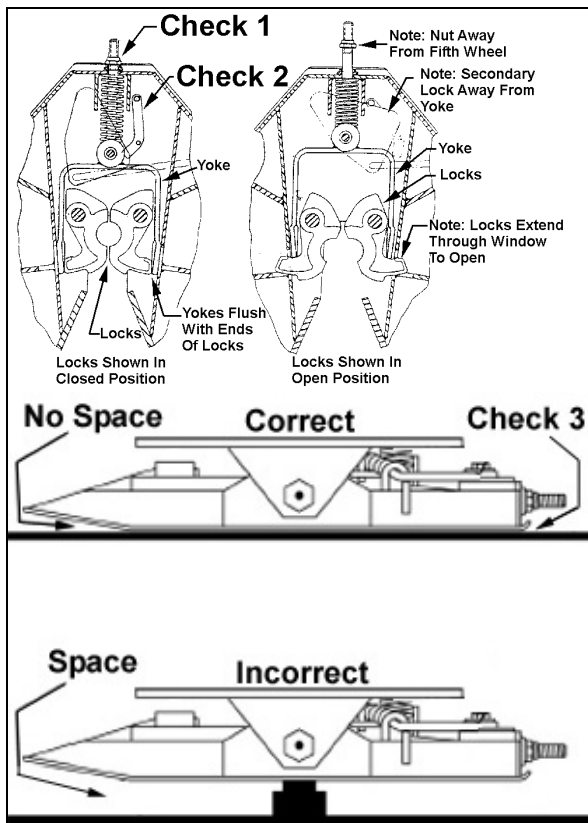
Section 3 - Coupling To The Tow Vehicle

⚠ WARNING

No one must be under the trailer or coupler during the coupling.

Death or serious injury can occur if the trailer drops.

- Adjust the height of the trailer, using the jack, so that the fifth wheel plate just touches the kingpin plate.
- Slowly back up the tow vehicle, keeping the kingpin centered in the slot of the fifth wheel. Continue backing up until the fifth wheel locks firmly on the kingpin.
- Visually check to confirm that the fifth wheel locks are properly locked onto the kingpin by performing the three checks illustrated in the "Fifth Wheel Checks" figure 3-16.
- Attempt to pull forward as an initial test of the closing of the fifth wheel locks.



Fifth Wheel Checks - Figure 3-16

- Check 1 – The adjustment nut must be seated against the fifth wheel.
- Check 2 – The secondary lock must be behind the yoke.
- Check 3 – The fifth wheel must be in contact with the kingpin plate, with **no space**.

⚠ WARNING

An improperly coupled fifth wheel can come loose, resulting in death or serious injury.

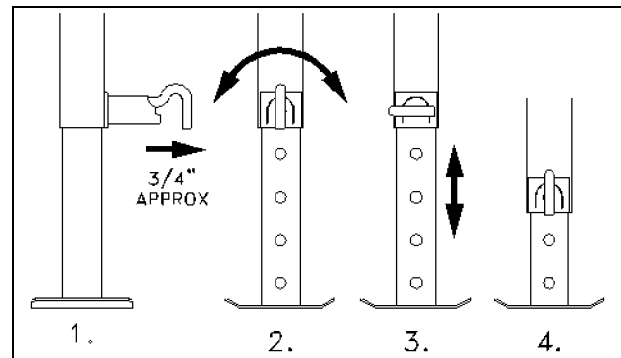
Do not tow the trailer until all of the visual checks are met.

- **Adjustment nut against fifth wheel.**
- **Secondary lock behind yoke.**
- **Fifth wheel against kingpin plate.**

Raise The Drop-Leg Jack

A trailer having a fifth wheel coupler will be outfitted with one or two drop leg jacks for raising and lowering the fifth wheel coupler. Because we use several drop leg jack mechanisms, the general instructions below may vary slightly from the jack manufacturer's instructions. If the trailer jack on your trailer does not resemble the jack shown in the figures, follow the jack instructions provided by the jack manufacturer.

- Rotate the jack handle counter-clockwise. This will slowly retract the jack and transfer the weight of the trailer tongue to the towing vehicle. When the drop leg base is no longer resting on the ground, the towing vehicle hitch is holding all of the weight of the trailer tongue. Continue retracting the jack to its fully retracted position.
- Return the drop legs to their upper positions. The drop legs are held in the lowered position with a plunger pin. Rotating the plunger pin while pulling it outward about $\frac{3}{4}$ inch will cause it to come out of the engagement with the drop leg and the leg will rapidly raise. See figure 3-17.
- Raise the tailgate.
- Pick up the trailer wheel blocks.



Drop Leg Jack Mechanism - Figure 3-17

Section 3 - Coupling To The Tow Vehicle

⚠ CAUTION

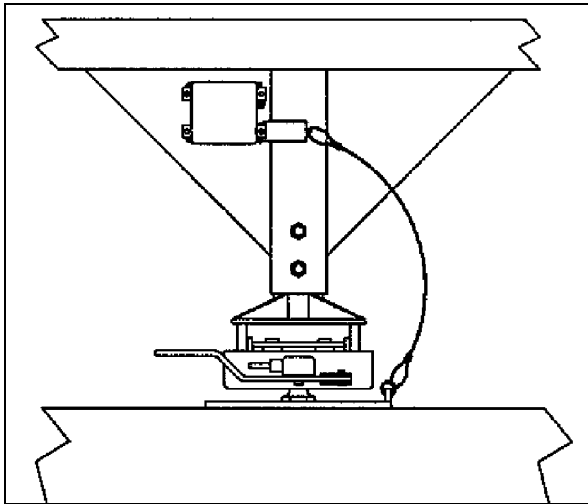
The drop legs are heavily spring loaded in the lowered position. They will rapidly return to the upper position when released and can inflict serious bruises, scrapes or pinching.

Keep your feet, shins and hands well clear of the drop legs and drop leg bases when releasing the drop legs.

3.2.3.e **Attach and Test the Breakaway Brake System**

If the coupler fails, a properly connected and working breakaway brake system will apply electric brakes on the trailer. See figure 3-18.

The breakaway brake system includes a breakaway brake controller, battery and a switch with a pullpin and lanyard. Read and follow the instructions here as well as the instructions that have been prepared by the breakaway brake controller manufacturer.



Breakaway Brake Connection - Figure 3-18

The breakaway brake system may be fitted with a charging facility that draws power from the tow vehicle. If the electrical system on your tow vehicle does not provide power to the breakaway brake battery, you must periodically charge the battery to keep the breakaway brake system in working order.

- Visually inspect the breakaway brake system for broken parts.
- Connect the pullpin lanyard to the tow vehicle (see "Breakaway Brake Connection" figure 3-18). Do **not** connect to kingpin or its support.

- To test the breakaway battery remove the pullpin from the switch and attempt to pull the trailer forward. You should feel the trailer resisting being towed, but the wheels will not necessarily be locked. If the brakes do not function, do not tow the trailer until brakes, or battery, are repaired.
- Immediately replace the pullpin. The breakaway brake system battery discharges rapidly when the pullpin is removed.

⚠ WARNING

An ineffective breakaway brake system can result in a runaway trailer, if the fifth wheel hitch fails, leading to death or serious injury.

Test the function of the breakaway brake system before towing the trailer. Do not tow the trailer if the breakaway brake system is not working; have it serviced or repaired.

Connect the breakaway lanyard to the tow vehicle-

NOT to the kingpin or its support.

Do **not** tow the trailer with the breakaway brake system ON because the brake will overheat which can result in permanent brake failure.

⚠ WARNING

Failure to replace the pullpin can result in ineffective brakes, leading to loss of control, serious injury or death.

If you do not use your trailer for three or more months, or during winter months:

- Store the battery indoors; and
- Charge the battery every three months.

Replace the breakaway brake battery at intervals recommended by the battery manufacturer

3.2.3.f **Connect the Electrical Cables**

- Connect the trailer lights to the tow vehicle's electrical system using the electrical connectors. Check all lights for proper operation:
 - Clearance and Running Lights (Turn on tow vehicle headlights).
 - Brake Lights (Step on Tow vehicle brake pedal).
 - Turn Signals (Operate tow vehicle directional signal lever).

Section 3 - Coupling To The Tow Vehicle

Check brakes for proper operation: While towing the trailer at less than 5 m.p.h., manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

WARNING

Failure to connect the tow vehicle lighting and braking to the trailer will result in inoperable lights and brakes, and can lead to collision.

Check that all the trailer lights and brakes work before each tow.

3.2.3.g Rig the Safety Chains

- Visually inspect the safety chains and hooks for wear or damage. Replace worn or damaged safety chains and hooks before towing.
- Rig the safety chains so that they attach to the “safety chain receivers” on the tow vehicle. If you are not certain of the hitch provisions for receiving safety chains, contact the hitch manufacturer or installer. Do NOT attach the safety chains to the fifth wheel or its support; and
- Rig the safety chains so they have sufficient slack to permit turning, but not too much slack – the safety chains must keep the gooseneck on the tow vehicle bed if the trailer uncouples.

3.2.3.h Uncoupling the Fifth Wheel Trailer

Follow these steps to uncouple your fifth wheel hitch trailer from your tow vehicle.

- Block trailer tires to prevent the trailer from rolling before jacking the trailer up.
- Disconnect the electrical connector.
- Disconnect the breakaway brake switch lanyard.
- If the tow vehicle has a tailgate, lower it.
- Make certain that ground surface below jack base will support trailer tongue load.
- Rotate the drop leg plunger pin handle so that the plunger pin is released from the drop leg. See figure 3-19.
- Push down on the drop leg base with your foot to place a drop leg to the desired lowered position.

CAUTION

The drop legs are heavily spring loaded in the lowered position. They will rapidly return to the upper position when released and can inflict serious bruises, scrapes or pinching.

Keep your feet, shins and hands well clear of the drop legs and drop leg bases when releasing the drop legs.

- Rotate the plunger pin handle so that the plunger pin is attempting to engage the drop leg. See figure 3-17.
- Slowly raise your foot, permitting the drop leg to rise. The plunger pin will engage a hole in the drop leg.
- Be sure the plunger pin is fully engaged. Push it in by hand if necessary. The bent part of the plunger pin handle must be touching the plunger pin housing.
- If your trailer has two drop leg jacks, lower them both to the same level, following the preceding instructions.

NOTICE

If the drop legs are not set at the same level, one of the drop leg jacks can be overloaded and can be damaged.

- Release the handle (or crank) from its holder and engage it with the jack shaft.
- Rotate the handle (or crank) clockwise to slowly extend the jack and transfer the weight of the trailer tongue to the jack.
- On two speed jacks, pushing the handle shaft toward the gearbox can perform rapid extension. This shifts the gearbox into a high speed mode.
- When the drop leg base contacts the ground, shift the gearbox into low speed mode by pulling out on the handle shaft until it locks into low gear.

NOTICE

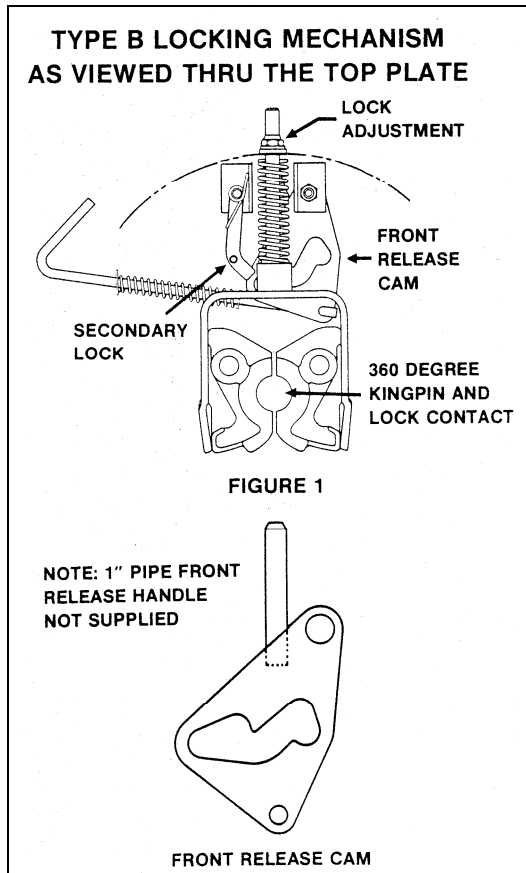
Do not use high speed to lift the trailer, the drop leg jack mechanism can be damaged.

High speed is used only to rapidly move the drop leg base into contact with the ground.

- Continue to extend the jack(s), making sure that the ground is providing stable and level support for the trailer.

Section 3 - Coupling To The Tow Vehicle

- Turn the crank two or three turns to take some of the weight of the coupling. Do **not** raise the fifth wheel off the kingpin plate.
- After the jack(s) are extended enough to permit driving the tow vehicle away, disengage the jack handle from its shaft and return it to its holder. Do **NOT** drive the tow vehicle yet!



Opening Fifth Wheel Locks - Figure 3-19

- Open the fifth wheel locks by:
 - Pulling the release handle, or
 - Using a separate pipe release handle to engage the solid stud on the secondary lock. See figure 3-19.
- Slowly drive the tow vehicle away from the trailer.
- Raise the tow vehicle tailgate.

Section 4 - LOADING THE TRAILER

Improper trailer loading causes many accidents and deaths. To safely load a trailer, you must consider:

- Overall load weight;
- Load weight distribution;
- Proper tongue weight; and
- Securing the load properly.

To determine that you have loaded the trailer within its rating, you must consider the total weight of the trailer and its contents. The trailer axles carry all of the total weight of the trailer and its contents (Gross Vehicle Weight, or “GVW”).

It is essential for safe towing that the trailer axles be capable of carrying the loaded trailer weight, otherwise the trailer can develop an undesirable sway at towing speeds, or the rear of the towing vehicle can be overloaded. Read the “Tongue Weight” section that follows.

The load distribution must be such that no component part of the trailer is loaded beyond its rating. This means that you must consider the rating of the tires, wheels and axles. For tandem and triple axle trailers, you must make sure that the front-to-rear load distribution does not result in overloading any axle.

Towing stability also depends on keeping the center of gravity as low as possible. Load heavy items on the floor and over the axles. When loading additional items, be sure to maintain even side-to-side weight distribution and proper tongue weight. The total weight of the trailer and its contents must never exceed the total weight rating of the trailer (Gross Vehicle Weight Rating, or “GVWR”).

WARNING

An overloaded trailer can result in failure or in loss of control of the trailer, leading to death or serious injury.

Never load a trailer so that the weight on any tire exceeds its rating.

Never exceed the trailer Gross Vehicle Weight Rating (GVWR).

Never exceed an axle Gross Axle Weight Rating (GAWR).

Tongue Weight

It is critical to have a portion of the trailer load carried by the hitch mechanism. That is, the trailer tongue must exert a downward force on the hitch. This is necessary for two reasons. First, the proper amount of tongue weight is necessary for the tow vehicle to be able to maintain control of the tow vehicle/trailer system.

If, for example, the tongue exerts an upward pull on the hitch, instead of pushing down on it (because the trailer is overloaded behind its axle(s)), the rear wheel of the tow vehicle can lose traction or grip and cause loss of control. Also, even if there is some weight on the tongue, but not enough weight on the tongue, the trailer can become unstable at high speeds. Remember, the faster you go, the more likely the trailer is to sway.

If, on the other hand, there is too much tongue weight, the tow vehicle is prone to jack-knife. Furthermore, the front wheels of the tow vehicle can be too lightly loaded and cause loss of steering control and traction, if the front wheels are driving.

In addition to tow vehicle control, tongue weight is necessary to insure that the trailer axle(s) do not exceed their Gross Axle Weight Rating (GAWR).

In the following table, the second column notes the rule of thumb percentage of total weight of the trailer plus its cargo (Gross Vehicle Weight, or “GVW”) that should appear on the tongue of the trailer. For example, a trailer with a gooseneck hitch, with a loaded weight of 12,000 pounds, should have 20-25% of 12,000 pounds on the tongue. That is, the example trailer would have 2,400 to 3,000 pounds on its tongue. This 2,400 to 3,000 pounds does not add to the GVWR of the trailer.

Approximate Tongue Weight as a Percentage of Loaded Trailer Weight	
Type of Hitch	Percentage
Ball Hitch (or Bumper Hitch)	15%
Gooseneck Hitch	20–25%
Fifth Wheel Hitch	

Section 4 - Loading The Trailer

WARNING

An improperly distributed load can result in loss of control of the trailer, and can lead to death or serious injury.

Proper tongue weight is essential for stable trailer handling.

Distribute the load front to rear to provide proper tongue weight.

Distribute the load evenly, right and left, to avoid tire overload.

Keeping the center of gravity low and centered is essential to minimize the risk of tip-over.

they are in the same proportion as the tow vehicle alone, and that the rear axle is not overloaded.

You are responsible to secure your cargo in such a way that it does not shift within the trailer, while the trailer is being towed. The “ride” inside a trailer can be very bumpy and rough.

WARNING

A shifting load can result in failure, or to loss of control of the trailer, and can lead to death or serious injury.

You must tie down all loads with proper sized fasteners, ropes, straps, etc. to prevent the load from shifting while trailering.

4.1 CHECKING TONGUE WEIGHT

To check the tongue weight, the tow vehicle and trailer must be on level ground, as they will be when the trailer is being towed.

For lighter trailers the recommended method of checking tongue weight is to use an accessory called a “tongue weight scale.” The tongue weight scales may be available from your Haulmark dealer. (The 2000 lb. capacity model is most commonly useful.)

WARNING

An unrestrained trailer can fall off its support, resulting in serious injury or death.

Block trailer wheels, front and rear, before checking tongue weight.

For most trailers it is easier to go to a truck stop where there is a “certified” scale. Pull the trailer onto the scale and decouple it from the tow vehicle, leaving just the trailer on the scale. Get a “ticket”, which lists the total trailer weight. Re-connect the trailer to your tow vehicle and the drive the tow vehicle wheels off the scale, just leaving the trailer axles on the scale. Get a second “ticket”, which lists the trailer’s axle weight. Simple subtract the axle weight from the total weight to determine the hitch weight.

It is also desirable, while you are at the scale, to weigh the entire combination vehicle. This result should be less than the Gross Combined Weight Rating (GCWR) for your towing vehicle. Some scales allow you to get individual axle weights also. If this is possible, get the tow vehicles front and rear axle weights to make sure

4.2 LOADING CARGO

Couple the trailer to the tow vehicle before loading. The tongue of a bumper pull trailer can rise during loading, before the cargo is properly distributed.

Depending on the exact model of your Haulmark trailer, the cargo carrying portion may be designed for carrying such things as:

- A car
- Snowmobiles
- All-Terrain Vehicles (ATVs)
- Motorcycles

Do not transport people, containers of hazardous substances, cans or containers of flammable substances. However, fuel in the tank of an off-road vehicle, or a car or motorcycle, etc., may be carried inside of your enclosed cargo trailer.

WARNING

Never transport people inside your Haulmark trailer, even if it has living quarters. Besides putting their lives at risk, the transport of people may be illegal.

Section 4 - Loading The Trailer

⚠ WARNING

Do not transport flammable, explosive, poisonous or other dangerous materials in your trailer.

Exceptions:

- Fuel in the tanks of vehicles that are being towed.
- Fuel stored in proper containers used in trailer living quarters for cooking.
- Fuel stored in the tank of an on-board generator.

⚠ WARNING

A spring and cable counterbalance can inflict serious injury if it breaks, or if incorrectly adjusted. Stand to the side when opening the door.

Inspect the cable and cable ends each time the door is operated.

Do not attempt to service the counterbalance. Take the trailer to your Haulmark dealer for service.

4.2.1 Preparing the Trailer for Loading

Before loading cargo into your trailer, inspect the interior of the trailer.

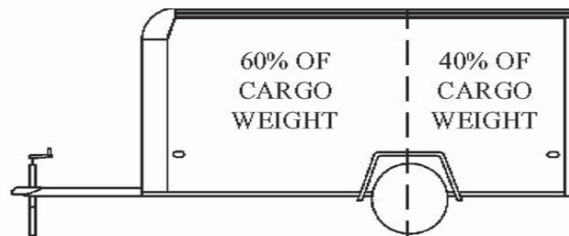
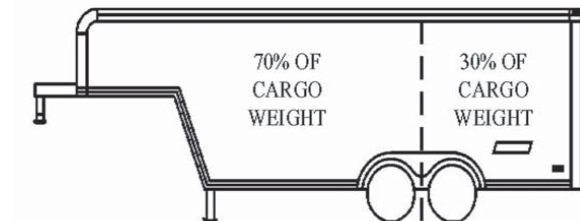
Trailers may be fitted with “D”-ring hold-downs, and/or a track system that can be used to secure the cargo. Inspect the “D”-rings and track system for looseness or signs of bending before loading the cargo onto the trailer.

⚠ WARNING

Damaged or loose “D”-rings can break, allowing cargo to become loose inside the trailer. Loose cargo can shift the center of gravity, and result in loss of control of the trailer.

Inspect “D”-rings, and test them for looseness before loading cargo.

Do not use a damaged or loose “D”-ring to secure cargo.



4.2.2 Loading the Trailer

Enclosed trailers may be fitted with a drop ramp door. The weight of the drop ramp door may be partially held by a spring and cable counterbalance assembly. If this assembly is out of adjustment or worn out, it will not provide the expected assistance for slow and careful lowering and raising of ramp.

⚠ WARNING

Accumulation of hazardous fumes can cause death or serious injury.

Do not block access to ventilation ports.

Secure the cargo to the trailer using appropriate straps, chains and tensioning devices.

Close the drop ramp door and secure the trailer door catch using a linchpin or other locking device, so that the catch and door cannot open while the trailer is being towed.

Section 4 - Loading The Trailer

WARNING

**Always secure the door latch after closing.
Place a linchpin in the catch.**

**If the door opens, your cargo may be
ejected onto the road, resulting in death or
serious injury to other drivers.**

4.3 SECURING THE CARGO

Since the trailer cargo is subjected to longitudinal (front / back) and lateral (side / side) forces you must secure all cargo so that it does not shift while the trailer is being towed.

WARNING

**A shifting load can result in failure, or to
loss of control of the trailer, and can lead to
death or serious injury.**

**You must tie down all loads with proper
sized fasteners, ropes, straps, etc. to
prevent the load from shifting while
trailerling.**

Section 5 - CHECKING THE TRAILER BEFORE AND DURING EACH TOW

5.1 PRE-TOW CHECKLIST

Before towing, double-check all of these items:

- Tires, wheels and lug nut tightness (torque) (see the “Safety Information” section starting on Page 1 of this manual).
- Tire Pressure. Inflate tires on trailer and tow vehicle to value indicated on Certification / VIN label.
- Coupler secured and locked ball (see the “Coupling to the Tow Vehicle” section starting at Page 23 of this manual).
- Safety chains properly rigged to tow vehicle, not to hitch or ball (see the “Coupling to the Tow Vehicle” section starting at Page 23 of this manual).
- Test Tail, Stop, and Turn Lights.
- Test trailer brakes.
- Safety breakaway switch lanyard fastened to tow vehicle, not to safety chains (see the “Coupling to the Tow Vehicle” chapter starting at Page 23 of this manual).

- Cargo properly loaded, balanced and tied down” (see the “Loading The Trailer” chapter starting at page 42 of this manual).
- Tongue weight and weight distribution set-up.
- Doors and gates latched and secured.
- Lock all doors that are equipped with keyed locks.
- Fire extinguisher.
- Flares and reflectors.

5.2 MAKE REGULAR STOPS

After each 50 miles, or one hour of towing, stop and check the following items:

- Coupler secured.
- Safety chains are fastened and not dragging.
- Cargo secured.
- Cargo door latched and secured.
- Check tires for signs of abnormal wear and loss of air pressure.

Section 6 - BREAKING-IN A NEW TRAILER

6.1 RETIGHTEN LUG NUTS AT FIRST 10, 25 & 50 MILES

Wheel lugs can shift and settle quickly after being first assembled, and must be checked after the **first** 10, 25 and 50 miles of driving. Failure to perform this check may result in a wheel coming loose from the trailer, causing a crash leading to death or serious injury. Refer to the “Inspection, Service & Maintenance” section for the proper tightening sequence and torque value for the wheel lugs nuts (bolts).

WARNING

Lug nuts are prone to loosen after being first assembled. Death or serious injury can result.

Check lug nuts for tightness on a new trailer, and after re-mounting a wheel at 10, 25 and 50 miles.

6.2 ADJUST BRAKE SHOES AT FIRST 200 MILES

WARNING

Brakes that are out of adjustment can result in death or serious injury.

Brakes must be adjusted at the intervals specified.

Brake shoes and drums experience a rapid initial wear. The brakes **must** be adjusted after the first 200 miles of use, and each 3,000 miles thereafter. Most axles are fitted with brake shoes that must be manually adjusted. Read your axle and brake manual to see if your brakes must be adjusted manually or if they adjust automatically. If you do not have the axle and brake manual, call Haulmark Industries, Inc. at 800-348-7530 for assistance.

To adjust the trailer brakes, see section 8.2.5.c, “Manually Adjusting Brake Shoes,” for instructions.

6.3 SYNCHRONIZING THE BRAKE SYSTEMS

Trailer brakes are designed to work in synchronization with the brakes on the tow vehicle.

When the tow vehicle and trailer braking systems are synchronized, both braking systems contribute to slowing, and the tongue of the trailer will neither dive nor rise sharply.

WARNING

If trailer and tow vehicle brakes do not work properly together, death or serious injury can occur.

Road test the brakes in a safe area at no more than 30 m.p.h. before each tow

To insure safe brake performance and synchronization, read and follow the axle/brake and the brake controller manufacturers’ instructions.

6.4 TIRE PRESSURE

Check tire pressures on both the trailer and tow vehicle. Inflate to the value indicated on the Certification /VIN label.

Section 7 - ACCESSORIES

This section provides some basic information for the safe operation of several accessories. For many accessories, such as generators and LP appliances, the manufacturer of the accessory has also provided instructions. You must read and follow these instructions before using the accessory. If you are uncertain whether you have all of the instructions, call Haulmark Industries, Inc. at 800-348-7530 or your dealer before operating the accessory. The following accessories are described in this section:

- Gasoline (or LP) and Diesel Generators
- Accessory Battery
- “Shore Power” connections which provide power by “plugging the trailer in” to an external source of electrical power
- LP Gas Fuel System
- Vending or Accessory Doors
- Electric-powered Landing Gear

Many accessories introduce the risk of fire and carbon monoxide poisoning. If you have an accessory on your trailer, make sure you have a fire extinguisher charged and ready before operating the accessory. Check the fire extinguisher at least once a month. If the fire extinguisher is discharged even partially, it must be recharged. Follow the fire extinguisher manufacturer’s instructions for recharging the extinguisher after use.

7.1 GASOLINE OR DIESEL-POWERED ELECTRIC GENERATORS

If your trailer is equipped with a generator, you must have and follow the generator manufacturer’s instructions. Carbon monoxide gas is present in the exhaust of all gasoline and diesel engines, as well as from other burning fuels such as LP gas and charcoal.

Carbon Monoxide is an odorless gas that can cause death. Be certain exhaust from any running engine or burning fuels can not accumulate in areas where people or animals are likely to be present. Conditions that can redirect exhaust fumes are, for example:

- Being drawn in by fans or ventilators operated in a trailer;
- Prevailing wind;
- Being trapped between adjacent trailers, vehicles or buildings; or
- Being trapped between or in a snow bank or other materials that can redirect fumes.

You must have an operating carbon monoxide detector inside the accommodation spaces of your trailer.

WARNING

Gasoline and diesel generators pose a risk of death from:

- Carbon Monoxide
- Fire and Explosion
- Electrocutation
- Do not operate a generator without having a working carbon monoxide detector.

Do not refuel a running generator.

Do not refuel near ignition sources.

Before starting the generator, check fuel and oil levels. The generator may have to run for two or three minutes before it allows drawing electricity from it. Read the generator instruction manual. Never exceed the capacity of the generator.

Before turning off the generator, remove the electrical load and let the engine to run for two or three minutes to cool the generator.

7.2 ACCESSORY BATTERY

Your trailer may be outfitted with an accessory battery that operates lighting, electric landing gear, slide-outs or other accessories. An accessory battery may be kept charged either by the tow vehicle or by the generator or shore power.

A disconnect switch may be provided to disconnect the accessory battery when you do not plan to be using the trailer for an extended period, such as seasonal storage. If there is no disconnect switch, then remove the cables from the battery terminals.

The accessory battery must be kept in a charged condition during storage. The battery could freeze and break if it becomes discharged.

7.3 SHORE POWER

Shore power is the delivery of electrical power from another source to a power inlet on your trailer. To connect your trailer to this source, you must have a “shore power” cord, specifically designed for this use. **DO NOT USE AN ORDINARY EXTENSION CORD.**

Section 7 - Accessories

The trailer end of this cord is connected to an electrical box on the trailer, sometimes referred to as a “motor base.” This box contains circuit breakers and/or fuses and may include a power converter to change the shore power (usually 110 volts alternating current) into 12 volts direct current.

Do not assume that a shore power supply is correctly wired. Shore power may have incorrect polarity or not have the safety ground. Before connecting your trailer, test shore power by using a polarity and ground tester, which can be purchased at electronic stores.

If you have shore power, your trailer may be fitted with Ground-Fault Interrupting outlets (GFI). If you have GFI protection, you must periodically test the outlets by pressing the “TEST” button that is located on the GFI-equipped outlet.

WARNING

Shore power poses a risk of death due to electrocution.

Always use a grounded connection.

Never connect to an ungrounded source of shore power.

Never remove the “third prong” from the shore power plug.

WARNING

- Risk of fire.
- Connect only to source of correct voltage.
- Do not overload electrical circuits.
- Do not use an extension cord to connect to shore power.
- Replace fuses with like rating.

7.4 LP GAS FUEL SYSTEM

When LP gas is used in a living quarters environment, our living quarters meet ANSI 1.14.2 and NFPA 11.9.2 standards.

LP gas systems are installed to operate a variety of appliances, such as stoves, refrigerators, heating units and electrical generators. The exhaust fumes from burning LP gas contain carbon monoxide. Carbon monoxide gas is odorless and can cause death or serious brain injury if inhaled. The exhaust from LP appliances must be directed to the outdoors. You must have an

operating carbon monoxide detector in the accommodation space of your trailer.

DANGER

You can die or be brain damaged by Carbon Monoxide.

Make certain the exhaust from LP appliances is directed to the outdoors.

Have a working carbon monoxide detector in the accommodation spaces of your trailer before operating any LP gas appliance.

Do not operate portable grills, portable stoves, portable lanterns or portable heaters inside the trailer.

When used for the first time, or after a period of storage, the LP gas lines will be full of air and must be purged of air, before the appliances will stay lit. Have the LP gas lines purged by your trailer dealer, or an LP gas dealer.

An LP gas system is designed to operate with a supply of LP gas only, NOT natural gas. A natural gas supply is unsafe for the system’s pressure regulation devices.

WARNING

Risk of death due to fire or explosion.

Do not connect an LP gas system to a supply of natural gas.

Extinguish all pilot lights and turn off all appliances before refilling fuel or LP gas tanks.

Do not fill the tank with any gas other than LP (butane or propane).

Do not store LP gas tanks inside the trailer.

Keep the shutoff valve on your LP gas tank closed at all times, except when you are operating an LP gas appliance. Before opening the LP shutoff valve, turn off all LP gas appliances. If an appliance is on when you open the shutoff valve, LP gas can accumulate in the trailer, which can result in an explosion.

Do not use a wrench to open or close the shutoff valve. If the shutoff does not completely stop the flow of LP gas when it is hand-tightened, replace the shutoff valve.

LP gas leaks can result in fire or explosion. If your trailer is equipped with an LP gas system, it must also be equipped with an LP gas detector. The LP gas detector

Section 7 - Accessories

will be located near the floor to detect the heavier-than-air LP gas. If a leak is suspected, use a soapy water solution to search for the leak. Do not use a solution that contains ammonia or chlorine (common in window and other household cleaning compounds), because those chemicals will cause LP piping corrosion.

WARNING

Risk of fire or explosion

If LP gas is detected (by smell or by the LP gas detector):

- Do not touch electrical switches
- Extinguish flames and pilot lights
- Open doors for ventilation
- Shut off LP gas supply at the LP tank
- Leave the area until odor clears

Correct the source of LP gas leakage before using LP appliances.

Do not use a flame to locate the source of an LP gas leak.

LP gas is either propane or butane that is compressed into liquid form. LP gas must be completely vaporized before being burned. Butane gas will not operate if the outside temperature is below 32 degrees Fahrenheit.

NOTICE

Use Butane only when the temperature is above freezing (32 degrees F).

Propane gas will operate at temperatures as low as minus 44 degrees Fahrenheit (-44 F).

Keep the regulator for the LP gas system (located near the LP gas tank) covered with a guard to protect it from road debris.

LP gas is prohibited on some roadways, bridges and tunnels. Check a map and with Department of Transportation (or with the AAA) for travel routes that do not have such restrictions.

7.4.1 LP Gas System Troubleshooting

- Having liquid “gas” at your appliance is an indication that the LP gas tank is overfilled, or that the temperature is too cold.
- If your LP gas appliances do not stay lit, it might be because your LP gas system is contaminated with

air or moisture. Many LP gas vendors have facilities to purge the air from an LP gas system.

- If your LP gas system is not providing gas, even when the shutoff valve is open, it might be because the LP gas regulator has frozen water in it.

WARNING

Risk of fire or explosion.

Never use a flame, heat lamp or hair dryer to thaw an LP gas regulator.

Use an incandescent light bulb to warm the regulator.

Do not remove the regulator cover or attempt to service the LP gas regulator.

7.5 VENDING & ACCESSORY DOORS

A vending or accessory door opens vertically and has a hinge along its top edge. These heavy doors are equipped with spring-assisted lifting, usually with a device known as a “gas spring.”

The gas spring lifting device is not designed to hold a vending door up. You must use the provided solid “prop rods” to hold a vending door in the open position.

WARNING

Gas springs lose their lifting capability with age and cold weather; and can cause the door to fall, resulting in injury.

Always hold the door open until the prop rods are in place.

Always use prop rods to hold vending or accessory doors open.

Be prepared to hold the weight of the door when removing prop rods.

7.6 ELECTRIC- POWERED LANDING GEAR

The landing gear (also known as the jack) on your trailer may be powered with an electric motor. The landing gear is operated up or down using controls located near the landing gear.

If the motor does not operate, such as when the battery is fully discharged, the landing gear can be operated manually with a socket wrench.

Section 8 - INSPECTION, SERVICE & MAINTENANCE

8.1 INSPECTION, SERVICE & MAINTENANCE SUMMARY CHARTS

You must inspect, maintain and service your trailer regularly to insure safe and reliable operation. If you cannot or are unsure how to perform the items listed here, have your dealer do them. Note: In addition to this manual, also check the relevant component manufacturer's manual.

Haulmark Trailer Inspection and Service Intervals						
Item	Service Required	Manual Section Reference	Service Interval			
			Before Each Use	Every 3 Mo's	Every 6 Mo's	Every Year
Axle Attachment Bolts	Check by dealer.	8.2.1			•	
Breakaway Brakes	Check operation.	3.2.1.e, 3.2.2.d, 3.2.3.c	•			
Breakaway Battery	Fully charged, connections clean	8.2.5.c	•			
Breakaway Switch	Test operation, connections clean	8.2.5.c	•			
Brakes, all types	Check operation.	8.2.5	•			
Shoes and Drums	Adjust.	8.2.5.b	First 200 mi., ea. 3,000 miles			
	Check for scoring and wear.				•	
Brakes, Electric						
Magnets	Inspect for wear and current draw.	Manufacturer	6 months or 6,000 miles			
Controller (in tow vehicle)	Check for correct amperage and modulation.	Manufacturer	6 months or 6,000 miles			
Brakes, Hydraulic	Check fluid level & replenish. Check for leaks/sticking.	8.2.5.d				
Master Cylinder	Inspect for cracks, leaks, kinks.	8.2.5.e8.2.5.d	12 months or 12,000 miles			
Brake Lines	Verify operation/inspect.		12 months or 12, 000 miles			
Air Pressure Actuated	Inspect for cracks, leaks, kinks.		12 months or 12,000 miles			
Electric Actuated	Verify operation/inspect.	Manufacturer	12 months or 12, 000 miles			
Coupler and Hitch Ball	Check for cracks, pits, flats. Replace w/ball & coupler having GVW. Grease. Check locking device & replace when worn.	8.2.6.a	•			
Gooseneck Coupler and Ball	Check for cracks, pits, flats. Replace w/ball & coupler having GVW. Grease. Check locking device & replace when worn.	8.2.6.b	•			
Fifth Wheel and Pin	Grease. Replace when worn.	8.2.6.c	•			
Jack, Drop Leg	Grease gears at top.	8.2.7				•

Section 8 - Inspection, Service & Maintenance

Haulmark Trailer Inspection and Service Intervals						
Item	Service Required	Manual Section Reference	Service Interval			
			Before Each Use	Every 3 Mo's	Every 6 Mo's	Every Year
Lights and Signals	Check for proper operation. Verify connection is clean and tight.	8.2.8	•			
Structure						
Trailer body	Wash as needed to remove salt and liquid de-icer	8.2.2				
Hinges, doors and dividers	Inspect. Repair or replace damaged, worn or broken parts.			•		
Frame members	Inspect all frame members, bolts & rivets. Repair or replace damaged, worn or broken parts.	8.2.2.a				•
Welds	Inspect all welds. Repair as needed.	8.2.2.b				•
Slide-Out	Clean dirt buildup. Lubricate slides, shafts and gears.	8.2.4				•
Roof Vents	Clean dirt buildup. Lubricate hinges.				•	
Windows	Clean dirt buildup. Lubricate window slides.				•	
Tires						
	Check tire pressure when cold. Inflate as needed.	8.2.11	•			
	Rotate tires.		Every 5,000 miles			
	Inspect treads & sidewalls thoroughly. Replace tire when treads are worn or a sidewall has a bulge.	8.2.11		•		
Wheel Bearings (Hubs)						
Standard Bearings	Disassemble, inspect and re-pack.	8.2.13.a	Every 12,000 mi. or 1 yr			
E-Z Lube® or Other Grease Fitting Lubricated Bearings	Check for free running and lubricate.	8.2.13.b	Every 12,000 mi. or 1 yr.			
Nev-R-Lube™ or Other Sealed Bearings	Check for excessive wear, replace if necessary.	Manufacturer	Every 12,000 mi. or 1 yr.			
Lug Bolts and Hub	Check and tighten.	8.2.15	Check for tightness before every use. Check torque; After first 10, 25 & 50 miles; After any impact; Annually; & At start of towing season			
Rims	Inspect for cracks & dents. Replace as needed.	8.2.12	After any impact or 1 yr.			

8.2 INSPECTION AND SERVICE INSTRUCTIONS

8.2.1 Axle Bolts, Frame, Suspension, & Structure

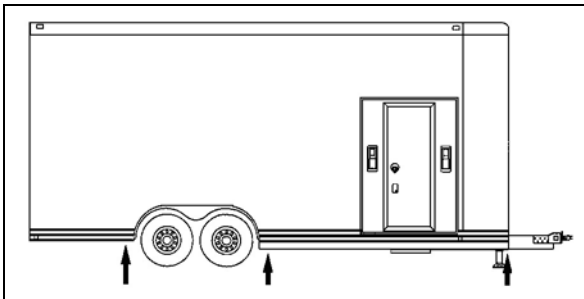
⚠ WARNING

Worn or broken suspension parts can cause loss of control and injury may result.

Have trailer professionally inspected annually and after any impact.

To perform many of the inspection and maintenance activities, you must jack up the trailer. Figure 8-1 indicates the general areas where jacks and jack stands may be applied.

When jacking and using jack stands, place them so as to clear wiring, brake lines, and suspension parts (springs, torsion bars, etc.). Place jacks and jack stands inside of the perimeter strip on the supporting structure to which the axles are attached.



Jacking Points for Trailer - Figure 8-1

⚠ WARNING

Never crawl under your trailer unless it is on firm and level ground and resting on properly placed and secured jack stands.

8.2.2 Trailer Structure

Wash the entire trailer thoroughly immediately after exposure to road salt and liquid deicer. The salt and liquid deicer will corrode and pit the aluminum.

Because the trailer floor receives the most abuse, it will most likely corrode before any other part of the structure.

8.2.2.a Fasteners and Frame Members

Inspect all of the fasteners and structural frame members for bending and other damage, cracks, or failure. Repair or replace any damaged fastener and repair the frame member. If you have any questions about the condition or method of repair of fasteners or frame members, get the recommendation of, or have the repair done by, your dealer.

The various fastener types used on your trailer are:

- Bolts, which are used mainly for attaching door and gate hinges to the trailer body;
- Buck Rivets, which are used to attach the sides and roof panels of the body to each other, and to the frame of the trailer

⚠ WARNING

Broken or damaged fasteners or welds can cause injury or damage to trailer and contents.

Inspect trailer before each use and repair or replace all damaged parts.

8.2.2.b Welds

All welds can crack or fail when subjected to heavy loads or movement of cargo that was not properly tied to prevent movement. Any time that you know or suspect that the trailer has been subjected to heavy loads or movement of cargo, immediately inspect the welds and fasteners for damage. To prevent severe damage to your trailer, inspect all of the welds for cracks or failure at least once a year.

⚠ WARNING

Do not attempt to repair a cracked or broken weld unless you have the skills and equipment to make a proper repair.

Improper weld repair will lead to early failure of the trailer structure and serious injury or death.

Go to your Haulmark dealer.

Section 8 - Inspection, Service & Maintenance

WARNING

Broken or damaged fasteners or welds can cause injury or damage to trailer and contents.

Inspect trailer before each use and repair or replace all damaged parts.

8.2.3 Drop Ramp Torsion Springs

If your trailer has a drop-ramp door, the weight of the door may be partially held by a torsion spring and a cable. Stand to the side when opening the drop ramp. You could be hurt if you are behind the drop ramp and the counterbalance does not work.

WARNING

A spring and cable counterbalance can inflict serious injury if it breaks, or if incorrectly adjusted.

Inspect the cable and cable ends each time the door is operated.

Do not attempt to service the counterbalance. Take the trailer to your Haulmark dealer for service.

Inspect the cable and cable ends regularly for fraying and signs of loosening. If released, a torsion spring can inflict serious injury.

The torsion spring and cable are not user serviceable. The torsion spring must be serviced by a person who is trained in torsion spring safety.

8.2.4 Slide-Outs

The optional slide-out facility is fitted with shafts, bushing, gears and sliding members located on the underside of the trailer. These parts are exposed to road grime, water and possible salt spray. Clean and lubricate the moving parts regularly to keep the slide-out from seizing.

Follow the instructions below to clean and lubricate the slide-out mechanism at least once per season, and more frequently if your trailer is operated in dusty or salt-spray environments.

- Clean the locations where the drive shaft passes through the bushings.
- Hand pack grease on the gears.
- Grease the sliding track.

8.2.5 Trailer Brakes

8.2.5.a Initial Inspection

WARNING

Brakes that are out of adjustment can result in death or serious injury.

Brakes must be adjusted at the intervals specified.

The brake shoes must be adjusted after the first 200 miles of use, and each 3,000 miles thereafter.

Most axles are **not** fitted with a brake mechanism that will adjust the brakes. Brakes must be adjusted manually. It is critical that the brakes be adjusted at the specified intervals. Brakes that are out of adjustment can cause a collision, which may result in death or serious injury.

8.2.5.b Periodic Inspection

Properly functioning brake shoes and drums are essential to ensure safety. You must have your dealer inspect these components at least once per year, or each 12,000 miles.

8.2.5.c Manually Adjusting Brake Shoes

Most braking systems require periodic adjustment. Read your axle and brake manual to see how to adjust your brakes. If you do not have this manual, call Haulmark Industries, Inc. at 800-348-7530 or your dealer for assistance.

The following steps apply to adjust most manually adjustable brakes. If you are unsure or do not understand how to adjust your brakes, have the brakes adjusted by your dealer. Properly adjusted brakes are critical for safety.

- Jack up the trailer and secure it on adequate capacity jack stands.
- Be sure the wheel and brake drum rotate freely.
- Remove the adjusting-hole cover from the adjusting slot on the bottom of the brake backing plate.
- With a screwdriver or standard adjusting tool, rotate the starwheel of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn.
- Note: Your trailer maybe equipped with drop spindle axles. See axle manual for your axle type. You will need a modified adjusting tool for adjusting the brakes in these axles. With drop spindle axles, a modified adjusting tool with about an 80 degree angle should be used.

Section 8 - Inspection, Service & Maintenance

- Rotate the starwheel in the opposite direction until the wheel turns freely with a slight drag.
- Replace the adjusting-hole cover.
- Repeat the above procedure on all brakes.
- Lower the trailer to the ground.

8.2.5.d Brakes, Electric

Two different types of electric brakes may be present on the trailer: an emergency electric breakaway system, which acts only if the trailer comes loose from the hitch and the breakaway pin is pulled. The other brake is an electric braking system that acts whenever the brakes of the tow vehicle are applied.


Breakaway Battery

This battery supplies the power to operate the trailer brakes if the trailer uncouples from the tow vehicle. Be sure to check, maintain and replace the battery according to the battery manufacturer's instructions.

Breakaway Switch

This switch causes the breakaway battery to operate the electric brakes if the trailer uncouples from the tow vehicle.

The lanyard for the pull pin is connected to the tow vehicle, and the switch is connected to the trailer. To check for proper functioning of the switch, battery and brakes, you must pull the pin from the switch and confirm that the brakes apply to each wheel. You can do this by trying to pull the trailer with the tow vehicle, after pulling the pin. The trailer brakes may not lock, but you will notice that a greater force is needed to pull the trailer.

 WARNING
If electric breakaway brakes do not operate when trailer is uncoupled from the tow vehicle, death or serious injury can occur.
Check emergency breakaway brake system BEFORE each tow.

Tow Vehicle Operated Electric Brakes

The electric brakes that operate in conjunction with the tow vehicle brakes must be "synchronized" so that braking is properly distributed to the tow vehicle brakes and the trailer brakes. For proper operation and synchronization, read and follow the axle/brake and the brake controller manufacturers' instructions.

Magnets for all Electric Brakes

To make certain an electrically-operated braking system will function properly, you must have your dealer inspect the magnets at least once a year, or each 12,000 miles. See the brake manual for wear and current inspection instructions.

8.2.5.e Brakes, Hydraulic (Air or Electric Operated)

If your trailer has hydraulically-operated brakes, they function the same way the hydraulic brakes do on your tow vehicle. The hydraulic braking system must be inspected by a dealer, at least as often as the brakes on the tow vehicle, but no less than once per year. This inspection includes an assessment of the condition and proper operation of the wheel cylinders, brake shoes, brake drums and hubs.

You must check the fluid level in the master cylinder reservoir at least every three months. If you tow your trailer an average of 1,000 miles per month in a hot and dry environment, you must check the brake fluid level once a month. The brake fluid reservoir is located on the tongue of the trailer or near the gooseneck. Fill with DOT 4 brake fluid.

Air Pressure-Operated Hydraulic

Air/hydraulic braking systems are typically used when the tow vehicle has a diesel engine. The tow vehicle has an air compressor that routes the air to an air/hydraulic mechanism, which sends brake fluid to the wheel cylinders.

The air pressure gauge in your tow vehicle indicates the current air pressure. See your tow vehicle manual for the proper air pressure.

Electrical-Operated Hydraulic

Electric/hydraulic braking systems, which are mounted on the trailer, use a small electrically-driven pump to generate hydraulic pressure, which operates the brake cylinders. Like electrical brakes, an electric/hydraulic braking system is operated by an electrical signal from the tow vehicle.

8.2.6 Trailer Connection to Tow Vehicle

8.2.6.a Coupler and Ball

The coupler on the trailer connects to the ball attached to the hitch on the tow vehicle. The coupler, ball and hitch transfer the towing forces between the tow vehicle and the trailer. Before each tow, coat the ball with a thin layer of automotive bearing grease to reduce wear and ensure proper operation; and check the locking device that secures the coupler to the ball for proper operation.

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If you see or feel evidence of wear, such as flat spots, deformations, pitting or corrosion, on the ball or coupler, immediately have your dealer inspect them to determine the proper action to prevent possible failure of the ball and coupler system. All bent or broken coupler parts must be replaced before towing the trailer.

The coupler handle lever must be able to rotate freely and automatically snap into the latched position. Oil the pivot points, sliding surfaces, and spring ends with SAE 30W motor oil. Keep the ball pocket and latch mechanism clean. Dirt or contamination can prevent proper operation of the latching mechanism.

When replacing a ball, the load rating must match or exceed the GVWR of the trailer.

8.2.6.b Gooseneck

The gooseneck receiver on the trailer connects to a hitch-mounted ball on the towing vehicle. The receiver, ball and hitch transfer the towing forces between the tow vehicle and the trailer. Before each tow, coat the ball with a thin layer of automotive bearing grease to reduce wear and ensure proper operation; and check the locking device that secures the receiver to the ball for proper operation.

If you see or can feel evidence of wear, such as flat spots, pitting or corrosion, on the ball or receiver, immediately have your dealer inspect them to determine the proper action to prevent possible failure of the ball and receiver system.

When replacing a ball, the load rating must match or exceed the GVWR of the trailer.

8.2.6.c Fifth Wheel Kingpin

Before each tow, inspect the fifth wheel and kingpin for wear, and coat the contact surface of the fifth wheel plate with water-resistant Lithium-base grease. If you see evidence of wear on the fifth wheel or kingpin, immediately have your dealer inspect them to determine the proper action to prevent failure of the fifth wheel and kingpin system.

8.2.7 Landing Leg or Jack

If a grease fitting is present, you must use a grease gun to lubricate the jack mechanism. Grease the gears in the top of hand-cranked jacks once a year, by removing the top of the jack and pumping or hand packing grease into the gears.

8.2.8 Lights and Signals

Before each tow, check the trailer taillights, stoplights, turn signals and any clearance lights for proper operation.

WARNING

To avoid collisions, taillights, stoplights and turn signals must work.

8.2.9 Accessory Battery

Your trailer may be outfitted with an accessory battery that operates lighting, electric landing gear, slide-outs or other accessories. An accessory battery may be kept charged either by the tow vehicle or by the generator or shore power. See the manual for the accessory battery.

A disconnect switch may be provided to disconnect the accessory battery when you do not plan to be using the trailer for an extended period, such as seasonal storage. If there is no disconnect switch, then remove the cables from the battery terminals.

The accessory battery must be kept in a charged condition during storage. The battery could freeze and break if it becomes discharged.

8.2.10 Tires

Before each tow, be sure the tire pressure is at the value indicated on the Certification / VIN label. Tire pressure must be checked while the tire is cold. Do not check the tire pressure immediately after towing the trailer. Allow at least three hours for a tire to cool, if the trailer has been towed for as much as one mile. Replace the tire before towing the trailer if the tire treads have less than 2/32 inch depth or the telltale bands are visible.

A bubble, cut or bulge in a side wall can result in a tire blowout. Inspect both side walls of each tire for any bubble, cut or bulge; and replace a damaged tire before towing the trailer.

WARNING

Worn, damaged or under-inflated tires can cause loss of control, injury and damage.

Check tires before each tow.

8.2.11 Wheel Rims

If the trailer has been struck, or impacted, on or near the wheels, or if the trailer has struck a curb, inspect the rims for damage (i.e. being out of round); and replace any damaged wheel. Inspect the wheels for damage every year, even if no obvious impact has occurred.

Never install aftermarket wheels or lug nuts on your trailer. Use only original equipment wheels and lugs nuts. Aftermarket wheels and lug nuts may not meet the

Section 8 - Inspection, Service & Maintenance

load carrying requirements, pressure capacity and offset as the original equipment.

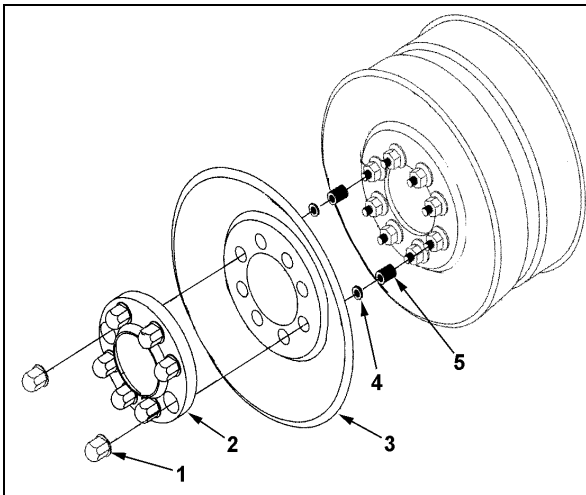
8.2.12 Wheel Liners (Simulators)

Your trailer may be equipped with wheel liners (simulators). See figure 8-4. To remove the liners to access the wheel lugs:

1. Locate the two removable jam nuts (1). These nuts will have a crimp mark on every other hex and are 180 degrees apart.
2. Remove the jam nuts. Do not use power tools on jam nuts.
3. Remove the hub cover (2), wheel liner (3), spacers (4) and stud extenders (5).

To install the liners:

1. Install stud extenders (5) 180 degrees apart and tighten to 30 lb. ft. of torque.
2. Install spacers (4), wheel liner (3), hub cover (2) and jam nuts (1). Tighten jam nuts to 30 lb. ft. of torque.



Wheel Simulator - Figure 8-4

8.2.13 Wheel Bearings

A loose, worn or damaged wheel bearing is the most common cause of brakes that grab.

To check your bearings, jack trailer and check wheels for side-to-side looseness. If the wheels are loose, or spin with a wobble, the bearings must be serviced or replaced.

Your trailer will be equipped with one of the following types of wheel bearings:

- Standard – Bearing are lubricated by grease or oil.
- E-Z Lube® or other grease fitting lubricated bearings - Bearings are lubricated by grease and are identified by a grease fitting on the end of the axle.

- Nev-R-Lube™ or other sealed bearings – The bearings are sealed are require no routine lubrication.
- Refer to this manual and the axle manufacturer's information for inspection and service information.

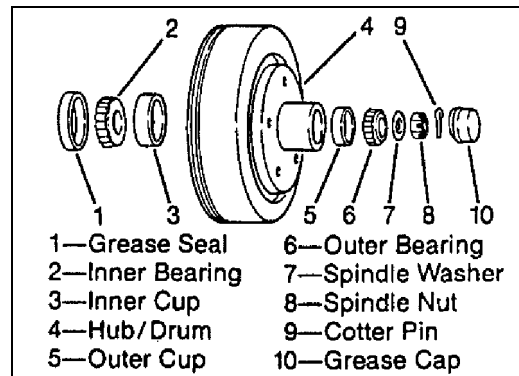
8.2.13.a Standard Bearings

Bearing Lubrication – Grease

Disassemble, inspect and re-pack the wheel bearings every 12 months or 12,000 miles, whichever occurs first.

If a trailer wheel bearing is immersed in water, it must be repacked after each immersion.

If your trailer has not been used for an extended amount of time, have the bearings inspected and packed more frequently, at least every six months and prior to use.



Standard Wheel Bearing - figure 8-5

Follow the steps below to disassemble and service the wheel bearings.

- After removing the grease cap, cotter pin, spindle nut and spindle washer (items 7-10 in "Standard Wheel Bearing" figure 8-5), remove the hub and drum to inspect the bearings for wear and damage.
- Replace bearings that have flat spots on rollers, broken roller cages, rust or pitting. Always replace bearings and cups in sets. The inner and outer bearings are to be replaced at the same time.
- Replace seals that have nicks, tears or wear.
- Pack the bearings with a high quality EP-2 automotive wheel bearing grease.

Every time the wheel hub is removed and the bearings are reassembled, follow the steps below to check the wheel bearings for free running and adjust.

- Turn the hub slowly, by hand, while tightening the spindle nut, until you can no longer turn the hub by hand.

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- Loosen the spindle nut just until you are able to turn it (the spindle nut) by hand. Do not turn the hub while the spindle nut is loose.
- Put a new cotter pin through the spindle nut and axle.
- Check the adjustments. Both the hub and the spindle nut should be able to move freely (the spindle nut motion will be limited by the cotter pin).

Bearing Lubrication – Oil

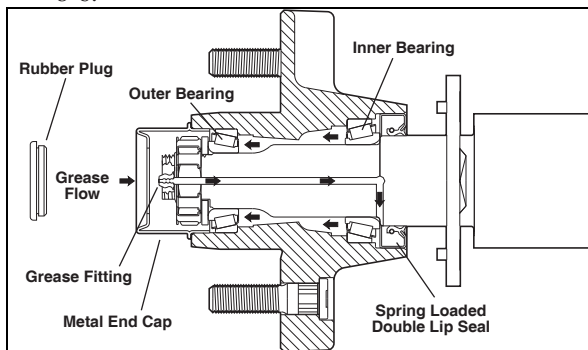
If your trailer is equipped with oil lubricated bearings, check the oil level every 6 months or 6,000 miles, whichever occurs first.

The oil can be filled through the oil fill hole in the hub or cap. Fill to the level indicated on the hub or cap.

8.2.13.b E-Z Lube® or Other Grease Fitting Lubricated Bearings

Bearings should be lubricated every 12 months or 12,000 miles, whichever occurs first.

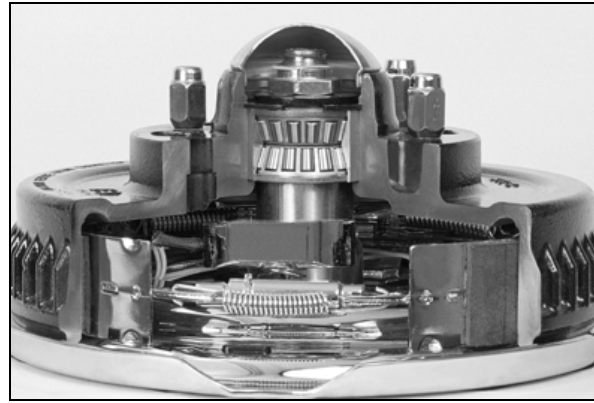
- Remove the rubber plug (if equipped) from the hub end.
- Place a standard grease gun onto the grease fitting. Make sure the grease gun nozzle is fully seated on the fitting.
- Pump grease into the fitting while rotating hub or drum. The old displaced grease will begin to flow back out to the cap around the grease gun nozzle.
- Stop when new grease is observed.
- Wipe off excess and install rubber plug. See figure 8-6.



E-Z Lube® Bearing Shown - Figure 8-6

8.2.13.c Nev-R-Lube™ or Other Sealed Bearings

Bearing should be inspected every 12 months or 12,000 miles, whichever occurs first. Refer to the axle manufactures manual for information on checking wheel end play and clearance. See figure 8-7.



Nev-R-Lube™ Bearing Shown - Figure 8-7

8.2.14 Lug Nuts (Bolts)

Lug nuts are prone to loosen right after a wheel is mounted to a hub. When driving on a remounted wheel, check to see if the lug nuts are tight after the first 10, 25 and 50 miles of driving and before each tow thereafter.

Lug Nut Tightening (Torque)

Being sure wheel mounting nuts (lug nuts) on trailer wheels are tight and properly torqued is an important responsibility that trailer owners and users need to be familiar with and practice. Inadequate and/or inappropriate wheel nut torque (tightness) is a major reason that lug nuts loosen in service. Loose lug nuts can rapidly lead to a wheel separation with potentially serious safety consequences.

- Be certain you have a clear understanding of the specific wheel maintenance responsibilities your vehicle manufacturer requires/recommends you, as the owner, must perform in order to insure your wheel equipment is safely maintained. Check the lug nut tightness the first 10, 25 and 50 miles of driving and before each tow thereafter. Refer to the owner's manual and speak with your dealer if you have any questions about proper tightening practices.
- The only way to be certain you have checked the tightness or torqued the lug nuts to the proper value is with a torque wrench. Four-way wrenches, ratchets, and similar tools can be useful for short-term emergency repairs but are not appropriate tools for accurately checking lug nut torque. You must use a torque wrench to accurately indicate the torque that you are applying to the lug nut.
- Keep a record of the date and approximate mileage when you check the lug nut torque. Note any lug nut that has lost torque. Investigate the reason(s) if the lug nut torque is not maintained after more than one re-torque application, because this indicates there is something wrong with the lug nuts, nut studs, wheels and/or hubs and should be corrected.

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- Contact your dealer or vehicle manufacturer immediately if you experience any persistent lug nut loosening or any other lug, wheel or axle problems.
- If you find any loose lug nuts while tightening, remove the wheel(s) and take them to your dealer for inspection. The wheel may be damaged and if so, must be replaced. Lug nuts on a damaged wheel holes will not retain tightness.
- In the event of a wheel separation incident, notify the vehicle manufacturer and dealer. Seek prompt professional assistance in assessing the trailer and its gear, and retain, but don't re-use involved lugs, wheels and studs. Don't repair or service the trailer yourself. Contact a trained technician.

⚠ WARNING

Lug nuts are prone to loosen after being first assembled. Death or serious injury can result.

Check lug nuts for tightness on a new trailer, and after re-mounting a wheel at 10, 25 and 50 miles.

⚠ WARNING

Metal creep between the wheel rim and lug nuts (bolts) will cause rim to loosen.

Death or injury can occur if wheel comes off.

Tighten lug nuts (bolts) before each tow.

Tighten the lug nuts to the proper tightness to prevent wheels from coming loose. Refer to the steps that follow and the axle manufacturer's information. Use a calibrated torque wrench to tighten the lug nuts. Over-tightening may result in breaking the studs or permanently deforming the mounting stud holes in the wheels.

Remove all excess paint, oil and grease from mounting surfaces.

Start all lug nuts by hand to prevent cross threading.

Tighten lug nuts in sequence shown in "Lug Nut Sequence of Tightening" figure 8-8.

Never install aftermarket wheels or lug nuts on your trailer. Use only original equipment wheels and lugs nuts. Aftermarket wheels and lug nuts may not meet the load carrying requirements, pressure capacity and offset as the original equipment.

Never install aluminum wheels on hubs/studs that were designed for steel wheels. The stud length required for aluminum wheels is greater than that required for steel wheels.

⚠ WARNING

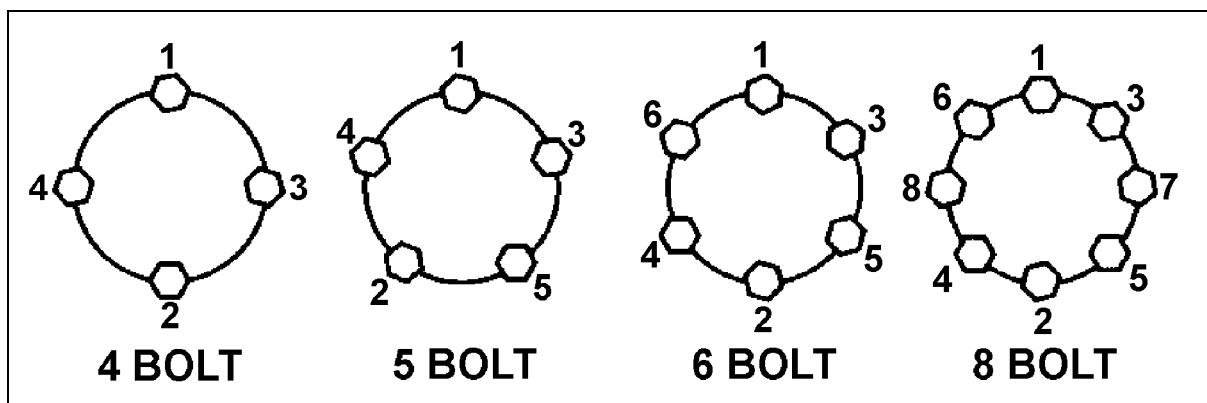
Aftermarket wheels may part from the trailer, resulting in death or serious injury.

Never install aftermarket wheels or lug nuts on your Haulmark trailer.

Never install aluminum wheels on hubs/studs that were designed for steel wheels.

⚠ WARNING

Information or torque values stamped on lug nuts supersedes the information listed in this manual.



Section 8 - Inspection, Service & Maintenance

Lug Nut Sequence of Tightening - Figure 8-8

Lug Nut Torque			
Stud size	1st stage	2nd Stage	3rd Stage
1/2 Inch	35 lb ft	65 lb ft	100 lb ft
9/16 Inch	45 lb ft	90 lb ft	130 lb ft
5/8 Inch	70 lb ft	140 lb ft	200 lb ft
5/8 Inch Flanged	100 lb ft	200 lb ft	300 lb ft
3/4 Inch Flanged	135 lb ft	270 lb ft	400 lb ft

Lug Nut Torque - Figure 8-9

Lug nuts are prone to loosen right after a wheel is mounted to a hub. When driving on a remounted wheel, check to see if the lug nuts are tight after the first 10, 25 and 50 miles of driving and before each tow thereafter.

WARNING

Lug nuts are prone to loosen after being first assembled. Death or serious injury can result.

Check lug nuts for tightness on a new trailer, and after re-mounting a wheel at 10, 25 and 50 miles.

WARNING

Metal creep between the wheel rim and lug nuts (bolts) will cause rim to loosen.

Death or injury can occur if wheel comes off.

Tighten lug nuts (bolts) before each tow.

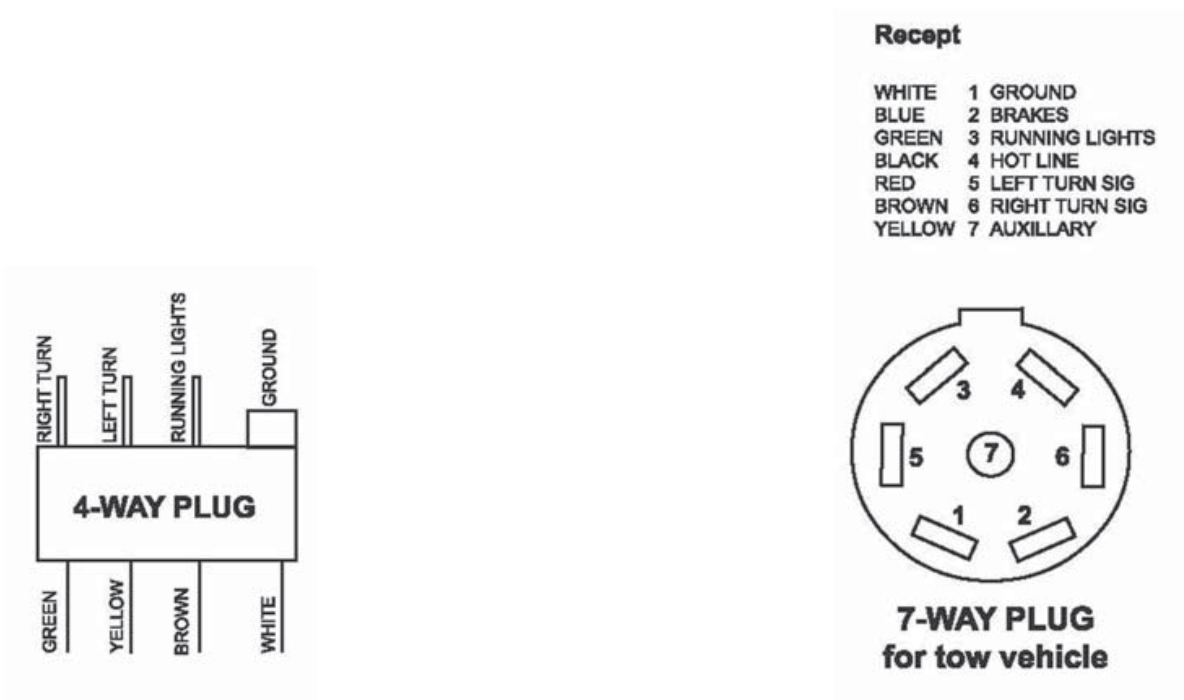
Section 9 - TECHNICAL REFERENCE

9.1 TRAILER LIGHTING ELECTRICAL CONNECTION

The electrical wiring on your Haulmark trailer has been designed and built in accordance with all the Federal Motor Vehicle Safety Standards that were in effect when the trailer was produced.

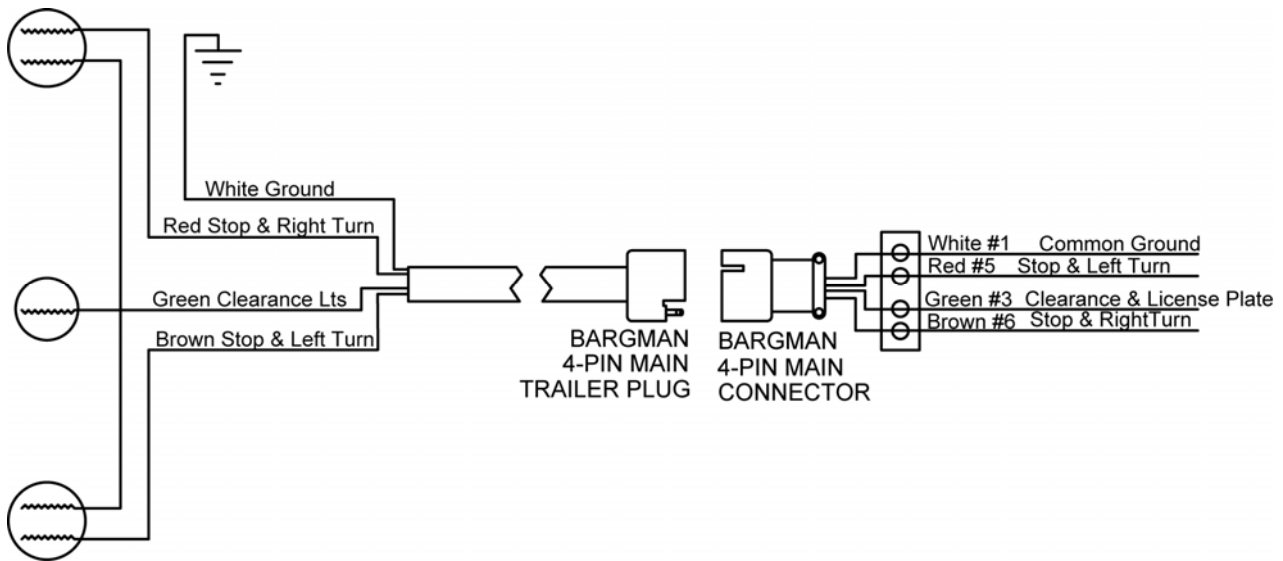
Wiring: Your tow vehicle must have the correct plug at the rear and must be connected to the correct tow vehicle circuits for the vehicle to correctly tow the trailer. Trailers not equipped with brakes will have a 4-way fl at plug and all other trailers will have a larger 7-way round plug.

The figure below illustrates the wiring code that has been adopted for several types of electrical lighting connectors.

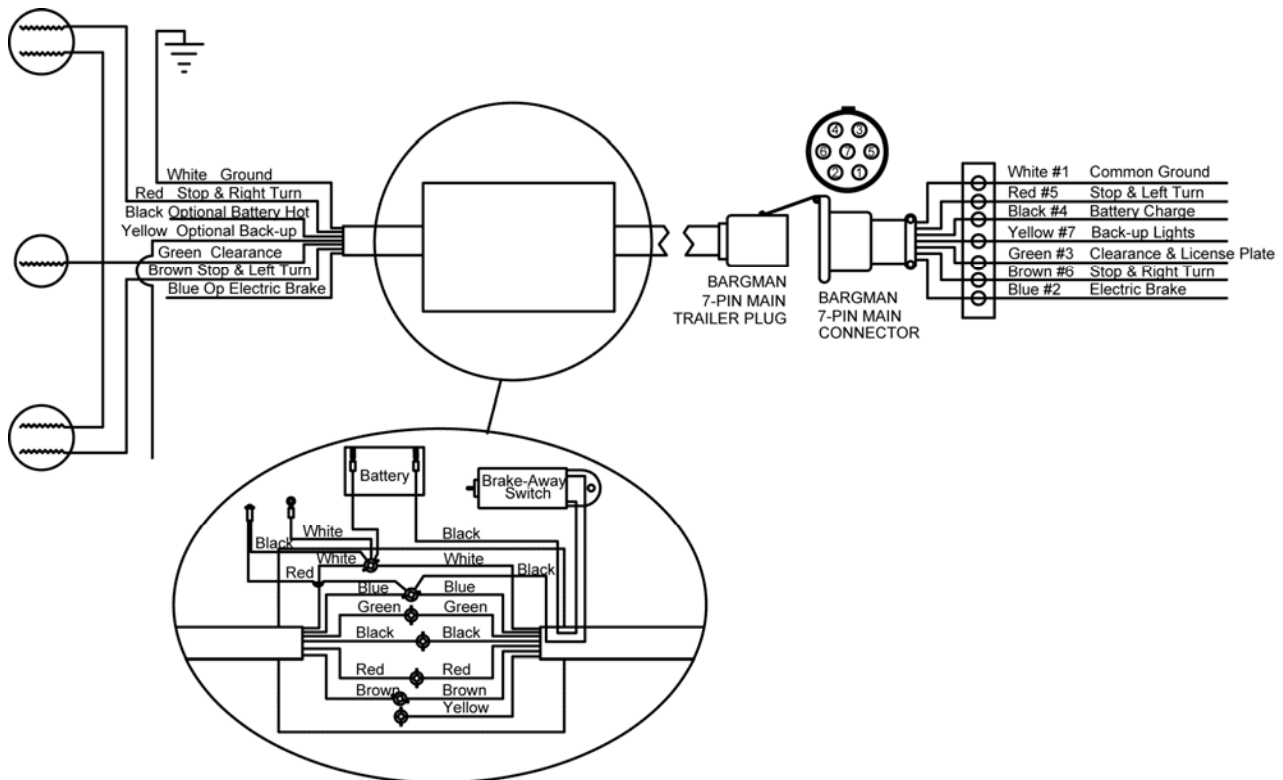


It is very important that you have a ground wire running from the plug to the frame of your tow vehicle. Hitches, safety chains and couplers are not adequate grounds for your trailer. If an auxiliary battery is added to your trailer, there must be a fuse installed between the battery and the trailer. If you have any questions regarding the wiring of either your tow vehicle or your trailer, contact either your dealer or Haulmark.

Section 9 - Technical Reference

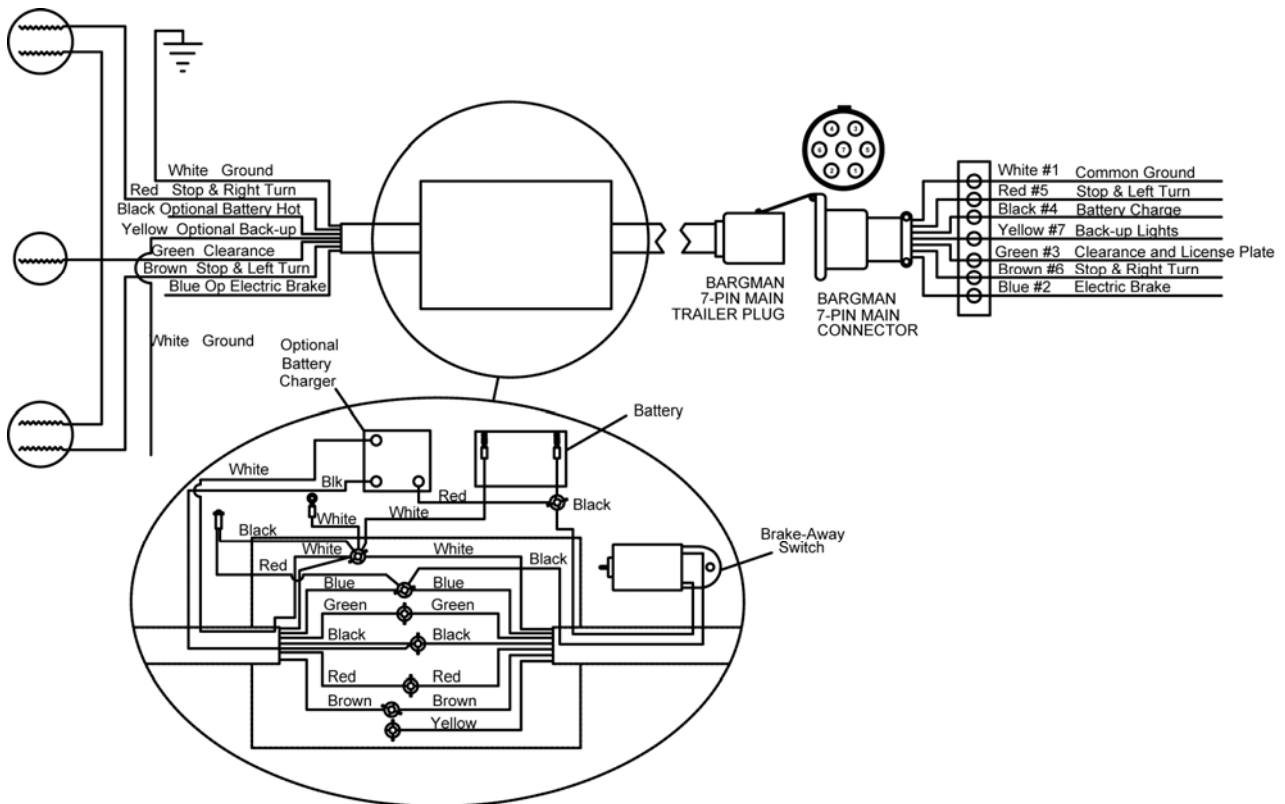


Bargman 4 Circuit Harness Connector



Bargman 7 Circuit Harness Connector

Section 9 - Technical Reference



Bargman 7 Circuit Connector with Trickle Charger

9.2 HITCH SYSTEMS

The various components of trailer fastening systems may be referred to in terms of “Class” depending on their load rating. The rating of hitch systems on tow vehicles also considers whether the hitch only carries the tongue weight (for example, a ball hitch, which is also referred to as a Weight Carrying Hitch), or if it distributes the tongue weight to all of the tow vehicle wheels (also referred to as a Weight Distributing Hitch).

Your hitch or hitch ball may carry a “class” rating instead of a pound rating. This chart may be used to cross reference hitch/ball classification with trailer weight and tongue weight.

Hitch Classification

Class	Type of Hitch	Maximum Towed Weight	Maximum Tongue Weight
Class 1	Weight Carrying Hitch	up to 2,000 pounds	up to 200 pounds
Class 1	Weight Dist. Hitch	up to 2,000 pounds	up to 300 pounds
Class 2	Weight Carrying Hitch	up to 3,500 pounds	up to 300 pounds
Class 2	Weight Dist. Hitch	up to 3,500 pounds	up to 500 pounds
Class 3	Weight Carrying Hitch	up to 5,000 pounds	300 to 500 pounds
Class 3	Weight Dist. Hitch	up to 7,500 pounds	up to 750 pounds
Class 4	Weight Dist. Hitch	up to 10,000 pounds	up to 1,000 pounds

Section 10 - WARRANTY

Haulmark Industries, Inc. provides you with a 3-year limited warranty which gives you specific legal rights. Please be sure that you read and understand our Warranty.

THREE YEAR LIMITED WARRANTY

Haulmark Industries, Inc., P.O. Box 281, Bristol, IN 46507 (Warrantor) warrants to the ORIGINAL CONSUMER (PURCHASER) for a period of THREE (3) YEARS from the date of purchase by PURCHASER (WARRANTY PERIOD), that the TRAILER (the PRODUCT) shall be free of DEFECTS in materials and workmanship attributable to Warrantor (WARRANTY). WARRANTY IS NOT TRANSFERABLE TO SECOND OWNER. Excluded from this three year Warranty are electrical, plumbing, windows, doors, seals, sealant, electrolysis exterior metal, fenders, undercoating and fiberglass parts which are warranted for a ONE (1) YEAR period from the date of purchase by the original Purchaser. Certain component and attachments are warranted separately by their respective Manufacturer.

ITEMS EXCLUDED FROM WARRANTY

Warrantor is not responsible for claims relating to the following: (1) Product rental; (2) Defacing: scratches, dents, chips, tears, and defacing on any surface not caused by Warrantor; (3) Routine maintenance; (4) Damage from unauthorized repairs, abuse, misuse or neglect - including damage from heavy snow accumulation; (5) Damage caused from improper hitch ball or tow vehicle hook up; (6) Damage to the contents of any Product, regardless of cause; (7) Damages caused by loose or improperly torqued lug nuts; (8) Decals or graphics regardless of cause; (9) Off road usage; (10) Tow vehicle wiring; (11) Tire alignment; (12) Before making any alteration to your trailer, contact your dealer or Haulmark Industries, Inc. at 800-348-7530 and describe the alteration you are contemplating. Alteration of the trailer structure or modification of mechanical, electrical, plumbing, heating or other systems on your trailer must be performed only by qualified technicians who are familiar with the system as installed on your trailer. Warrantor reserves the right for final determination whether or not the product has been abused or misused by the Purchaser.

WARRANTOR'S OBLIGATION

Warrantor may elect to remedy all defects in materials and workmanship by repair. This is the only remedy available to Purchaser. All defective products shall be delivered to an authorized Haulmark dealer/repair center. Warrantor will not be obligated, in any way, to pay for any repairs made without specific prior approval. The repair facility will remedy all defects within a reasonable time, not to exceed (60) sixty days after delivery by Purchaser.

PURCHASER'S OBLIGATIONS - HOW TO GET WARRANTY SERVICE

Purchaser must notify his/her selling dealer of any defects in material or workmanship within (30) thirty days from the date of discovery within the warranty period. It is the selling dealer's responsibility to notify the Warrantor of any warrantable issues and to request authorization and replacement warranty parts. The Purchaser is required to complete and return to Warrantor the attached warranty registration card within

(15) fifteen days of product purchased to obtain Warranty service. Warranty will not apply if warranty registration card is not on file. Purchaser is responsible for all costs, towing, and transportation charges incurred to obtain Warranty service. If selling dealer is not available, then contact any authorized Haulmark dealer/repair center.

LIMITATION OF LIABILITY

Warrantor excludes liability, whether based on contract or Tort (including negligence), for any damages to purchaser or Any other party other than as described in this warranty or any Punitive, special, indirect, incidental or consequential damages Of any kind or for loss of revenue profits, loss of business or other financial loss arising out of or in connection with the sale, maintenance, use or failure of the product, even if warrantor has been advised of the possibility of such damages. This disclaimer of liability shall not be affected even if any remedy provided for herein fails its essential purpose.

DISCLAIMER OF IMPLIED WARRANTIES

Section 10 -Warranty

Warrantor makes no express or implied warranties other than as specifically set out in this warranty. Except for the express limited warranty set forth herein, the product is sold “as is” and there are no implied warranties of merchantability, fitness for a particular purpose, compliance with description and non-infringement in connection with any sale. This limited warranty does not cover failure of the product resulting from causes other than product defects, including but not limited to improper maintenance or use or any other such cause. If any provision of this Warranty is held to be illegal or unenforceable by any court of competent jurisdiction, the remaining provisions shall remain effective. Some states do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers or the limitation of liability for personal injury, so the limitations and exclusions above may be limited in their application. When the implied warranties cannot be excluded in their entirety, they will be limited to the duration of the written express warranty.

DESIGN CHANGES

Warrantor reserves the right to change the design of its Products from time to time without notice and with no obligation to make corresponding changes in its Products previously manufactured.

LEGAL REMEDIES OF PURCHASER

This warranty gives you specific legal rights, and you may have Other rights which may vary from state to state. No action to enforce this Warranty shall be commenced later than six (6) months after the discovery of any defect or after expiration of the Warranty Period.

**Exhaust Fan, 12 In.**

Exhaust Fan, Heavy Duty Direct Drive, Propeller Dia 12 In, CFM @ 0.000-In SP 1275, @ 0.125-In SP 1160, @ 0.250-In SP 1000, Sones @ 0.000-In SP @ 5 Ft 13.3, 115 Volts, 60 Hz, 1 Phase, Operating Amps 3.4, Motor RPM 1725, 1/4 HP, Motor Type Split Phase, Height 16 In, Width 16 In, Max Depth 10 1/8 In, Vertical Mounting Position, Frame Material Steel, Propeller Material Fabricated Aluminum, Number of Blades 4, Guard Material Steel Wire, For Use With General Ventilation Applications

Grainger Item #	4YC81
Brand	DAYTON
Mfr. Model #	4YC81

Tech Specs

Item: Exhaust Fan

Type: Heavy Duty Direct Drive

Propeller Dia. (In.): 12

CFM @ 0.000-In. SP: 1275

CFM @ 0.125-In. SP: 1160

CFM @ 0.250-In. SP: 1000

CFM @ 0.375-In. SP: 755

CFM @ 0.500-In. SP: 460

Sones @ 0.000-In. SP @ 5 Ft.: 13.3

Sones @ 0.125-In. SP @ 5 Ft.: 10.1

Voltage: 115

Hz: 60

Phase: 1

Full Load Amps: 3.4

Motor HP: 1/4

Motor Type: Split Phase

Motor Enclosure: Totally Enclosed Air-Over

Motor Insulation: Class A

Motor RPM: 1725

Watts: 210

Max. Ambient Temp. (F): 104

Height (In.): 16

Width (In.): 16

Max. Depth (In.): 10 1/8

Outside Dia. (In.): 16

Inside Dia. (In.): 12 3/8

Flange Width (In.): 1

Venturi Depth (In.): 1 1/2

Venturi Clearance Dia. (In.): 12 3/8

Mounting Position: Vertical

Frame Material: Steel

Frame Finish: Baked On Gray Polyester

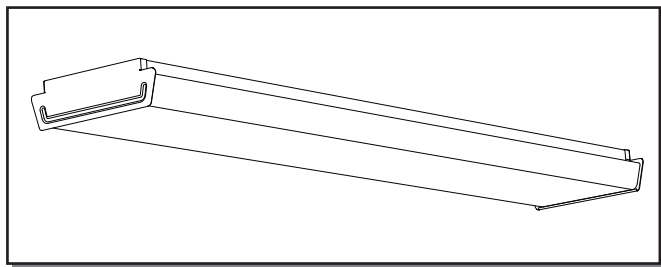
Guard Material: Steel Wire

Wire Guard Finish: Baked On Polyester Finish

Propeller Material: Fabricated Aluminum

Number of Blades: 4

4' OR 8' OW NARROW WRAPAROUND



2 Lamp
T8 or T12

CONSTRUCTION/FINISH

- Pattern 12 bottom prisms with interior linear side wall prisms for maximum cleanliness and light control.
- Tapered shape provides a modern appearance.
- Full steel end plates feature embosses for improved aesthetics.
- 100% virgin acrylic lens hinges from either side for easy maintenance.
- Housing is multi-stage phosphate treated for maximum corrosion resistance and finish coat is high reflectance baked white enamel.
- Multiple knockouts accommodate a variety of mounting methods.
- Heavy duty channel of code gauge die formed steel.
- For surface or stem mounting.

ELECTRICAL

- UL listed for direct mounting on low density ceilings and damp locations.
- Class P, HPF ballasts comply with ©Federal Ballast Law (Public Law 100-357, 1988).
- Lampholders may be individually replaced or rewired.
- Self-contained fluorescent emergency power packs can be incorporated, UL listed for dry locations.

CATALOG NUMBER

<div> </div> <div>PRODUCT FAMILY OW – Wraparound TOW – Tandem (8")</div>	<div>N</div> <div>WIDTH N - Narrow</div>	<div>2</div> <div>NO. OF LAMPS PER CROSS SECTION (not included) 2</div>	<div> </div> <div>LAMP TYPE WATTAGE 32 – 32wT8 (48") 40 – 40wT12 (48")</div>	<div>–</div> <div>VOLTAGE 120 277 347 UNV – Universal voltage, 120-277 Volt</div>	<div>–</div> <div>OPTIONS 1/2 – One 2-lamp ballast (electronic or non-standard) 1/4 – One 4-lamp ballast (electronic or non-standard) 2/2 – Two 2-lamp ballasts (electronic or non-standard) EB – Electronic ballast, <20% THD EB10I – Electronic ballast, instant start, <10% THD EB10R – Electronic ballast, program rapid start, <10% THD E1 – DEB-1 emerg. ballast, 350-450 lumens, UL dry loc. E7 – DEB-7 emerg. ballast, 600-700 lumens, UL dry loc. E5 – DEB-5 emerg. ballast, 1100-1400 lumens, UL dry loc. E5ST – DEB-5ST emerg. ballast w/self test, 1100-1400 lumens, UL dry loc. GLR# – Fusing, fast blow (# = number of ballasts) LPT735 – Installed lamps, 70+ CRI, 3500K</div>
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See Section 1600-OA for Option Information.
See Page 950-SS for Mounting Hardware.

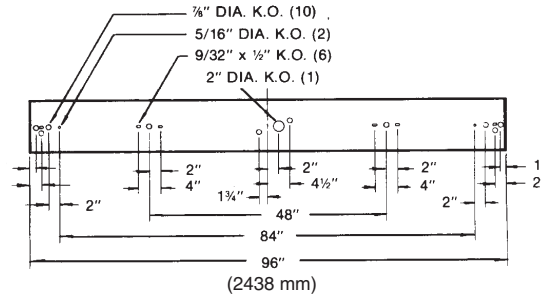
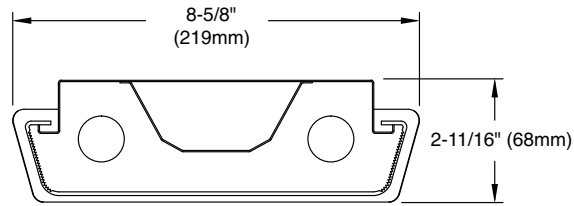
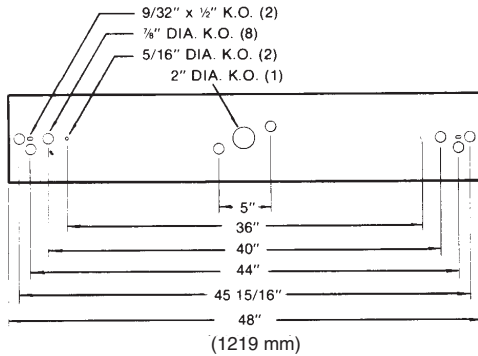
JOB INFORMATION

1026.1-WP

PHILIPS
Day-Brite

OW NARROW WRAPAROUND

DIMENSIONS



PHOTOMETRIC DATA

CATALOG # OWN 232-1/2-EB
TEST # ITL41979 S/MH=1.4

LAMPS = F32 T8
BALLAST = ELECTRONIC BALLAST FACTOR = .92

LER = 66

COMPARATIVE YEARLY LIGHTING ENERGY COST PER 1000 LUMENS = \$3.64 BASED ON 3000 HRS. AND \$.08 PER KWH.

FIXTURE EFFICIENCY= 72.8%

CANDLEPOWER				
Angle	End	45	Cross	
0	1315	1315	1315	
5	1317	1315	1310	
15	1275	1291	1302	
25	1180	1233	1269	
35	1042	1138	1168	
45	855	962	999	
55	541	617	595	
65	252	299	385	
75	112	173	278	
85	36	118	269	
95	0	126	265	
105	1	157	244	
115	4	123	182	
125	7	71	112	
135	10	36	53	
145	9	31	41	
155	8	22	32	
165	7	12	20	
175	7	7	8	

MAINTAINED ILLUMINATION TABLE- Square Feet/Fixture*

- 80-50-20 Reflectances (Ceiling-Wall-Floor)
- LLF = 0.76 2900 Lumens/Lamp very clean
- Room width divided by room height = 5 or more, 2 or 1

Fixture Size & # of Lamps	Room Width Room Height =	Approx. Area (sq. ft.) per Fixture				
		10 ft-c	30 ft-c	50 ft-c	70 ft-c	100 ft-c
4'	5	—	108	65	46	32
2-Lamp	2	—	75	45	32	—
	1	—	55	33	—	—

*Observe Fixture S/MH Requirements for Specific Applications

AVERAGE LUMINANCE CD/SQ.M WITH 2900 LUMEN LAMPS

ANGLE	END	45°	CROSS
45	4841	4948	4708
55	3776	3765	3225
65	2387	2329	2547
75	1733	1945	2454
85	1654	2519	3741

TYPICAL V.C.P.'s

Room Size	Mounting Height			
	Lengthwise		Crosswise	
	8.5	10	8.5	10
30x30	60	63	53	58
40x40	57	59	48	52
60x30	61	64	57	62
60x60	54	56	41	46
100x100	52	53	35	39

LLF = .76 LLF = LIGHT LOSS FACTOR LLF = LDD X LLD X BF LDD = VERY CLEAN 0.94 CLEAN 0.90
LLD = 0.88 @ 40% RATED LAMP LIFE BF = 0.92 ELECTRONIC BALLAST & T8 LAMP (RELAMP AT 70% LAMP LIFE)

COEFFICIENT OF UTILIZATION

pfc pcc pw RCR	20				70				50			
	70	50	30		70	50	30		50	30		
0	84	84	84		81	81	81		76	76		
1	77	73	69		73	70	68		66	64		
2	69	65	59		68	61	57		57	55		
3	64	56	51		61	55	50		52	46		
4	58	51	44		56	48	42		46	40		
5	54	45	39		52	44	38		41	35		
6	50	40	34		47	40	34		38	32		
7	46	36	30		45	35	29		34	28		
8	42	34	28		41	33	27		30	26		
9	40	30	25		39	29	25		28	23		
10	38	28	23		36	28	23		27	22		

LIGHT DISTRIBUTION

DEGREES	LUMENS	% LAMP	% FIXTURE
0-30	1057	18.2	25.0
0-40	1761	30.4	41.7
0-60	3035	52.3	71.9
0-90	3711	64.0	87.9
90-180	511	8.8	12.1
0-180	4222	72.8	100.0

1026.1-WP

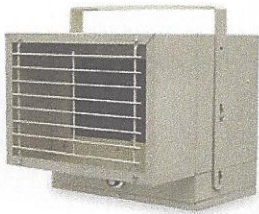
DAY-BRITE LIGHTING • www.daybritelighting.com
776 South Green Street • Tupelo, Mississippi 38804 • PH: (662) 842-7212 • FAX: (662) 841-5501
CANADIAN DIVISION
189 Bullock Drive • Markham, Ontario L3P 1W4 • PH: (905) 294-9570 • FAX: (905) 294-9811
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PHILIPS
Day-Brite

Model #2HDA1

DAYTON Freeze Protection Heater, 2.5/1.95 kW

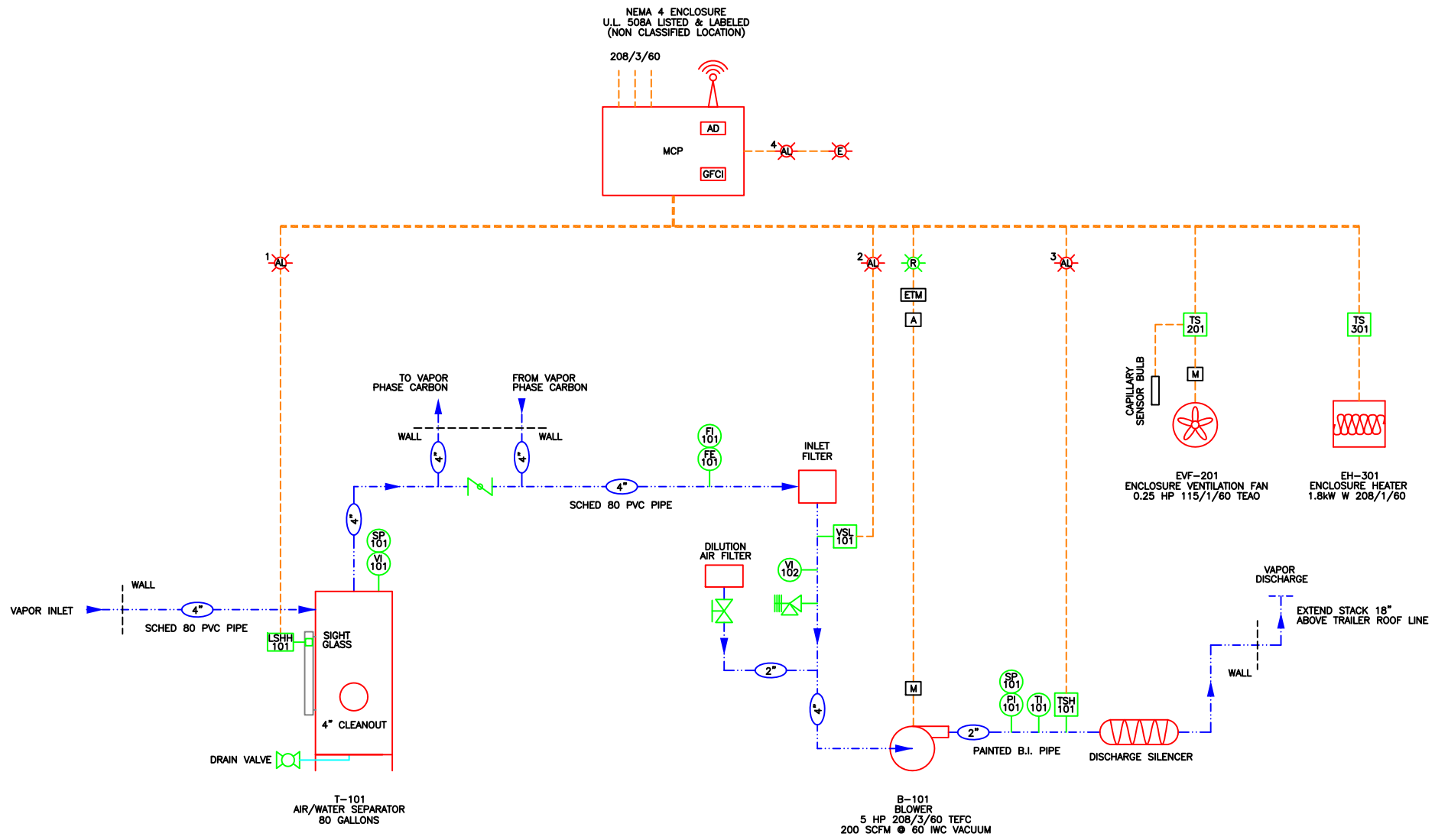
Freeze Protection Heater, 2.5/1.95 kW, 8530/6650 BtuH, Voltage 240/208, 50/60 Hz, 1 Phase, 10.7/9.42 Amps AC, Temp. Rise 60/46 Degrees F, Air Flow 150/130 cfm, Width 14 In., Depth 14 In., Height 12-1/2 In., Housing Material Steel, Housing Finish Neutral Gray Polyester Powder Coat Finish for Corrosion Protection, Features NEMA 12 Control Box Construction, High Limit Thermal Protection, Includes Mounting Bracket, Thermostat with 40 to 90 Degrees Range with Positive Off



Tech Specs	Additional Information	Compliance & Restrictions	MSDS	Required Accessories	Optional Accessories	Alternate Products	Repair Parts
Item		Freeze Protection Heater					
kW		2.5/1.95					
BtuH		8530/6650					
Voltage		240/208					
Hz		50/60					
Phase		1					
Amps AC		10.7/9.42					
Temp. Rise		60/46 Degrees F					
Air Flow		150/130 cfm					
Width		14"					
Depth		14"					
Height		12-1/2"					
Housing Material		Steel					
Housing Finish		Neutral Gray Polyester Powder Coat Finish for Corrosion Protection					
Features		NEMA 12 Control Box Construction, High Limit Thermal Protection					
Includes		Mounting Bracket, Thermostat with 40 to 90 Degrees Range with Positive Off					
Manufacturers Warranty Length		5 yr. on Elements, 1 yr. All Other Parts					
Standards		cETLus, City of Chicago codes for plenum use					

Section 7

System Drawings



- LEGEND
- A

AMP METER
- AD

AUTO DIALER (WIRELESS)
- ETM

ELAPSED TIME METER
- FE

FLOW ELEMENT
- FI

FLOW INDICATOR
- GFCI

GROUND FAULT CIRCUIT INTERRUPTER
- LSHH

LEVEL SWITCH HIGH HIGH
- M

MOTOR
- MCP

MASTER CONTROL PANEL
- PI

PRESSURE INDICATOR
- SP

SAMPLE PORT
- TI

TEMPERATURE INDICATOR
- TS

TEMPERATURE SWITCH
- TSH

TEMPERATURE SWITCH HIGH
- VI

VACUUM INDICATOR
- VSL

VACUUM SWITCH LOW
- BALL VALVE
- BUTTERFLY VALVE
- GATE VALVE
- RELIEF VALVE
- WIRE-LESS ANTENNA
- ALARM LIGHT
- EMERGENCY STOP LIGHT
- RUN LIGHT
- AIR LINE
- CONTROL LINE
- ALARMS
1.

AIR/WATER SEPARATOR HIGH HIGH LEVEL
2.

SVE BLOWER LOW VACUUM
3.

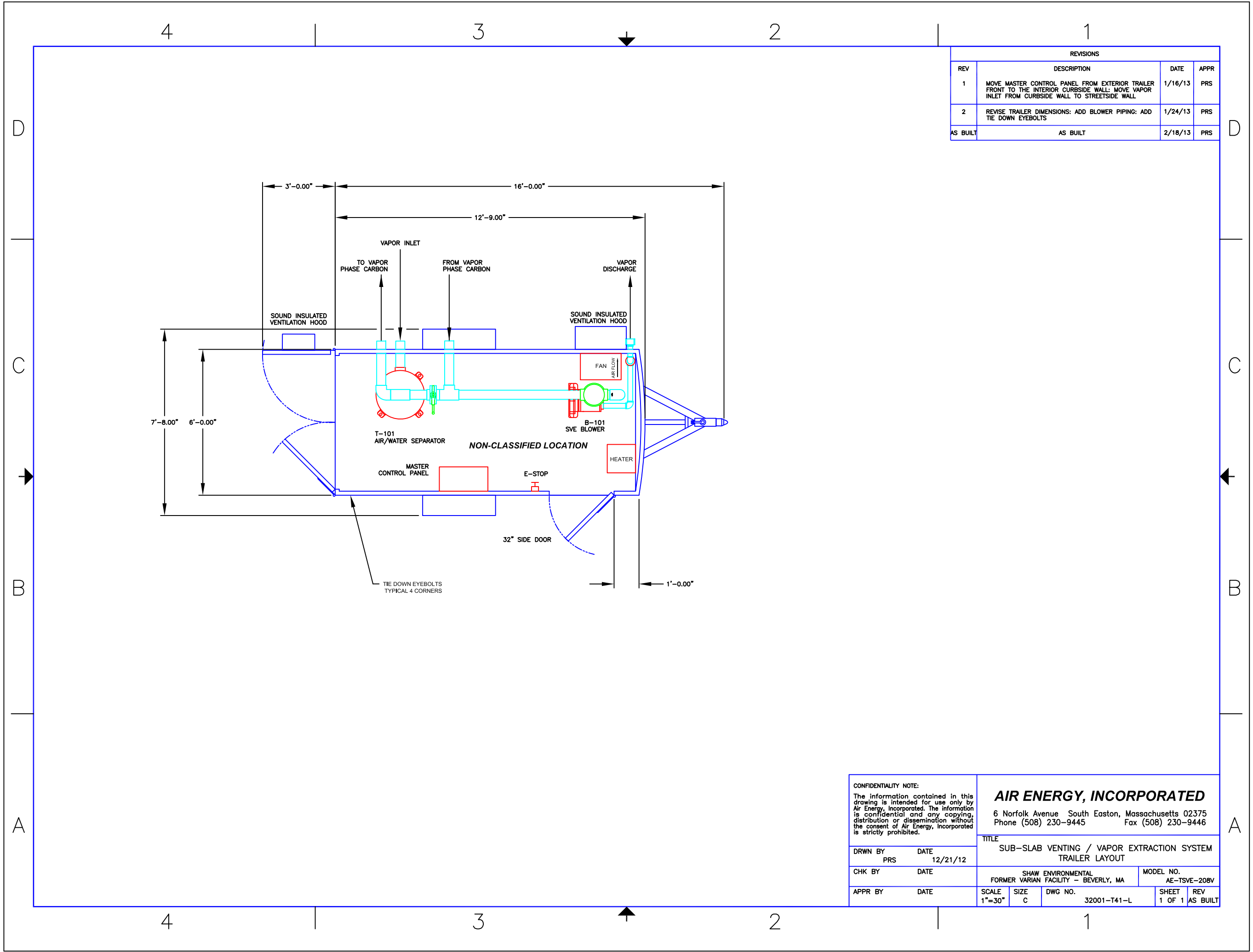
SVE BLOWER DISCHARGE HIGH TEMPERATURE
4.

EMERGENCY STOP

AS BUILT	AS BUILT	2/18/13	PRS
3	CHANGE VAPOR DISCHARGE FROM THRU ROOF TO THRU WALL: CHANGE DISCHARGE PIPING FROM 4" TO 2": ADD DISCHARGE SILENCER	1/24/13	PRS
2	REMOVE DOOR--N--DOOR NOMENCLATURE FROM MCP: ADD WIRE-LESS ANTENNA	1/17/13	PRS
1	CHANGE ALL IS LINES TO CONTROL LINES: CHANGE U.L. LISTING FROM 698A TO 508A (NON CLASSIFIED LOCATION)	1/16/13	PRS
REV.	DESCRIPTION	DATE	APPR.
REVISIONS			

CONFIDENTIALITY NOTE:			
The information contained in this drawing is intended for use only by Air Energy, Incorporated and Shaw Env. The information is confidential and any copying, distribution or dissemination without the consent of Air Energy Incorporated is strictly prohibited.			
DRWN BY	DATE		
PRS	12/27/12		
CHK BY	DATE		
APPR BY	DATE		

AIR ENERGY, INCORPORATED							
6 Norfolk Avenue - South Easton, Massachusetts (Phone) 508-230-9445 / (Fax) 508-230-9446							
TITLE SUB-SLAB VENTING / VAPOR EXTRACTION SYSTEM PROCESS & INSTRUMENTATION DIAGRAM							
SHAW ENVIRONMENTAL FORMER VARIAN FACILITY - BEVERLY, MA				MODEL NO. AE-TSVE-208V			
SCALE	SIZE	DWG NO.	SHEET		REV		
N/A	C	32001-T41-P	1 OF 1		AS BUILT		



REVISIONS			
REV	DESCRIPTION	DATE	APPR
1	MOVE MASTER CONTROL PANEL FROM EXTERIOR TRAILER FRONT TO THE INTERIOR CURBSIDE WALL: MOVE VAPOR INLET FROM CURBSIDE WALL TO STREETSIDE WALL	1/16/13	PRS
2	REVISE TRAILER DIMENSIONS: ADD BLOWER PIPING: ADD TIE DOWN EYEBOLTS	1/24/13	PRS
AS BUILT	AS BUILT	2/18/13	PRS

CONFIDENTIALITY NOTE: The information contained in this drawing is intended for use only by Air Energy, Incorporated. The information is confidential and any copying, distribution or dissemination without the consent of Air Energy, Incorporated is strictly prohibited.	AIR ENERGY, INCORPORATED	
	6 Norfolk Avenue South Easton, Massachusetts 02375 Phone (508) 230-9445 Fax (508) 230-9446	
DRWN BY PRS DATE 12/21/12	TITLE SUB-SLAB VENTING / VAPOR EXTRACTION SYSTEM TRAILER LAYOUT	
CHK BY DATE	SHAW ENVIRONMENTAL FORMER VARIAN FACILITY - BEVERLY, MA	
APPR BY DATE	MODEL NO. AE-TSVE-208V	
SCALE 1"=30"	SIZE C	DWG NO. 32001-T41-L
SHEET 1 OF 1		REV AS BUILT

Section 8

Warranty



WARRANTY

All products not manufactured by Air Energy, Incorporated (herein "A.E.I.") carry the original manufacturer's warranty. Copies are available upon request and are contained within the Owner's O&M Manual provided with the system. Specific products contained within the system are subject to the manufacturer's warranty and inspection of goods prior to determining the material's warranty status.

A.E.I. warrants its packaged and manufactured equipment against any defect in material or workmanship, under normal use and storage for a period of twelve (12) months from date of manufacture and invoice and upon inspection of material.

In the event any product is found to be defective within the warranty period, sole obligation and remedy shall be the furnishing of replacements for any defective parts. Such replacement parts shall be furnished but not installed by A.E.I. A.E.I. WILL NOT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES IN ANY CLAIM, SUIT, OR PROCEEDING ARISING UNDER WARRANTY; NOR WILL A.E.I. ACCEPT ANY LIABILITY UNDER CLAIMS FOR LABOR, LOSS OF PROFIT, REPAIRS, OR OTHER EXPENSES INCIDENTAL TO REPLACEMENT.

The product warranty expressed above is our only warranty. No agent acting on behalf of A.E.I. may modify the terms of the above mentioned warranty in any way, expressly or impliedly. This product warranty may be modified only through an express writing by A.E.I.'s President, acting as principal. All freight costs incurred in shipping parts to or from A.E.I. or to the manufacturer, if necessary, are at the expense of the customer. Any part returned for warranty consideration must have an Air Energy, Inc. Pre-authorized Return Material Authorization Number assigned to the shipment. Please contact Air Energy, Inc. directly to obtain the information.

A.E.I. will invoice the cost of any replacement parts. The parts will be credited upon certification that (1) the defective part was returned within one week of notification of malfunction to A.E.I., and (2) affirmation the part in question is in fact defective. If the part is found to have been misused, no credit will be issued. In order for A.E.I. to ship replacement parts on account established terms, all outstanding invoices must be paid in full. All returns of goods must have an Authorized Return Material Request Number.

A.E.I. expressly disclaims any warranties, whether express or implied. This disclaimer includes any implied warranty of merchantability, fitness for any particular purpose, or warranty arising from a course of dealing or usage of trade, except to the extent required by applicable law. There are no warranties that extend beyond the description of the face hereof. A.E.I. shall not be liable in tort, contract, or otherwise, for any loss or damage, whether direct, consequential or incidental, of any person or entity arising in connections with the equipment.