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Massachusetts Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
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Subject: Phase V Remedy Operation Status - Inspection & Monitoring Report
October 1, 2013 through March 31, 2014
Former Varian Facility Site
Beverly, Massachusetts
MADEP # 3-0485

To Whom It May Concern:

On behalf of Varian Medical Systems, Inc., CB&I Environmental and Infrastructure, Inc. has prepared the enclosed Phase V Remedy Operation Status - Inspection & Monitoring Report summarizing the activities conducted from October 1, 2013 through March 31, 2014 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
October 1, 2013 through March 31, 2014**

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

MADEP Site # 3-0485

April 30, 2014

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1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

On behalf of Varian Medical Systems, Inc. (Varian), CB&I Environmental and Infrastructure, Inc. (CB&I), formerly Shaw Environmental, Inc., has prepared this semi-annual Remedy Operation Status (ROS) Inspection and Monitoring Report for the former Varian facility located at 150 Sohier Road as well as 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 October 1, 2013 through March 31, 2014. 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 – Potential former septic tank/leach field at Building 6
- PSL 9 – Inspection pit near Building 3
- PSL 11 – Chemical laboratory at Building 3
- 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 Limits (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, CB&I 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, were included in the October 2013 status report (Shaw, 2013b).

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 3-28531 (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, 2013a). 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 October 1, 2013 through March 31, 2014.

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 October 2013 and January 2014 during this reporting period. The October 2013 sampling event monitored VOC trends and groundwater conditions at select wells across the Site. The January 2014 sampling event was a more limited scope focused on monitoring bioremediation progress following the October 2013 injection of lactate as described in Section 2.3. A summary of samples collected during these monitoring events and sampling rationale is provided on **Tables 1A** and **1B**. These sampling events 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 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 **Tables 1A** and **1B**. Additionally, groundwater samples collected from select bioremediation wells were submitted for analysis of *Dehalococcoides sp.* bacteria (DHC) at CB&I's Technology Development Laboratory in Lawrenceville, New Jersey.

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.

Monitoring well BR-6 is a bedrock well utilizing a packer system in order to provide discrete groundwater sampling from three separate fracture zones. This well uses a Waterloo™ system, which collects groundwater samples in each packer zone by using dedicated dual-valve pumps driven by compressed nitrogen. 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 October 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 CB&I using a Hach DR/890 colorimeter. The colorimeter utilizes a spectrophotometric method to determine the permanganate concentration based on a permanganate color calibration standard.

Groundwater monitoring at select wells for depth-to-groundwater and total-well-depth measurements, as well as for the potential presence of dense non-aqueous phase liquid (DNAPL) was performed in October 2013 and January 2014 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 October 2013 and January 2014 sampling events are summarized in **Appendix B**.

VOC analytical results from the October 2013 and January 2014 sampling event are summarized on **Table 2**. Results of chloride, iron, and manganese samples collected during the October 2013 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 October 2013 and January 2014 are provided in **Appendix C**. Sampling results are discussed below.

2.1.2 VOC Monitoring Results

In general, the analytical results of groundwater samples collected during the October 2013 and January 2014 sampling events (**Table 2**) show decreasing or consistent concentrations of TCE and tetrachloroethene (PCE) at monitoring wells across the Site. Concentrations of cis-1,2-dichloroethene (DCE) continue to be 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.

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

North of Route 128

Sampling in the area north of Route 128 was conducted at bedrock well CL2-BR, located at 16 Tozer Road, during this monitoring period. 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. Overall reductions in VOC concentrations at bedrock monitoring well CL2-BR have been observed since the start of source treatment at 150 Sohier Road. The overall reductions are also noted at bedrock well BR-1, located on Walden Street.

Building 3/6 Treatment Areas

Permanganate injection in the Building 3/6 area was conducted during this reporting period after the April 2013 groundwater sampling event (see section 2.2). Results of the October 2013 and January 2014 post-injection groundwater sampling events indicate that significant target VOC reductions have been maintained at a number of monitoring wells, including AP25-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. Bioremediation was also conducted in the deep overburden west of Building 3 during this reporting period (see section 2.3). The presence of ethene and daughter products in deep overburden wells in this area indicate that complete degradation of VOCs is occurring. 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 enhancement of reductive dechlorination. As discussed in the last status report, April 2013 analytical data had shown that complete degradation of VOCs was occurring in the area. Sampling results from October 2013 indicate non-detectable concentrations of TCE and PCE at wells BW-5, BW-6, BW-8 and BW-9. In addition, concentrations of daughter products remained low or non-detectable at these wells in October 2013, indicating further treatment is not warranted in this area.
- 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 milligrams per liter (mg/L) and 4.3 mg/L, respectively. As discussed in the previous status report, EVO injections were conducted in July 2012 to enhance further dechlorination. Vinyl chloride and cis-1,2-DCE concentrations have decreased since these EVO applications and remained lower during this reporting period. For example, cis-1,2-DCE decreased from 1.4 mg/L in April 2012 to 0.0058 mg/L in January 2014. The presence of ethene at well OB15-S (**Table 4**) and the decreased concentration of daughter products indicate that complete degradation is occurring in the area and further treatment is not warranted.
- 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 and several additional permanganate treatment events have been conducted, most recently in 2012. This rebound effect is often observed due to the permanganate injections re-solubilizing VOCs bound to soil particles, or due to additional VOCs migrating from an upgradient location following consumption of the residual permanganate. The October 2013 analytical data indicates that limited rebounding has occurred at OB12-DO. The TCE concentrations increased from non-detect in November 2012 and April 2013 to 18 mg/L in October 2013. Results of a sample collected from OB12-DO in October 2013 indicated that the permanganate concentration at

this well decreased to non-detect (**Table 5**). This suggests that permanganate in the area of OB12-DO has been consumed by migration of VOCs from an upgradient location. The October 2013 TCE concentration still represents an approximate 85 percent reduction from the highest detected TCE concentration at OB12-DO, but the October 2013 TCE concentration is approaching the remedial planning criteria. Consistent with the remedial goals, if VOC concentrations increase above the remedial planning criteria, additional treatment will be conducted.

- Deep overburden well AP26-DO, located west of Building 2, received permanganate treatment in 2004. Following that treatment concentrations of VOCs at this well have fluctuated, with the level of TCE detected in 2011 and 2012 near the remedial planning criteria. 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 rebounded to 17 mg/L. Additional treatment was conducted at well AP26-DO during this reporting period to address the increased TCE level. In response to this treatment, concentrations of TCE and PCE reduced to non-detectable in October 2013. Analytical data from April 2014 will be evaluated to determine if further treatment is warranted.
- At deep overburden well OB19-DO, located just west of Building 1, VOC concentrations had been relatively consistent since 2010. However, as discussed in the previous status report, 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). In April 2013, the TCE concentration decreased to 3.8 mg/L, likely in response to permanganate treatment conducted at nearby well AP26-DO in 2012. Additional treatment was conducted at well AP26-DO during this reporting period and the TCE concentrations in OB19-DO decreased slightly to 2.4 mg/L in October 2013. The October 2013 concentration of TCE at OB19-DO represents a 98% reduction from the historic high levels at this well.
- At bedrock well OB25-BR, located west of Building 1, rebounding effects have been observed in the past as permanganate has been consumed. Permanganate injections were conducted at OB25-BR during the 2012 treatment period and PCE, TCE and cis-1,2-DCE concentrations decreasing to non-detectable levels in November 2012 and remaining non-detectable in April 2013. A slight rebound in VOC concentrations was observed in October 2013 as the residual permanganate at OB25-BR was consumed. For example, the TCE concentration increased to 1.1 mg/L and the cis-1,2-DCE concentration increased to 4.4 mg/L in October 2013. These concentrations remain below the remedial planning criteria and the October 2013 TCE concentration indicates a 95% reduction over the historic high level. These data indicate that additional treatment is not warranted.
- Bedrock well OB27-BR, located near the south west corner of Building 7, received permanganate injections in 2010 and in early 2011 to address increased concentrations of VOCs. Following some rebound in late 2011 and early 2012, additional permanganate injections were conducted at OB27-BR during the 2012 treatment period. In response to this treatment, TCE and PCE concentrations decreased to non-detectable concentrations in November 2012 and TCE remained non-detectable in October 2013. This indicates that further treatment is not warranted at this time.
- Deep overburden well OB34-DO, located just north of Building 3, last received permanganate treatment in August 2009. VOC concentrations at this well appear to have stabilized below the remedial criteria. For example, the TCE concentration at OB34-DO has ranged from 7.6 mg/L to 11 mg/L between October 2011 and October 2013.

- Deep overburden wells AP30R-DO, AP31-DO and AP32-DO, located just north of Building 3, were installed to treat deep overburden groundwater beneath Building 3. Permanganate treatment was conducted in 2010 and 2011 at all three wells and again at wells AP31-DO and AP32-DO in 2013. The concentration of TCE at AP30R-DO decreased from pre-treatment levels of 680 mg/L to non-detectable in November 2011 and remained non-detectable through November 2013. However, in January 2014, an increase in VOC concentrations was observed (TCE increased to 17 mg/L). After initial decreases in VOC concentration at AP32-DO were observed, the TCE concentration increased to 370 mg/L in April 2013. Therefore, further treatment was conducted at AP32-DO and AP31-DO in 2013. VOC concentrations responded well to treatment and decreased to non-detectable or low concentrations in October 2013 (TCE was non-detectable at AP31-DO and detected at 0.049 mg/L in AP32-DO). Analytical data from April 2014 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 in 2013. In response to this treatment, the concentration of PCE reduced to non-detectable and the TCE level decreased to 0.012 mg/L in October 2013. Analytical data from April 2014 will be evaluated to determine if further treatment is warranted.
- 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 to 39 mg/L in April 2012. This TCE level suggested that further treatment was warranted and therefore 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 and remained similar at 0.0022 mg/L in October 2013. At bedrock well AP12-BR, concentrations of PCE and TCE were non-detectable in October 2013 and have been non-detect for the past eight sampling events.
- In May 2013 at deep overburden well AP23-DO, located near Building 3, the concentration of TCE was 510 mg/L, PCE was 47 mg/L and acetone was 79 mg/L. Bioremediation injections were conducted in this area at wells AP33-DO, AP34-DO, and AP35-DO in October 2013 to address elevated VOC concentrations in groundwater. In January 2014, the concentrations of TCE, PCE and acetone at well AP23-DO decreased to 390 mg/L, 40 mg/L and 23 mg/L, respectively. An increase in daughter products cis-1,2-DCE and vinyl chloride in January 2014 in AP23-DO and high level of ethene indicates that the PCE and TCE decreases are likely the result of reductive dechlorination. Analytical data from April and July 2014 will be evaluated to determine if additional lactate injection is needed to sustain reductive dechlorination of PCE and TCE. The decrease in the acetone concentration observed at AP23-DO may also be the result of bioremediation; however, breakdown products of acetone degradation are difficult to monitor.
- Deep overburden wells AP13-DO and AP24-DO are also located near the northeast corner of Building 3 where bioremediation injections were conducted in October 2013. At well AP13-DO, the TCE, PCE and TCA concentrations in January 2014 were similar to the April 2013

- level (350 mg/L vs. 330 mg/L, 60 mg/L vs 87 mg/L and 26 mg/L vs. 26 mg/L, respectively). Only low concentrations of ethene and ethane were noted in January 2014, suggesting that reductive dechlorination of TCE, PCE and TCA may not be occurring. However, a decrease in the acetone concentration was noted at well AP13-DO (62 mg/L in April 2013 vs. 20 mg/L January 2014). This may indicate bioremediation of acetone is occurring. At well AP24-DO, the January 2014 sampling results suggest only limited reductive dechlorination of TCE and TCA is occurring. Cis-1,2-DCE and ethene were present in groundwater at AP-24DO, but the TCE, PCE and TCA concentrations were similar to those observed in the prior sampling event in April 2012 (e.g. TCE was 240 mg/L in April 2012 and 280 mg/L in January 2014). Although sample results from January 2014 indicate lactate is present at wells AP13-DO and AP24-DO, the results also indicate a strong DHC culture has not yet established. Analytical data from wells AP13-DO and AP24-DO from April 2014 will be evaluated to further assess if reductive dechlorination is occurring in this area. If DHC is not present at these wells then application of this culture will be completed to facilitate reductive dechlorination.
- New deep overburden wells AP33-DO, AP34-DO, and AP35-DO were sampled in January 2014, after the application of lactate at these wells in October 2013. Significant reductions in the TCE concentrations were noted at wells AP34-DO and AP35-DO between the baseline sampling conducted in September 2013 and January 2014. For example, the TCE concentration reduced from 98 to 6.3 mg/L at AP25-DO. The presence of ethene in January 2014 at both AP34-DO and AP35-DO indicate that complete degradation is occurring. At well AP33-DO, concentrations of TCE, PCE and TCA increased from September 2013 to January 2014. However, the concentrations of daughter products for both TCE and TCA increased, and both ethene and ethane were present. These data indicate the lactate injections have solubilized TCE and TCA adsorbed to soil in the formation and that reductive dechlorination of TCE, PCE and TCA is occurring as the compounds move into the dissolved state. Analytical data from wells AP33-DO, AP34-DO and AP35-DO from April 2014 will be evaluated to assess if additional lactate injection is needed to sustain reductive dechlorination of PCE and TCE.
 - In the stream adjacent to Building 9, the Unnamed Stream sample location continues to indicate fluctuating concentrations of VOCs (last sampled in April 2013). This is expected due to the ongoing bioremediation program in the adjacent shallow groundwater aquifer. Just downstream at the STR-3 stream sample location, VOC concentrations were non-detectable in October 2013. The non-detectable levels of VOCs 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 in the shallow groundwater aquifer.

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 and 2011 to 2013. Permanganate injection during this reporting period is discussed in section 2.2. The most recent groundwater sampling results for this area demonstrate that:

- VOC concentrations responded to treatment at AP27-DO in 2012, with TCE decreasing to non-detectable in November 2012. A slight increase to 0.0039 mg/L was observed in April 2013 and an additional increase to 5.5 mg/L was observed in October 2013. The PCE concentration at AP27-DO has increased from non-detect in November 2012 to 0.33 mg/L in October 2013. The concentration of both TCE and PCE remain below the historic high concentrations.

- 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 mg/L, to non-detectable in October 2013. The concentration of PCE at well OB35-DO had remained elevated and increased to 47 mg/L in April 2013 despite permanganate injections in 2011 and 2012. 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 in 2013 to address the elevated PCE level. In response to this treatment, the PCE concentration reduced to 0.007 mg/L in October 2013.
- A new shallow groundwater monitoring well OB44-S was installed inside Building 5 in December 2013 (see section 2.6). Groundwater analytical results from samples collected on January 7, 2014 indicated the presence of TCE and PCE at concentrations of 24 mg/L and 47mg/L, respectively. These concentrations are just below the remedial criteria; however, they indicate a more significant level of VOC impact in the shallow overburden in this area than was previously measured. For example, at well B-2, located upgradient of OB44-S, a TCE concentration of 0.4 mg/L and a PCE concentration of 0.011 mg/L were observed in October 2013. These data indicate that further evaluation of potential indoor air impacts may be warranted in the Building 5 area.
- TCE and PCE concentrations at deep overburden well OB38-DO, located on the east side of Building 5, have shown fairly consistent VOC concentrations over recent years at levels well below the remedial planning criteria. The October 2013 sampling indicated a decrease in concentrations. For example, TCE decreased from 0.62 mg/L in April 2013 to 0.014 mg/L in October 2013.

PSL 10 Treatment Area

This area is located to the south of the Building 5 area, adjacent to the 32 Tozer Road property. Permanganate injections were conducted in this area from 2002 to 2004, from 2006 through 2008 and in 2011. Several wells in the PSL 10 area, including MW1-32Tozer, MW4-32Tozer, OB16-S, OB16-BR, and OB24-S exhibit low or decreased VOC concentrations and therefore were not sampled during this reporting period. The most recent groundwater sampling results for this area demonstrate that:

- Concentrations of PCE and TCE at deep overburden well AP-19 exhibit seasonal fluctuation, with a higher concentration noted in the spring compared to the fall. For example, the PCE concentration decreased at AP-19 from 1.3 mg/L in May 2013 to 0.17 mg/L in October 2013. At shallow well AP-20, the October 2013 sampling event indicated an increase in the PCE concentration from 0.39 mg/L in May 2013 to 7.9 in October 2013. Although the concentration of PCE detected at AP-20 in October 2013 is below the remedial criteria, this level is the highest concentration detected at this well. Deep overburden well AP-21 also showed an increase in PCE concentrations from non-detectable in May 2013 to 0.19 mg/L in October 2013. At shallow overburden well AP-22, concentrations of PCE and TCE have been non-detectable over multiple events including October 2013. Analytical data from April 2014 will be evaluated to determine if further treatment may be warranted in the PSL 10 area.
- 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. For example, the PCE concentration decreased from 1.3 mg/L in April 2013 to 0.11 mg/L in October 2013.

- TCE and PCE concentrations remain non-detectable in October 2013 at deep overburden well CL10-DO. A slight increase in TCE concentration from non-detectable to 0.0031 mg/L was noted in bedrock well CL10-BR in October 2013.
- 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 October 2013 at MW2-32Tozer were 8.1 mg/L and 1.2 mg/L, respectively. 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).

Tozer Road Treatment Area South of 128

Prior to this reporting period permanganate injections were last performed at 28 Tozer Road in 2006. Permanganate injection was conducted during this reporting period at CL3-DO, located on the 28 Tozer Road property. Several wells in the Tozer Road Treatment Area south of Route 128, including CL3-S, OB4-S, OB4-BR, OB5-S, OB5-BR and zone well BR5 exhibit low or decreased VOC concentrations and therefore were not sampled during this reporting period. The most recent groundwater sampling results for this area demonstrate that:

- At deep overburden well CL3-DO, located on the 28 Tozer Road property, the detected concentrations of TCE and PCE increased to 30 mg/L and 10 mg/L, respectively in April 2013. This concentration of TCE exceeded the remedial planning criteria of 25 mg/L. Permanganate treatment was conducted at well CL3-DO during this reporting period to address the increased VOC concentrations. In response to this treatment, concentrations of TCE and PCE reduced to non-detectable in October 2013. Analytical data from April 2014 will be evaluated to determine if further treatment is warranted.
- Well OB43-S is located at 27 Tozer adjacent to the existing building and is monitored to assess potential indoor air exposure. Since installation in 2011, VOC concentrations at this well have been below or just above method detection limits. In October 2013, VOCs were non-detectable at OB43-S.
- Well OB42-S is located adjacent to the building at 30 Tozer and is monitored to assess potential indoor air exposure. VOC results from this well in October 2013 indicate the presence of TCE, PCE, and cis-1,2-DCE at concentrations of 2.2 mg/L, 0.081 mg/L and 0.6 mg/L, respectively. These concentrations are generally consistent with the levels observed in the previous sampling events at OB42-S.

31 Tozer Road Treatment Area

Shallow groundwater permanganate treatment was conducted in 2002 and 2003 and deep overburden permanganate injection occurred in this area in 2004. Several wells in the 31 Tozer Road Treatment Area, including OB8-S, OB8-DO, OB18-DO and GZ-4 exhibit generally consistent VOC concentrations and therefore were not sampled during this reporting period. The most recent groundwater sampling results for this area demonstrate that:

- Shallow wells AP15-S and OB18-S, located at 31 Tozer Road, were sampled during the October 2013 event. TCE and PCE concentrations were non-detectable at well AP15-S in October 2013 and the previous five sampling rounds. Concentrations of TCE have been non-detectable in shallow well OB18-S during four of the past five sampling rounds; however, results from October 2013 indicated a TCE concentration of 0.013 mg/L.

- Shallow monitoring well OB41-S is located at 39 Tozer, adjacent to the existing building. This well is monitored to assess potential indoor air exposure. VOC results from OB41-S in October 2013 continue to indicate concentrations consistent with previous sampling rounds. VOC results in October 2013 indicate the presence of TCE, PCE, and cis-1,2-DCE at concentrations of 0.089 mg/L, 0.021 mg/L and 0.035 mg/L, respectively.
- 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 consistent over the last two years at relatively low concentrations. In October 2013, TCE was detected at a concentration of 0.035 mg/L at STRHA-7A and 0.0082 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. Several wells in the Longview/Hill Street Treatment Area, including OB20-S, OB20DO, OB21-BR, and zone well BR-6 exhibit low or decreased VOC concentrations and therefore were not sampled during this reporting period. 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 well P-9R in October 2013. At well P-19A, concentrations of PCE, TCE, and cis-1,2-DCE have remained relatively consistent and at low levels; however, PCE and TCE decreased to non-detectable concentrations in October 2013. VOC concentrations have been non-detectable in OB20-S for several years; however, in October 2013 a slight increase in the TCE and cis-1,2-DCE concentrations was noted (0.003 mg/L and 0.0029 mg/L, respectively).
- At stream monitoring point STRM-A-SCDS, located east of Longview Terrace, the VOC concentrations have been generally consistent at low levels over recent sampling events. In October 2013, TCE and cis-1,2-DCE were detected at 0.019 mg/L and 0.0092 mg/L, respectively.

2.2 Groundwater Permanganate Treatment Program

The permanganate injections in 2013 were focused on reducing VOC concentrations and minimizing potential contaminant migration from source areas at the Site by treating areas with VOC concentrations that exceeded 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 were selected for permanganate treatment during the 2013 treatment program included: 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, but did show an increase in VOC concentrations, 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 and continued until December 11, 2013. Volumes of sodium permanganate injected during this reporting period (784.5 gallons) as well as total volume injected during the 2013 treatment program are summarized on **Table 6**.

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 CB&I 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 and then allowed to flow by gravity into the wells.

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.

Personal protective equipment (PPE) generated during permanganate injections as well as absorbent pads used for cleanup during permanganate injection equipment were placed into 55-gallon polyethylene drums onsite. Materials were neutralized with a solution of hydrogen peroxide, vinegar and water prior to storing in the drum. This drum was stored within the storage shed equipped with spill containment and inspected periodically. The drum was transported to Enpro Services of Maine for proper off-site disposal under a Non-Hazardous Waste Manifest on March 20, 2014. A copy of the Non-Hazardous Waste Manifest is included in **Appendix E**.

2.2.2 Permanganate Parameter Monitoring and 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 October 2013. Groundwater samples were collected from select wells in October 2013 for bench-top colorimetric permanganate concentration analysis. The permanganate analysis results are provided in **Table 5**. As discussed in the previous status report, elevated levels of permanganate were detected in April 2013 in wells where permanganate had been injected in 2012 (for example 17,000 mg/L at AP12-DO). Permanganate injections were not conducted in AP12-DO in 2013 and concentrations of permanganate had dropped significantly to 180 mg/L in October 2013. As would be expected, samples from wells where permanganate injection was conducted in 2013 indicated residual permanganate was present in October 2013. For example, permanganate injections were conducted in AP32-DO in 2013 and concentrations of permanganate increased from non-detectable in April 2013 to 590 mg/L in October 2013.

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 AP31-DO located north of Building 3, where permanganate injections were conducted during the summer/fall of 2013, dissolved iron was non-detectable in October 2013.

Generally, elevated dissolved manganese concentrations (**Table 3**) are noted where unreacted permanganate was observed. For example, at well AP12-BR located adjacent to Building 6, permanganate was present at approximately 1,100 mg/L in October 2013 and dissolved manganese was detected at a concentration of 230 mg/L in October 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 2013, the dissolved manganese concentration was 2.3 mg/L in October 2013.

Baseline chloride concentrations at the site were highly variable. 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 CL3-DO, located at 28 Tozer Road, where permanganate treatment was conducted in 2013. At CL3-DO, TCE decreased from 30 mg/L in April 2013 to non-detectable in October 2013. Chloride at well CL3-DO increased from 58 mg/L in 2006 to 302 mg/L in October 2013 (**Table 3**).

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. 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 January

2014, 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 the shallow overburden in this area is not warranted at this time.

2.3.1 Lactate Injections

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 during the last reporting period and discussed in the previous status report. New injection wells AP33-DO, AP34-DO and AP35-DO (**Figure 3**) were installed in an effort to increase the ability to apply more lactate to the deep overburden aquifer and thereby provide a sufficient carbon source to sustain reductive dechlorination. As discussed in the previous status report, soil cuttings and well development water produced during the groundwater well installation were stored in 55-gallon drums onsite. On November 8, 2013, these drums were transported under a Hazardous Waste Manifest by Veolia Technical Solutions to their facility in Port Arthur, TX for incineration. A copy of the Manifest is included in **Appendix E**.

The 2013 bioremediation injection program was initiated on October 7, 2013 and lasted until October 30, 2013. The program included the application of DHC cultures SDC-9 and TCA-20 seeded into a sodium lactate solution. The sodium lactate solution was created by diluting Wilclear Plus Sodium Lactate with groundwater from wells in the treatment area and potable water in an 800 gallon pillow tank to an appropriate dilution. The lactate mixture was seeded with DHC cultures, and provided one to three days for the culture to become active. Once an active culture was established, the lactate was applied into target wells under pressurized flow conditions using a pump. Application was performed at deep overburden wells AP33-DO, AP34-DO, and AP35-DO to facilitate complete reductive dechlorination of TCE, TCA and acetone in the area. A total of 2,132 gallons of sodium lactate solution was injected during this reporting period. A summary of the volumes of solution injected by well during this reporting period is provided in **Table 7**.

The pillow tank, hoses, portable containers, pump, and all associated equipment were periodically inspected during injection activities and rinsed with potable water prior to each injection event. The system was also kept air tight to facilitate an anaerobic environment for the cultures. No problems or releases were noted with the tanks and hoses during bioremediation activities.

2.3.2 Bioremediation Parameter Monitoring Results

Bioremediation injections were most recently conducted in October 2013 in the deep overburden east of Building 3. Following these activities, field parameters such as ORP, pH and DO were monitored to assess if appropriate conditions for reductive dechlorination were present in the treatment area. VOCs and bioremediation parameters (methane, ethane, ethene and total organic carbon) in groundwater samples are analyzed quarterly to monitor reductive dechlorination processes. During this reporting period, sampling was conducted in January 2014 in the deep overburden east of Building 3. Bioremediation parameters are summarized on **Table 4**.

As discussed in Section 2.1.2, some VOC concentrations remain elevated in the deep overburden in the northeast corner of Building 3. However, the detection of daughter products and the presence of ethene in the deep overburden indicate that some complete degradation of VOCs is occurring after bioremediation injections in November 2013. The January 2014 data indicates the deep bioremediation injection conducted at well AP33-DO, AP34-DO and AP35-DO were successful in establishing culture activity in the deep aquifer and distributing lactate to the target wells particularly wells AP23-DO and AP24-DO where TOC concentrations were 2,270 mg/L and 1,520 mg/L in January 2014. Monitoring results that continue to support the conclusion that reductive dechlorination is occurring 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 January 2014 at wells AP23-DO and AP33-DO. Ethene is the non-toxic end product of complete dechlorination of VOCs, including vinyl chloride.
- Ethane concentrations were observed in January 2014 at wells AP23-DO, AP33-DO, and AP34-DO in the area. Ethane is an end product resulting from the complete degradation of 1,1,1-TCA.
- January 2014 analytical results showed a healthy *Dehalococcoides* bacteria population is present in deep overburden groundwater of the treatment area.

The data suggest that active reductive dechlorination is occurring in several deep wells. Due to elevated TCA and TCE levels in this area, additional lactate injection may be needed to continue reductive dechlorination. Results of the next two quarterly sampling events in the bioremediation area (April and July 2014) will be evaluated to determine if additional activities are needed to sustain reductive dechlorination.

2.4 Building 3 SVE System

The Building 3 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 and BLDG3-SVE2) installed beneath Building 3;
- one 5 horsepower blower;
- one moisture knock-out drum; and
- two 2,000-pound carbon vessels piped in series (with a spare third 2,000 pound carbon vessel)

The locations of the two SVE wells and the treatment system trailer are shown on **Figures 4 and 5**. 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 CB&I 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 photoionization detector (PID) to assess VOC recovery and off-gas treatment removal efficiency. The results of regular O&M system monitoring conducted from October 1, 2013 to March 31, 2014 are summarized in **Table 8**. During this monitoring period the average total flow rate for the SVE system was approximately 157 cubic feet per minute (cfm), with an average pretreatment total VOC concentration of 5.4 parts per million (ppm). VOC recovery continues to be higher at extraction well BLDG3-SVE2, with an average concentration of approximately 7 ppm during this reporting period.

Table 8 also includes calculated off-gas removal efficiency, which demonstrates greater than 95 percent removal of VOCs from the vapor discharge was maintained by the carbon vessels during this reporting period 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 October 8, 2013, approximately 2,000 pounds of spent carbon were removed from the off-line Building 3 carbon treatment vessel and new GAC was installed. The vessel had been taken offline after breakthrough was noted on September 27, 2013 (as discussed in the previous status report). The spent Building 3 carbon was stored in 55-gallon drums onsite pending off-site transportation and disposal.

On December 15, 2013, an alarm notice was received indicating the SVE system had shut down due to low vacuum. Upon arrival to the site the following day the Building 3 SVE system was inspected and appeared to be in operational. The system was restarted and observed to be operating normally.

On December 5 and 18, 2013, screening of soil vapor from the primary carbon vessel effluent indicated potential breakthrough of the primary carbon (**Table 8**). Monitoring of the secondary carbon effluent (discharge to atmosphere) on both dates indicated greater than 95 percent treatment of VOC. A carbon change out was already scheduled for December 23, 2013 at which point the vessel could be taken off-line and carbon replaced.

On December 23, 2013, the system was temporarily shut down and approximately 2,000 pounds of spent carbon were removed from the primary vessel and new carbon was installed. The spent Building 3 carbon was transported off site for regeneration at Siemens Water Technologies Corporation in Parker, Arizona. This shipment also included the approximately 2,000 pounds of spent GAC stored in drums on-site from the October 8, 2013 carbon service of both the Building 3 and the Building 5 SVE systems (a total of 6,000 pounds). A copy of the Uniform Hazardous Waste Manifest for the shipment of carbon is provided in **Appendix E**. The off-line vessel with new carbon remained on site as a stand-by in the event that vapor screening indicates carbon breakthrough.

On January 2, 2014, an alarm notice was received indicating the SVE system had shut down due to high vacuum. Upon arrival later that day the Building 3 SVE system was inspected. Ice, which had restricted the vacuum flow, was removed from the system hoses. The SVE system was restarted and observed to be operating normally.

On January 13, 2014, an alarm notice was received indicating the SVE system had shut down due to high vacuum. Upon arrival later that day the Building 3 SVE system was inspected and water, which had restricted the vacuum flow, was removed from the system hoses. The SVE system was restarted and observed to be operating normally.

On January 27, 2014, PID screening of soil vapor from the primary carbon vessel effluent indicated potential breakthrough of the primary carbon (**Table 8**). The primary carbon vessel was taken offline and the stand-by carbon vessel was brought into service as the new secondary treatment vessel and the secondary treatment vessel configured as the primary. The SVE system was then reactivated and monitoring of the secondary carbon effluent (discharge to atmosphere) on this date indicated greater than 95 percent treatment of VOC.

On February 25, 2014, approximately 2,000 pounds of spent carbon were removed from the off-line Building 3 vessel and new carbon was installed. The spent Building 3 carbon was 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 E**. The off-line vessel with new carbon remained on site as a stand-by 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 9** and illustrated in **Figure 6**. Since the SVE system has activated in December 2009 it has removed an estimated 1,378 pounds of VOCs from beneath Building 3. During this reporting period a total of approximately 84 pounds of VOCs were removed by the Building 3 SVE system. A decrease in VOC recovery has been noted during this reporting period which may be due in part to a decreased flow rate during the winter months from moisture and ice buildup in the SVE system piping. However, a general decreasing trend in the mass removal rate has been observed since September 2013. A temporary shutdown of the system is scheduled for April 2014 to conduct soil vapor and indoor air sampling without the system being

operational. Once the planned sampling is conducted, the system will be reactivated. Following review of those sample results, recommendations will be made regarding the future operation of 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 8** for the current reporting period and the locations of the sub-slab vapor monitoring are illustrated on **Figure 5**. Results of this monitoring indicate 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 November 1, 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 5**. Each sample was collected using evacuated Summa[®] canisters over a four-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 10**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

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

- TCE was detected at concentrations ranging from 11 micrograms per meter cubed (ug/m^3) at BLDG3-VP2 to $290 \text{ ug}/\text{m}^3$ at BLDG3-VP1;
- PCE was detected at concentrations ranging from $31 \text{ ug}/\text{m}^3$ at BLDG3-VP2 to $1,000 \text{ ug}/\text{m}^3$ at BLDG3-VP1; and
- cis-1,2- DCE was detected at a concentration of $19 \text{ ug}/\text{m}^3$ at BLDG3-VP3.

Additional VOCs detected in sub-slab soil vapor samples collected from beneath Building 3 in November 2013 include acetone (up to $160 \text{ ug}/\text{m}^3$), carbon tetrachloride (at $0.54 \text{ ug}/\text{m}^3$), and chloroform (up to $16 \text{ ug}/\text{m}^3$).

A slight increase in VOC concentrations had been noted in prior soil vapor samples collected in August 2013 at these locations. The November 2013 analytical data showed a decrease in VOC concentrations at the three sampling locations. Overall, VOC levels in soil vapor are lower than historic high concentrations. For example, PCE at BLDG3-VP1 has decreased from $2,100 \text{ ug}/\text{m}^3$ in February and June 2011 to $1,000 \text{ ug}/\text{m}^3$ in November 2013 and PCE at BLDG3-VP3 has decreased from $36,000 \text{ ug}/\text{m}^3$ in August 2010 to $620 \text{ ug}/\text{m}^3$ in November 2013.

In conjunction with the November 1, 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 an eight-hour sampling interval. The indoor air sampling locations are also illustrated on **Figure 5**. 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 11**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

Analytical results of the November 1, 2013 indoor air samples collected from the Building 3 area indicated:

- TCE was detected at concentrations ranging from 0.39 ug/m³ in BLDG3-3 to 5.7 ug/m³ in BLDG2-6;
- PCE was detected at concentrations ranging from 0.84 ug/m³ in BLDG3-3 to 22 ug/m³ in BLDG2-6;
- carbontetrachloride was detected at concentrations ranging from non-detectable in BLDG2-6 to 0.58 ug/m³ in BLDG3-3; and
- acetone was detected at concentrations ranging from 400 ug/m³ in BLDG3-3 to 1,100 ug/m³ in BLDG3-2.

Detected concentrations of VOC in indoor air samples from the Building 3 area remain below historic high levels. As demonstrated by the evaluation presented in section 4.1 below, the November 2013 indoor air results demonstrate that operation of the Building 3 SVE system continues to maintain a condition of No Significant Risk.

The concentrations of PCE detected at indoor air sample location BLDG2-6 in November 2013 (22 ug/m³) indicated an increase compared to results from the last several sampling events; although this level is below the historic high of 40 ug/m³. It appears that operation of the Building 3 SVE system has not had a significant effect on the levels of VOC detected in indoor air in the Building 2 basement. The Building 3 SVE system was designed to address the higher levels of VOC detected in indoor air in the northeast end of Building 3 (e.g. BLDG3-4 where PCE was detected at 72 ug/m³ in 2009). Additional soil vapor and indoor air sampling in the basement of Building 2 is planned in April 2014 to assess potential pathways for VOC migrating into the basement. Analytical results of this testing will be evaluated to determine warranted steps to address potential indoor air impacts in the Building 2 basement.

2.5 Building 3 Investigation Activities

A portion of Building 3 is still used as a chemical laboratory (**Figures 4 and 5**) by the current operator CPI. Historically, wastewater containing acids, cyanides, and solvents from this area were reported to have been discharged through a floor drain system, to an inspection sump and then to the Unnamed Stream northeast of Building 3 prior to the installation of the on-site wastewater treatment system in 1972. Piping associated with this drainage system was reported to have leaked to the environment and therefore was investigated as a potential VOC source area in the Phase II Comprehensive Site Assessment (IT, 2001). However, due to on-going manufacturing operations within the building, most previous environmental assessment was performed around the building perimeter. Given the post-treatment VOC concentration increases measured recently in certain monitoring wells in the Building 3 area, additional investigation of the actual former utility trenches below the chemical laboratory was conducted during the previous and the current reporting period. The additional investigation performed during this reporting period included conducting internal drain line inspections (using a small diameter television camera) to determine the conditions of the piping and potential release locations. This inspection information will be used to focus future remedial actions and target specific release locations

for additional treatment. The chemical laboratory (Chem Lab) is referred to as PSL 11 and is illustrated along with the former inspection sump, referred to as PSL 9 on **Figure 5**.

2.5.1 October 29, 2013 Drain Line Inspection

To evaluate whether former drainage structures beneath Building 3 are acting as a continuing source of VOC impact to groundwater (e.g. through leaching of run-off from the roof drain system which ties into the former drainage system), Varian conducted drain line investigations in July 2013 which were discussed in previous status reports. Additional drain line investigations were conducted during this reporting period in an effort to further evaluate former subsurface drainage structures and to focus additional remedial efforts. These additional assessment activities are summarized below.

East Coast Pipelines conducted a video inspection at several underground drain lines in the Building 3 area on October 29, 2013 under the direction of CB&I. Figures, photographs and screen shots from the inspection activities are included as **Appendix F**.

The connection from between Drain Line 2 and Drain Line 3 identified during the July 2013 video inspection was excavated using hand tools and a vacuum excavator to conduct additional video inspection of these lines on October 29, 2013 (**Figure 1 and 2, Appendix F**). This connection was encountered approximately four feet below grade. Soil around this connection did not exhibit signs of potential VOC impact. When the interior of this connection was accessed, vapor in the pipe was monitored with a PID and also did not indicate the presence of VOC.

Drain Line 2 (Beneath Building 3 and 6)

Drain line 2 was accessed from the excavation outside of Building 3 (**photograph A, Appendix F**). This line consisted of an eight-inch diameter clay pipe which was traced in a southeasterly direction towards Building 6 for approximately 114 feet from the access point (**Figures 1 and 2, Appendix F**). Inspection beyond this distance could not be completed due to friction in the line and distance from the starting point. Through the course of drain line 2, the pipe appeared to be in generally good condition with one broken bell joint noted at approximately 91 feet (**screen shot 1, Appendix F**). Several of the pipe joints were offset (**screen shot 2**) and cracks were noted at the connection to drain line 1 (**Screen shot 3**). Sediment was generally only noted in the initial 10 to 20 feet of drain line 2, with some water noted in the further section of the line. The connection to drain line 1 from the Building 1 roof drains was noted at approximately 11 feet (**screen shot 3**) and a second unknown connection was observed at approximately 50 feet (**screen shot 4**).

These observations indicate that drain line 2 is not liquid tight and may have been a source to the environment if VOCs were disposed of in this drain line. Drain line 1 and 2 provide some limited flushing of potentially VOC impacted vadose zone soil in the PSL 11 area as a result of flow from the Building 1 roof drains.

Drain Line 3 (Outside of Building 1 and 2)

Drain line 3 was also accessed from the excavation outside of Building 3 (**photograph A**). This line, which consisted of a four-inch diameter clay pipe, was traced in a northwesterly direction for approximately 24 feet from the access point. At this location, the line elbowed up and was capped at

grade at the east wall of Building 1 (**Figure 1 and 2, Appendix F**). The former use of this line is not known; however, a 1951 facility plan suggests this may have been part of a roof drain. Through the course of drain line 3, the pipe appeared in good condition; however, several of the pipe joints were significantly offset (**screen shot 5**), indicating the pipe is not liquid tight. A potential Y connection was noted at approximately 18 feet from the access point and sediment was observed from that point until the line elbowed up to grade (**screen shot 6**).

Based on these observations, drain line 3 did not appear liquid tight and may have been a source to the environment if VOCs were disposed of in this drain line. Drain line 3 may provide some limited flushing of potentially VOC impacted vadose zone along its length outside of the buildings as a result of its connection to the roof drain system connected to drain line 2.

Drain Line 4 (Former Roof Drain Northeast Side of Building 3)

Subsurface drain line 4 formerly received storm water from the roof drains on Building 3 (see **Figure 1 and photograph B in Appendix F**). The line consisted of a four-inch diameter clay pipe. Upon entering the pipe a 90 degree elbow was encountered approximately 2.5 feet below grade. The pipe, which contained a significant amount of sediment, gravel and leaves, proceeded in an easterly direction. Inspection continued for approximately 27 feet from the access point with varying amounts material observed in the pipe, at points nearly filling the interior cross section of the pipe (**screen shot 7**). At the furthest extent of inspection of drain line 4, the line was approximately 3.5 feet deep and appeared to be heading towards a sewer manhole. However, due to the amount of gravel and sediment in the pipe, a complete assessment of the pipe condition could not be performed. However, the portions that were visible appeared to be in good condition (**screen shot 8**).

Drain Line 5 (Roof Vent of Former Chem Lab Waste Line)

Video inspection of a former vent line (vent 1) was also conducted on October 29, 2013. This vertical vent was accessed from inside the Chem Lab (see **Figures 1 and 2, Appendix F**). An obstruction had been encountered 0.7 feet below the floor during the July 17, 2013 video inspection, but this obstruction was removed during the October 2013 inspection. Inspection beyond the obstruction indicated drain line 5 consisted of a four-inch diameter PVC pipe that was in good condition, including the joints between each section of pipe. Some potential blistering was noted in portions of drain line 5 (**screen shot 9**). Drain line 5 was traced through the Chem Lab (roughly along the former utility trench) and exits the building in a north-northeasterly direction through the former inspection sump (see **photograph C**). The line then turns east-northeast following the building and turns southeasterly heading towards the waste water treatment plant in Building 9. Approximately 190 feet of this line was inspected. Inspection beyond this distance could not be completed due to friction in the line and distance from the starting point. Based on the path of drain line 5 and discussions with CPI personnel, it appears that this line is one of the inactive waste water discharges lines installed in approximately 1972. Through the course of drain line 5 varying amounts of sediment were noted, with a more significant amount being observed in first 20 to 30 feet of pipe inspected (**screen shot 9**). One potential connection to this line was noted at approximately four feet (**screen shot 10**) and one unknown connection was observed inside the Chem Lab at 11 feet from the vent (**screen shot 11**). Inside the Chem Lab, the pipe was three feet below the floor. Once drain line 5 exits the sump outside of the building, the line elbowed down, running approximately 3.5 feet below grade. Outside of the building, water was encountered in the line approximately 10 feet from the

sump (**screen shot 12**). It was reported by CPI that when the line was removed from service in approximately 2002, the line was rinsed with potable water, but not all of the water could be removed. It appears that the water present in this line was from decommissioning activities rather than groundwater or residual waste water. Screening of vapor from inside the pipe did not indicate detectable levels of VOCs. When the camera was removed sediment and liquid on the unit did not exhibit an odor.

Based on the video inspection, drain line 5 appeared in good condition and may be water tight. It does not appear that this line is a potential source of VOC impact.

Drain Line 6 (North of Building 3)

Drain line 6 is a four-inch diameter cast iron pipe on the northeast side of Building 1. Currently this line receives blow-off condensate from a boiler in Building 3 and sewage from Building 1. Connection of this line to a sewer manhole northeast of Building 3 was confirmed. The pipe was accessed for inspection at the potential former roof drain location on the outside wall of Building 1 (see **Figures 1 and 2** and **Photograph D in Appendix F**). Drain line 6 is located approximately 4.5 feet below grade and was traced from the east side of Building 1 to the east-northeast for approximately 158 feet. Drain line 6 changes to clay pipe within the first few feet. The initial cast iron pipe is in poor condition with significant corrosion observed (**screen shot 13**). The clay pipe appears in fair to poor condition with some pitting observed. At approximately 15 feet from the access point, a separated joint was observed (**screen shot 14**). At approximately 28 feet, a connection was observed (**screen shot 15**). This connection to Drain Line 6 coincides with the location of a cast iron pipe that exits the Building 3 Chem Lab inspection sump (i.e. former waste water line predating the 1972 line). At approximately 30 feet, an offset joint was noted (**screen shot 15**). A broken, offset joint was observed at approximately 34 feet (**screen shot 16**) and an offset joint with a cracked bell joint was noted at 39 feet in drain line 6 (**screen shot 17**). When tap water was poured down drain line 6, a significant volume of the water appeared to leak out of the broken pipe joint noted at 34 feet. From approximately 100 feet to the end of the inspection, roots were noted growing through the pipe joints (**screen shot 18**). The amount of root penetration at the joints increased with distance to the point that root balls were observed from approximately 153 feet to the extent of inspection (**screen shot 19**).

These observations indicate that drain line 6 is not liquid tight and has several areas of potential discharge to the environment. It appears that drain line 6 was connected to one of the two inactive pre-1972 waste water lines from the Building 3 Chem Lab where VOCs were likely discharged. Additional assessment of Drain Line 6 and the unconfirmed connection to the inactive pre-1972 waste water lines from the Building 3 Chem Lab were determined to be warranted and are discussed below.

2.5.2 December 27, 2013 Drain Line Inspection

On December 27, 2013, East Coast Pipelines conducted additional video inspection of drain lines in the Building 3 area under the direction supervision of CB&I. This inspection included the two pre-1972 cast iron drain lines from the Building 3 Chem Lab (identified as drain line 7 and 8). The inspection was conducted to confirm a potential connection to drain line 6 and to evaluate the potential that these lines were continuing to act as a source of VOC impact to groundwater.

Drain Line 7 (Beneath Building 3 Chem Lab)

Drain line 7 is a four-inch cast iron drain line that formerly received waste from operations in the Building 3 Chem Lab. This pipe was accessed for inspection from a clean out located in the inspection sump (**photograph E**). From the clean out the line leads down through the bottom of the pit; however, the line was full of soil and gravel after approximately eight inches and further inspection was not feasible towards the potential outfall at the stream. Inspection did proceed under Building 3 to the south-southeast. Drain line 7 proceeded south-southeast approximately four feet below the building floor (**Figure 2, Appendix F**). The line was dry with deposits on the walls and sediment generally noted throughout the inspection of this line (**screen shot 20**). The line appeared to be in poor condition with pitting, cracks and breaks observed (**screen shot 21**). At approximately 18.5 feet, an unknown connection to the east was noted (**screen shot 22**). This connection appears to coincide with a leg of the former utility trench in the Building 3 Chem Lab (**Figure 2, Appendix F**). At approximately 21.5 feet from the inspection sump, the line appeared to turn left, then back to the right. A potential hole was observed in the line at approximately 22.5 feet (**screen shot 21**). A second potential connection to the east was noted at approximately 27 feet from the inspection sump. At roughly 28 feet, debris and sediment was observed and increased until the inspection ended at approximately 32 feet from the sump (**screen shot 23**). At the end of the inspection, the pipe was located approximately two feet below the Chem Lab floor.

Based on this inspection of drain line 7, it does not appear that the line is a continuing source of VOC. However, the inspection did indicate areas where wastes may have been released. Those areas will be evaluated for potential treatment to address impacts to groundwater and indoor air in the Building 3 Area. In addition, the section of drain line 7 running from the sump to the stream will be inspected in an effort to evaluate locations where additional treatment may be warranted.

Drain Line 8 (Beneath Building 3 Chem Lab)

Drain line 8 is a four-inch diameter cast iron drain line that formerly received waste from operations in the Building 3 Chem Lab. This pipe was opened and accessed inside the inspection sump (**photograph E**). From the inspection sump, this pipe runs northwest for approximately 8 feet to where the connection to drain line 6 was confirmed. The northern section of drain line 8 was in poor condition with corrosion and pitting observed. This section of pipe contained sediment in the lower third of the pipe (**screen shot 24**). From the inspection sump, drain line 8 runs south-southeast beneath the Building 3 Chem Lab and appeared to be in poor condition with pitting and holes observed (**screen shots 25 and 26**). Drain line 8 has a gradual turn towards the west (**Figure 2, Appendix F**) and a potential connection to drain line 8 was noted at 25.5 feet (**screen shot 27**). A potential hole was observed in the bottom of drain Line 8 at approximately 27.5 feet (**screen shot 28**) and a potential connection to drain line 8 was noted at 31 from the inspection sump (**screen shot 29**). The inspection was completed for a distance of approximately 32 feet, where an obstruction was encountered. The obstruction appeared to be a piece of metal lodged in the pipe with deposits around the obstruction (**screen shot 30**). A potential connection to drain line 8 was also noted at approximately 32 feet from the inspection sump (**screen shot 30**). Drain line 8 was dry, with sediment and deposits noted in the bottom of the pipe through the length of the inspection.

Based on this inspection of drain line 8, it does not appear that the line is a continuing source of VOC. However, the inspection did indicate areas where wastes may have been released previously. Those areas will be evaluated for potential treatment to address impacts to groundwater and indoor air.

2.6 Building 5 Investigation Activities

During this reporting period, additional subsurface investigations were conducted in the Building 5 area in an effort to assess a former utility trench which may have been a source of VOC impacts to both groundwater below Building 5 as well as potential impacts to sub-slab soil vapor and indoor air in Building 5.

On December 30, 2013, CB&I supervised the installation of two soil borings (BLDG5-SV4 and OB44-S) within Building 5 (**Figure 7**). These soil borings were located to assess potential shallow soil and soil vapor impacts from a utility trench. The soil borings were advanced by Geosearch Environmental Contractors of Fitchburg, Massachusetts using a direct push drilling method. 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. During drilling operations, 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 G**. Soil encountered during drilling included approximately four feet of fill material over a dense sand and gravel till. Soil headspace screening results indicated VOC concentrations in soil ranging from non-detectable from zero to six feet below the floor to 351 ppm at 16 to 19 feet below the floor in OB44-S. Two soil samples were collected from OB44-S and one soil sample was collected from BLDG5-SV-4 based on soil headspace screening results and visual observation. Soil samples were submitted to ALS for analysis of site specific VOCs by EPA Method 8260B. Soil analytical results are summarized on **Table 12** and a complete laboratory analytical report is provided in **Appendix C**. Soil analytical results from these soil borings indicate that:

- No VOCs were detected above reporting limits in a sample collected from boring BLDG5-SV4;
- Cis-1,2-DCE was detected in soil samples OB44-S(17-18) at a concentration of 57 micrograms per kilogram (ug/kg);
- PCE was detected at concentrations of 10,000 ug/kg in OB44-S(9-10) and 14,000 ug/kg in OB44-S(17-18); and
- TCE was detected at concentrations of 230 ug/kg in OB44-S(9-10) and 6,200 ug/kg in OB44-S(17-18).

These results indicate that VOC impacts to soil are present beneath the building and seem to increase with depth. VOC impacts to soil may potentially continue to be a source for impacts to groundwater and soil vapor beneath the building.

OB44-S was advanced to approximately 19 feet below grade and completed as a shallow groundwater monitoring well. Well OB44-S was constructed of 15 feet of one-inch diameter PVC well screen and approximately 4 feet of solid PVC riser. Well completion included a sand pack to 2 feet above the well screen, a grout seal from above the sand pack to just below grade, and a bolting road box flush mounted with the existing concrete slab floor inside the building. A well completion diagram is included on the drilling log. Soil boring BLDG5-SV4 was completed to a refusal depth of 7.5 feet. The boring was backfilled with clean native soil to a depth of 2 feet below the floor. BLDG5-SV4 was completed as a two

feet deep soil vapor point for sub-slab vapor monitoring. During drilling, soil cuttings from well installation and hand clearing were drummed and stored onsite for future disposal.

Following well installation, OB44-S was developed by pumping and surging to remove silt from the sand pack and to improve the hydraulic connection with the surrounding aquifer. Well development water was stored in drums on site for future disposal. Once developed, a grab groundwater sample was collected and submitted to ALS for laboratory analysis of select VOCs by EPA method 8260B. The groundwater analytical results are summarized on **Table 2** and a complete laboratory analytical report is provided in **Appendix C**. Analytical results of the grab groundwater sample collected from OB44-S indicate PCE was detected at a concentration of 47 mg/l and TCE was detected at a concentration of 24 mg/L.

Although the concentrations of PCE and TCE detected at OB44-S are just below the Site remedial criteria, the results indicate elevated impacts are present in shallow groundwater below Building 5. The presence of VOC in shallow groundwater is a potential source of impacts to soil vapor beneath the building floor as well as potential impacts to indoor air within the building. As a result, additional remedial measures are being evaluated by Varian for Building 5 area, such as expanding the SVE system or implementing shallow groundwater treatment (e.g. permanganate injection or bioremediation). Conclusions and recommendations from this evaluation will be presented in the next ROS report.

2.7 Building 5 SVE System

The Building 5 SVE system was installed in December 2012 and system startup was completed in March 2013. The SVE system was designed to reduce VOC concentrations in the vadose zone soil beneath Building 5 as well as to control potential vapor intrusion into the building.

The SVE system consists of the following components:

- three horizontal soil vapor extraction wells (BLDG5-SVE1, BLDG5-SVE2, and BLDG5-SVE3) installed beneath Building 5;
- one 5 horsepower regenerative blower;
- one moisture knock-out drum; and
- two 2,000-pound carbon vessels piped in series (with a spare third 2,000 pound carbon vessel).

The locations of the three SVE wells are shown on **Figure 7**. The October 2013 status report included an O&M Manual developed to ensure that the system is operated properly to meet the intended design criteria and achieve site remedial goals (Shaw, 2013c). 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 5 SVE system during this reporting period.

2.7.1 Building 5 SVE System Operation and Maintenance

During this monitoring period, regular twice-monthly O&M site visits were performed by CB&I 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 October 1, 2013 to March 31, 2014 are summarized in **Table 13**. From October 1, 2013 to March 31, 2014, the average total flow rate for the SVE system was approximately 139 cfm, with an average pretreatment total VOC concentration of 1.5 ppm. VOC recovery continues to be higher at vapor extraction well BLDG5-SVE1, with an average concentration of approximately 18.5 ppm during this reporting period.

Table 13 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 October 8, 2013, approximately 2,000 pounds of spent carbon were removed from the off-line Building 5 carbon vessel and new carbon was installed. The vessel had been taken offline after breakthrough was noted on September 17, 2013 (as discussed in the previous status report). The spent Building 5 carbon was stored in drums onsite pending future transportation and disposal off-site. The off-line vessel with new carbon remained on site as a stand-by in the event that vapor screening indicates carbon breakthrough.

On December 5, 2013, an alarm notice was received indicating the SVE system had shut down due to low vacuum. Upon arrival later that day, the Building 5 SVE system was inspected it was determined that excess moisture buildup in the system had resulted in water being pulled into the blower. Water was removed from the system, but the blower could not be reactivated due to grit buildup in the impeller housing. CB&I returned to the site on December 9, 2013 to disassemble the blower and clean the impeller. Once the impeller was cleaned, the blower was reassembled and the SVE system was restarted. Operation of the system was monitored and it was determined to be operating normally.

On December 16, 2013, an alarm notice was received indicating the SVE system had shutdown. Upon arrival later that day, the Building 5 SVE system was inspected and water was removed from the system hoses. The system was restarted and observed to be operating normally.

On December 23, 2013, approximately 2,000 pounds of spent carbon stored in drums on-site from October 8, 2013 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 E**.

2.7.2 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 14** and illustrated in **Figure 8**. Since the Building 5 SVE system was activated on March 11, 2013, through the end of this reporting period, it has removed an estimated 65 pounds of VOCs from beneath Building 5.

On November 5, 2013 and January 27, 2014, grab soil vapor samples were collected from the three SVE wells associated with the Building 5 SVE system (BLDG5-SVE1, BLDG5-SVE2 and BLDG5-SVE3). Each sample was collected using an evacuated Summa[®] canister 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 15**. A complete copy of the laboratory analytical report is provided in **Appendix C**.

Analytical results of the November 5, 2013, grab soil vapor samples from the Building 5 SVE wells indicated:

- TCE was detected at concentrations ranging from 270 ug/m³ in BLDG5-SVE2 to 150,000 ug/m³ in BLDG5-SVE1;
- PCE was detected at concentrations ranging from 250 ug/m³ in BLDG5-SVE3 to 18,000 ug/m³ in BLDG5-SVE1; and
- cis-1,2-DCE was detected at concentrations of 120 ug/m³ in BLDG5-SVE2.

Additional VOC reported above detection limits in soil vapor samples collected from the Building 5 SVE wells in November 2013 include acetone at up to 750 ug/m³.

Analytical results of the January 27, 2014, grab soil vapor samples from the Building 5 SVE wells indicated:

- TCE was detected at concentrations ranging from 310 ug/m³ in BLDG5-SVE2 to 35,000 ug/m³ in BLDG5-SVE1;
- PCE was detected at concentrations ranging from 160 ug/m³ in BLDG5-SVE3 to 3,900 ug/m³ in BLDG5-SVE1;
- cis-1,2-DCE was detected at a concentrations of 430 ug/m³ in BLDG5-SVE1 and 68 ug/m³ in BLDG5-SVE2; and
- 1,1,1-TCA was detected at a concentration of 7.8 ug/m³ in BLDG5-SVE2.

Additional VOC reported above detection limits in soil vapor samples collected from the Building 5 SVE wells in January 2014 included: acetone (up to 330 ug/m³); vinyl chloride (at 1.7 ug/m³); 2-butanone (up to 130 ug/m³) and 4-methyl-2-pentanone (at 18 ug/m³).

As indicated on **Table 15**, VOC concentrations in soil vapor from the Building 5 Area wells have decreased overtime due to operation of the SVE system. For example, the TCE concentration detected at BLDG5-SVE1 has decreased from 240,000 ug/m³ during the pilot test in September 2012 to 35,000 ug/m³ in January 2014 (after 320 days of SVE system operation).

Monitoring the vacuum beneath the Building 5 floor is conducted at six sub-slab vapor monitoring points (BLDG5-SV1, BLDG5-SV2, BLDG5-SV3, BLDG5-SV4, BLDG5-SV5 and BLDG5-SV6) installed inside the building (**Figure 7**). The monitoring data indicates that vacuum influence from operation of the SVE system is observed at most of the monitoring vapor monitoring locations demonstrating vapor control beneath this portion of the Building 5 floor slab.

2.7.3 Building 5 Soil Vapor and Indoor Air Sampling

On November 1, 2013, sub-slab soil vapor samples were collected from five soil vapor points beneath Building 5 (BLDG5-SV1, BLDG5-SV2, BLDG5-SV3, BLDG5-SV5, and BLDG5-SV6, **Figure 7**). On January 27, 2014, sub-slab soil vapor samples were collected from six vapor points beneath Building 5 (BLDG5-SV1, BLDG5-SV2, BLDG5-SV3, BLDG5-SV4, BLDG5-SV5, and BLDG5-SV6, **Figure 7**). During both events, samples were collected using an evacuated Summa[®] canister over a four-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 November 2013 and January 2014 soil vapor samples are summarized on **Table 16**. Complete copies of the laboratory analytical reports are provided in **Appendix C**.

Analytical results of the November 1, 2013 sub-slab soil vapor samples collected beneath Building 5 indicated:

- TCE was detected at concentrations ranging from 14 ug/m³ in BLDG5-SV1 and BLDG5-SV5 to 1,300 ug/m³ in BLDG5-SV6;
- PCE was detected at concentrations ranging from 5.1 ug/m³ in BLDG5-SV2 to 440 ug/m³ in BLDG5-SV6;
- cis-1,2-DCE was detected at a concentration of 1,200 ug/m³ in BLDG5-SV6;
- 1,1,1-TCA was detected at a concentration of 790 ug/m³ in BLDG5-SV6; and
- 1,1-dichloroethane at a concentration of 1,300 ug/m³ in BLDG5-SV6.

Additional VOC reported above detection limits in sub-slab soil vapor samples collected from beneath Building 5 in November 2013 included: acetone (up to 1,500 ug/m³); carbon tetrachloride (up to 0.54 ug/m³); dichloromethane (up to 9.2 ug/m³); trichlorofluoromethane (up to 3.1 ug/m³); 1,1-DCE (270 ug/m³); and vinyl chloride (110 ug/m³).

Analytical results of the January 27, 2014 sub-slab soil vapor samples collected beneath Building 5 indicated:

- TCE was detected at concentrations ranging from 2.4 ug/m³ in BLDG5-SV1 to 1,900 ug/m³ in BLDG5-SV6;
- PCE was detected at concentrations ranging from 2 ug/m³ in BLDG5-SV1 to 640 ug/m³ in BLDG5-SV6;
- cis-1,2-DCE was detected at concentrations ranging from non-detectable to 1,900 ug/m³ in BLDG5-SV6;
- 1,1,1-TCA was detected at a concentration of 1,900 ug/m³ in BLDG5-SV6;
- 1,1-dichloroethane was detected at a concentration of 3,100 ug/m³ in BLDG5-SV6 and 1.3 ug/m³ in BLDG5-SV4; and

- 1,1-dichloroethene was detected at a concentration of 690 ug/m³ in BLDG5-SV6.

Additional VOC reported above detection limits in sub-slab soil vapor samples collected from beneath Building 5 in January 2014 included: 2-butanone (up to 65 ug/m³); 2-hexanone (up to 6.8 ug/m³); 4-methyl-2 pentanone (up to 63 ug/m³); bromodichloromethane (0.23 ug/m³); acetone (up to 95 ug/m³); benzene (2 ug/m³); carbontetrachloride (up to 0.59 ug/m³); chloroform (5.6 ug/m³); ethylbenzene (up to 11 ug/m³); toluene (up to 26 ug/m³); styrene (up to 11 ug/m³); vinyl chloride (up to 130 ug/m³); and total xylenes (up to 48 ug/m³).

Data from soil vapor sampling points BLDG5-SV1, BLDG5-SV2 and BLDG5-SV3 in November 2013 and January 2014 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 has decreased from 5,800 ug/m³ at BLDG5-SV1 in January 2012 to 2.4 ug/m³ in January 2014. Because soil vapor sample points BLDG5-SV5 and BLDG5-SV6 were installed during system installation and BLDG5-SV4 was installed after system start-up, pretreatment VOC data from these locations is not available. However, TCE and PCE concentrations at these points have been generally consistent and the concentration of TCE detected at BLDG5-SV6 has decreased from 9,000 ug/m³ in April 2013 to 1,900 ug/m³ in January 2014.

In conjunction with the November 1, 2013 and the January 2014 sub-slab soil vapor sampling, indoor air samples were collected from the Building 5 treatment area. During each event three indoor air samples were collected from inside Building 5 (BLDG5-1, BLDG5-2, and BLDG5-3) using evacuated Summa[®] canisters over an eight-hour sampling interval. The indoor air sampling locations are illustrated on **Figure 7**. This sampling was conducted to assess VOC concentrations in indoor air of Building 5 with the SVE system operating. The indoor air samples collected during each event 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**. Complete copies of the laboratory analytical reports are provided in **Appendix C**.

Analytical results of the November 1, 2013 indoor air samples collected from within Building 5 indicated:

- TCE was detected at concentrations ranging from 10 ug/m³ in BLDG5-3 to 12 ug/m³ in BLDG5-1 and BLDG5-2; and
- PCE was detected at concentrations ranging from 3.8 ug/m³ in BLDG5-3 to 9.2 ug/m³ in BLDG5-2.

Additional VOC reported above detection limits in the indoor air samples collected in Building 5 in November 2013 included acetone at concentrations up to 3,400 ug/m³ and dichloroethane at 6.4 ug/m³.

Analytical results of the January 14, 2014 indoor air samples collected from Building 5 indicated:

- TCE was detected at concentrations ranging from 2.1 ug/m³ in BLDG5-3 to 4 ug/m³ in BLDG5-2; and
- PCE was detected at concentrations ranging from 0.9 ug/m³ in BLDG5-3 to 2.7 ug/m³ in BLDG5-2

Additional VOC reported above detection limits in the indoor air samples collected in Building 5 in January 2014 included: 2-butanone (up to 97 ug/m³); 4-methyl-2-butanone (up to 25 ug/m³); carbontetrachloride (0.54 ug/m³); and acetone (up to 330 ug/m³).

Although the a slight increase in the TCE and PCE concentrations were noted at indoor air sampling points BLDG5-1, BLDG5-2, and BLDG5-3 between August and November 2013, the analytical results from these locations in January 2014 exhibited a decrease and are below pre-treatment levels. For example, TCE in BLDG5-2 indicates a decrease from 17 ug/m³ in January 2012 to 4 ug/m³ in January 2014. The November 2013 and January 2014 indoor air results are further evaluated in section 4.0 of this report.

2.8 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 following these renovations, CB&I completed soil vapor and indoor air sampling within the 32 Tozer Road building during the previous reporting period in May 2013, and in October 2013 and February 2014 during this reporting period.

On October 24, 2013 and February 6, 2014, 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 four-hour sampling interval. The locations of soil vapor sampling points are shown on **Figure 9**. 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 October 24, 2013 and February 6, 2014 are summarized in **Table 18**. Complete copies of the laboratory analytical reports are included in **Appendix C**. The October 24, 2013 soil vapor analytical results indicated the following:

- TCE was detected at concentrations ranging from 4.8 ug/m³ in 32 Tozer-SV5 to 1,500 ug/m³ in 32 Tozer-SV3;
- PCE was detected at concentrations ranging from 24 ug/m³ in 32 Tozer-SV5 to 8,100 ug/m³ in 32 Tozer-SV3;
- cis-1,2-DCE was detected at concentrations ranging from 7.9 ug/m³ in 32 Tozer-SV5 to 3,100 ug/m³ in 32 Tozer-SV3; and
- vinyl chloride was detected at 1.7 ug/m³ in 32 Tozer-SV4.

The February 6, 2014 soil vapor analytical results indicate the following:

- TCE was detected at concentrations ranging from 0.45 ug/m³ in 32 Tozer-SV5 to 1,900 ug/m³ in 32 Tozer-SV3;
- PCE was detected at concentrations ranging from 1.3 ug/m³ in 32 Tozer-SV5 to 7,600 ug/m³ in 32 Tozer-SV3;

- cis-1,2-DCE was detected at concentrations ranging from non-detectable in 32 Tozer-SV5 to 4,300 ug/m³ in 32 Tozer-SV3; and
- vinyl chloride was detected at 2.2 ug/m³ in 32 Tozer-SV4.

Both the October 2013 and February 2014 analytical results indicated concentrations similar to or lower than the May 2013 soil vapor data.

As shown on **Table 18**, concentrations of some VOC in samples 32Tozer-SV3 and 32Tozer-SV4 from October 24, 2013 and February 6, 2014 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 October 24, 2013 and February 6, 2014, three indoor air samples (32Tozer-1, 32Tozer-2, and 32Tozer-3) were collected concurrently with the soil vapor samples using evacuated Summa[®] canisters over an eight-hour sampling interval (**Figure 9**). 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 on October 24, 2013 and February 6, 2014 are also summarized in **Table 18**. Complete copies of the laboratory analytical reports are included in **Appendix C**. The October 24, 2013 indoor air analytical results indicated the following:

- TCE was present at concentrations ranging from non-detectable in 32Tozer-3 to 1.5 ug/m³ in 32 Tozer-1;
- PCE was detected at concentrations ranging from 0.33 ug/m³ in 32Tozer-3 to 11 ug/m³ in 32 Tozer-1; and
- cis-1,2-DCE was present at concentrations ranging from non-detectable in 32Tozer-3 to 3.3 ug/m³ in 32 Tozer-1.

The February 6, 2014 indoor air analytical results indicated the following:

- TCE was detected at concentrations ranging from 0.092 ug/m³ in 32Tozer-3 to 0.81 ug/m³ in 32 Tozer-1;
- PCE was detected at concentrations ranging from 0.25 ug/m³ in 32Tozer-3 to 6.6 ug/m³ in 32 Tozer-1; and
- cis-1,2-DCE was present at concentrations from non-detectable in 32Tozer-3 to 1.3 ug/m³ in 32 Tozer-1.

In general, VOC concentrations detected in the three indoor sampling events conducted in May 2013, October 2013 and February 2014 at 32 Tozer Road indicate similar levels. As indicated in **Table 18**, PCE was detected in the October 24, 2013 and February 6, 2014 indoor air samples at concentrations exceeding the Commercial/ Industrial Threshold Value in 32Tozer-1. 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.

2.9 Quality Assurance/Quality Control (QA/QC)

In general, the environmental data collected by CB&I 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 CB&I 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. 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 number R1308025. As a result of this, a “J” (estimated) qualifier was assigned to positive detects in applicable samples while non-detect results were not qualified.

In ALS submission number R1308023, certain batches of samples had continued calibration verification (CCV) outside the control range. As a result, a “UJ” (non-detect, estimated) qualifier was assigned to non-detectable results in applicable samples.

In ALS submission number R1308219, the secondary dilution sample for three total organic carbon samples was run outside the 28-day holding time specified by the analytical method. As a result, a “J” (estimated) qualifier was assigned to positive and non-detectable results from the secondary dilution samples.

In ALS submission number R1400003, bromomethane was detected in the January 10, 2014 method blank. As a result, a “U” (non-detect) qualifier was assigned to positive results for bromomethane that were less than five times the level found in the method blank sample.

In ALS submission number R1400510, the pH of five samples was greater than 2 and the samples were not analyzed by the laboratory with seven days of collection. 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. Plans for the bioremediation monitoring activities have been presented in previous ROS status reports. The operation, maintenance and monitoring plan for the Building 3 SVE system was submitted to the MADEP in a March 2010 IRA status report (Shaw 2010a). The operation, maintenance and monitoring plan for the Building 5 SVE system was presented in the modified Phase IV Plan (Shaw, 2012d). Minor adjustments to these remedial monitoring plans 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). Generally 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. Additional permanganate treatment is planned to address VOC concentrations in groundwater at wells above the remedial planning criteria. 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. The deep overburden bioremediation injections conducted near the northeast corner of Building 3 were successful in establishing culture activity in the deep aquifer and distributing lactate to the target wells particularly wells AP23-DO and AP24-DO to sustain biodegradation. Monitoring data indicates that some reductive dechlorination is occurring in this area. 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, 2013a). Monitoring of vacuum beneath the building floor in each area is conducted to demonstrate that soil vapor control is maintained beneath Buildings 3 and 5. The Building 3 SVE system has shown a decrease in VOC recovery since the fall 2013. Varian will be conducting a temporary shutdown of the SVE system in April 2014 to assess equilibrium conditions without the SVE system operating. Once the planned sampling has been conducted, the system will be reactivated and, following review of those sample results, recommendations will be made regarding the future operation of the Building 3 SVE system. Analytical results of soil vapor samples collected beneath the floor in Building 5 and at the SVE wells associated with the remediation system illustrate reductions in VOC concentrations. This indicates that the Building 5 SVE system is reducing VOC levels in soil vapor beneath the building. Lower concentrations of VOC in indoor air at Building 5 compared to before the system was activated demonstrate that the Building 5 SVE system is reducing potential VOC migration into indoor air.

The following sections present an updated evaluation, including new data collected during this monitoring period as it pertains to potential risk posed by oil or hazardous materials associated with the Site and potential receptors.

4.1 Building 3 Indoor Air Evaluation

The Phase II CSA for the Building 3 remedial area (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, an additional round of indoor air samples was collected in November 2013 during this reporting period. As shown in **Table 11**, concentrations of VOCs detected in the November 2013 sample round are similar to those detected in recent rounds, with the exception of BLDG2-6, which had an increase in VOC concentrations in the most recent round. Nevertheless, the average concentrations of PCE and TCE over the recent sampling rounds are similar to those used in the Phase II evaluation when the Building 3 system was operating.

Therefore, the updated evaluation including the November 2013 data indicate that the SVE system is continuing to maintain a Condition of No Significant Risk. In addition, no conditions of Imminent Hazard have been identified. In particular, concentrations of TCE in indoor air with the system operating have been consistently below the Imminent Hazard value set by MADEP for occupational settings of 24 $\mu\text{g}/\text{m}^3$ (MADEP, 2014).

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 (**Table 17**), though not to the same degree as soil vapor. In the April 2012 ROS 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. However, indoor air concentrations are likely to be variable and the risk was at, but did not exceed, the MADEP limit. Therefore, Varian has continued to operate and maintain the Building 5 SVE system.

With the most recent indoor air data, four rounds have been collected since the installation of the Building 5 SVE system. As shown in **Table 17**, the highest concentrations were observed at location BLDG5-2, the shipping room. Therefore, the average of the four rounds from this location was used to evaluate potential risk. **Table 19** summarizes the imminent hazard evaluation, and **Table 20** summarizes the risk evaluation (longer term exposure) using these exposure point concentrations. As discussed in the April 2012 ROS report, the daily exposure is assumed to be 7 hours in this location, based on site-specific

information. The estimated non-cancer hazard resulted in a Hazard Index of 0.8. This estimated Hazard Index does not exceed the MCP cumulative non-cancer risk limit of 1 for Significant Risk. The estimated cancer risk was 4×10^{-6} , which is below the MCP cumulative cancer risk limit of 1 in 100,000 or 1×10^{-5} . These results show that the SVE system has achieved a condition of No Significant Risk (and no Imminent Hazard) while in operation. In particular, concentrations of TCE in indoor air with the system operating have consistently been below the Imminent Hazard value set by MADEP for occupational settings of 24 ug/m^3 (MADEP, 2014).

4.3 Evaluation of Off-Site Properties

4.3.1 32 Tozer Road

The soil vapor and indoor air analytical data collected at 32 Tozer in May 2013 were evaluated in the October 2013 ROS report (Shaw, 2013c) in an effort to confirm that the condition of No Significant Risk documented in the Phase II Report for RTN 3-0485 (IT, 2000). The indoor air evaluation presented in that ROS report demonstrated that there is No Significant Risk associated with VOCs from the former Varian Site at the 32 Tozer Road property. Both the indoor air and soil gas results from the October 2013 and February 2014 sampling events are consistent with the May 2013 results, if not a little lower, showing that a condition of No Significant Risk continues to exist for site workers at this downgradient property. A new indoor air evaluation was not conducted at this time as results are expected to be similar to the conclusion in the October 2013 status report. An additional round of soil vapor and indoor air sampling is planned for April 2014. Once this additional sampling is complete, the potential risks will be reevaluated considering the measured indoor air concentrations observed over the year-long sampling period (May 2013 - April 2014). The results of the April 2014 sampling event and evaluation of the data will be presented in the next ROS report.

4.3.2 30 Tozer Road

The April 2013 ROS report included an indoor air evaluation for 30 Tozer Road, which concluded that a condition of No Significant Risk associated with VOCs from the former Varian Site existed at the 30 Tozer Road property (Shaw, 2013b). The ROS report stated that additional indoor air sampling at 30 Tozer Road may be conducted if increased VOC concentrations are observed at shallow monitoring well OB42-S, located adjacent to the 30 Tozer Road Building (**Figure 2**). October 2013 groundwater analytical results indicate a decrease in VOC concentrations in OB42-S. Therefore, a condition of No Significant Risk would still be expected.

4.3.3 39 Tozer

The April 2013 ROS report included an indoor air evaluation for 39 Tozer Road, which concluded that a condition of No Significant Risk associated with VOCs from the former Varian Site existed at the 39 Tozer Road property (Shaw, 2013b). The ROS report stated that additional indoor air sampling at 39 Tozer Road may be conducted if increased VOC concentrations are observed at shallow monitoring well OB41-S, located adjacent to the 39 Tozer Road Building (**Figure 2**). October 2013 groundwater analytical results indicate a decrease in VOC concentrations in OB41-S. Therefore, a condition of No Significant Risk would still be expected.

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.

6.0 REFERENCES

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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 CB&I Environmental and Infrastructure, Inc.(CB&I), (formerly Shaw Environmental, Inc.), during the investigation and obtained from the services described, which were performed within time and budgetary restraints.

CB&I makes no representation concerning the legal significance of its findings or of the value of the property investigated. CB&I 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 CB&I from and against any and all liability in connection therewith.

TABLES

Table 1A
Water Quality Sample Summary
October 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Sample Location	Location	Rationale for Sampling	Analysis Performed
Building 3/6 Treatment Areas			
AP12-DO	East Building 6	Monitor injection & Site conditions	VOC, Fe & Mn, Chloride, permanganate
AP12-BR	East Building 6	Monitor injection & Site conditions	VOC, Fe & Mn, Chloride, permanganate
AP26-DO	West Building 1 & 2	Monitor remediation and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP31-DO	Beneath Building 3	Monitor remediation and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP32-DO	Beneath Building 3	Monitor remediation and VOC trends	VOC, Fe & Mn, Chloride, permanganate
B-3	East Building 3	Monitor shallow VOC trends	VOC
BW-5	By Unnamed Stream	Monitor shallow VOC trends	VOC
BW-6	By Unnamed Stream	Monitor shallow VOC trends	VOC
BW-8	By Unnamed Stream	Monitor shallow VOC trends	VOC
BW-9	By Unnamed Stream	Monitor shallow VOC trends	VOC
CL2-BR	16 Tozer	Monitor remediation and VOC trends	VOC
MW-5	East Building 4	Monitor VOC trends	VOC
MW-9A	By Unnamed Stream	Monitor shallow VOC trends	VOC
MW-13	North Building 3 by Rte 128	Monitor remediation and VOC trends	VOC, Fe & Mn, Chloride, permanganate
MW-16	South Building 4	Monitor VOC trends	VOC
OB9-DO	By Unnamed Stream	Monitor VOC trends	VOC
OB9-BR	By Unnamed Stream	Monitor VOC trends	VOC
OB12-DO	North Building 3 by Rte 128	Monitor remediation	VOC, Fe & Mn, Chloride, permanganate
OB19-DO	West Building 1 & 2	Monitor remediation	VOC, Fe & Mn, Chloride, permanganate
OB25-BR	West Building 1 & 2	Monitor remediation and VOC trends	VOC, Fe & Mn, Chloride, permanganate
OB26-DO	West Building 1 & 2	Monitor remediation and VOC trends	VOC, permanganate
OB27-BR	West Building 7	Monitor VOC trends by Building 7	VOC, Fe & Mn, Chloride, permanganate
OB32-DO	North Building 3	Monitor VOC trends	VOC, Fe & Mn, Chloride, permanganate
OB34-DO	North Building 3	Monitor VOC trends	VOC
OB36-DO	Inside Building 6	Monitor VOC trends	VOC, permanganate
OB37-DO	Inside Building 6	Monitor VOC trends	VOC
STR-3	Unnamed Stream	Monitor VOC trends, also Con Comm request	VOC
UNNAMED STREAM	Unnamed Stream	Monitor VOC trends, also Con Comm request	VOC
Building 5 Treatment Area			
B-2	East Building 5	Monitor shallow VOC trends	VOC
OB35-DO	Inside Building 5	Monitor remediation and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP27-DO	East Building 5	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
OB38-DO	East Building 5	Monitor residual permanganate and VOC trends	VOC
Tozer Road South Area			
OB42-S	30 Tozer Rd	Monitor shallow VOC trends	VOC
OB43-S	27 Tozer Rd	Monitor shallow VOC trends	VOC
CL3-DO	28 Tozer	Monitor VOC trends (increase noted April 2013)	VOC, Fe & Mn, Chloride, permanganate
31 Tozer Rd Treatment Area			
GZ-4	31 Tozer Road	Monitor shallow VOC trends	VOC
OB18-S	31 Tozer Road	Monitor shallow VOC trends adjacent to building	VOC
OB41-S	39 Tozer Road	Monitor shallow VOC trends	VOC
AP15-S	31 Tozer Road	Monitor shallow VOC trends	VOC
STRHA-7A	29 Tozer Road	Monitor VOC trends in surface water	VOC
STRHA-7B	29 Tozer Road	Monitor VOC trends in surface water	VOC

Table 1A
Water Quality Sample Summary
October 2013
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

Sample Location	Location	Rationale for Sampling	Analysis Performed
Longview/Hill Street Treatment Area			
BR-6 ZONE 1	Hill Street	Monitor VOC trends	VOC
BR-6 ZONE 2	Hill Street	Monitor VOC trends	VOC
BR-6 ZONE 3	Hill Street	Monitor VOC trends	VOC
P-9R	Hill Street	Monitor VOC trends	VOC
P-19A	Hill Street	Monitor VOC trends	VOC
OB20-S	SCDS field	Monitor VOC trends	VOC
STRM-A-SCDS	SCDS field	Monitor VOC trends in surface water	VOC
PSL10 Area			
AP-19	PSL 10	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP-20	PSL 10	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP-21	PSL 10	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP-22	PSL 10	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
MW2-32 Tozer	32 Tozer Rd	Monitor VOC trends	VOC
CL10-S	32 Tozer Rd	Monitor VOC trends	VOC
CL10-DO	32 Tozer Rd	Monitor VOC trends	VOC, Fe & Mn, Chloride, permanganate
CL10-BR	32 Tozer Rd	Monitor VOC trends	VOC
Bio Sampling			
AP25-DO	East Building 3	Monitor VOC trends and confirm no adverse downgradient impacts	VOC, methane, ethane, ethene, TOC
AP30R-DO	Beneath Building 3	Monitor VOC trends and confirm no adverse downgradient impacts	VOC, methane, ethane, ethene, TOC
MW-9	By Unnamed Stream	monitor VOC trends in shallow bioremediation area	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
OB9-S	By Unnamed Stream	monitor VOC trends in shallow bioremediation area	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
OB15-S	By Unnamed Stream	monitor VOC trends in shallow bioremediation area	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
OB25-DO	West Building 1 & 2	Monitor VOC trends and confirm no adverse downgradient impacts	VOC, methane, ethane, ethene, TOC
RW-1	East Building 3	Monitor VOC trends and confirm no adverse downgradient impacts	VOC, methane, ethane, ethene, TOC

Notes:

TOC = 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

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

Dehalococcoides sp. analysis by polymerase chain reaction (PCR)

Table 1B
Water Quality Sample Summary
January 2014
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Sample Location	Location	Rationale for Sampling	Analysis Performed
AP13-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
AP23-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
AP24-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
AP33-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
AP34-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
AP35-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Dehalococcoides sp.
AP25-DO	East Building 3	Monitor VOC trends and confirm no adverse downgradient impacts	VOC, methane, ethane, ethene, TOC
RW-1	East Building 3	Monitor VOC trends and confirm no adverse downgradient impacts	VOC, methane, ethane, ethene, TOC
AP30R-DO	Beneath Building 3	Monitor VOC trends and confirm no adverse downgradient impacts	VOC, methane, ethane, ethene, TOC
OB25-DO	West Building 1 & 2	Monitor VOC trends and confirm no adverse downgradient impacts	VOC, methane, ethane, ethene, TOC
MW-9	Near Bldg. 9 and Unnamed Stream	Monitor VOC trends in shallow bioremediation area	VOC, methane, ethane, ethene, TOC
OB9-S	Near Bldg. 9 and Unnamed Stream	Monitor VOC trends in shallow bioremediation area	VOC, methane, ethane, ethene, TOC
OB15-S	Near Bldg. 9 and Unnamed Stream	Monitor VOC trends in shallow bioremediation area	VOC, methane, ethane, ethene, TOC

Notes:

TOC = Total Organic Carbon, analysis by EPA Method 5310C
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)

Table 2
Water Quality Data - VOC Results
2009 to Present
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-02	4/3/2009	24	0.16	0.023	<0.0020	<0.0020	---	0.042	<0.0020	0.028	<0.0020	<0.0020	0.032	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
AP-06-BR	4/1/2009	93	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0022	<0.0010	0.024	0.059	<0.0010	
AP-12-BR	4/3/2009	84	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	0.47	24	<0.20	<0.20	9.4	<0.20	
	10/26/2009	65	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	0.59	17	<0.20	<0.20	4.6	<0.20	
	10/26/2009	76	<0.13	<0.13	<0.13	<0.13	---	<0.13	<0.13	<0.13	<0.13	<0.13	0.48	12	<0.13	<0.13	3.6	<0.13	
	4/20/2010	81	0.0011	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0091	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	10/14/2010	81	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	0.0046	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/14/2011	78	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020	<0.0020	0.0021	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/28/2011	74	<0.0020	<0.0020	<0.0020	<0.0020	0.01	<0.0020	<0.0020	0.0031	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/6/2012	80	0.0022J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.010UJ	<0.0020UJ	<0.0020UJ	0.0036J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	
	11/27/2012	81	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/18/2013	81	<0.0020	<0.0020	<0.0020	<0.0020	0.018	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/23/2013	81	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	AP-12-DO	4/3/2009	50	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	0.033	<0.010	<0.010	0.94	<0.010	<0.010	<0.010	<0.010	<0.010
		10/26/2009	50	<0.0025	<0.0025	<0.0025	<0.0025	---	0.004	<0.0025	0.019	<0.0025	<0.0025	0.33	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
4/20/2010		57	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	7.1	0.53	<0.050	<0.050	<0.050	<0.050	
10/14/2010		37	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	7.7	0.57	<0.10	<0.10	<0.10	<0.10	
4/14/2011		48	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	8.8	4.6	<0.10	<0.10	0.16	<0.10	
10/28/2011		44	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	10D	27D	<0.10	<0.10	2.7	<0.10	
4/5/2012		56	<0.50	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.50	14	39	<0.50	<0.50	4.2	<0.50	
11/27/2012		57	0.003	<0.0020	<0.0020	<0.0020	<0.010	0.013	<0.0020	0.083	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
4/18/2013		35	0.0046	<0.0020	<0.0020	<0.0020	0.023	0.042	<0.0020	0.12	<0.0020	<0.0020	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
10/23/2013		57	0.0038	<0.0020	<0.0020	<0.0020	<0.010	0.017	<0.0020	0.093	<0.0020	<0.0020	0.0022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
AP-12-S	4/3/2009	26	0.011	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0032	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/20/2010	29	0.0088	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0035	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/14/2011	31	0.008	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.0044	<0.0020	<0.0020	0.0027	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/5/2012	26	0.0062	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.0032	<0.0020	<0.0020	0.016	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/12/2013	22	0.0049	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.0034	<0.0020	<0.0020	0.26DJ	0.11	<0.0020	<0.0020	0.25D	0.0034	
AP-13-DO	1/14/2009	47	25	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	87	170	<2.0	<2.0	<2.0	<2.0	
	4/2/2009	51	28	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	86	200	<2.0	<2.0	<2.0	<2.0	
	10/26/2009	52	29	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	84	200	<2.0	<2.0	5.2	<2.0	
	4/22/2010	60	27	<4.0	<4.0	<4.0	---	<4.0	<4.0	<4.0	<4.0	<4.0	72	290	<4.0	<4.0	<4.0	<4.0	
	7/14/2010	60	28J	<2.0UJ	<2.0 UJ	<2.0 UJ	---	<2.0 UJ	<2.0 UJ	<2.0 UJ	<2.0 UJ	<2.0 UJ	70J	290J	<2.0 UJ	<2.0 UJ	5.8J	<2.0 UJ	
	10/12/2010	51	28	<5.0	<5.0	<5.0	28	<5.0	<5.0	<5.0	<5.0	<5.0	75	350	<5.0	<5.0	<5.0	<5.0	
	1/4/2011	61	13	<2.0	<2.0	<2.0	5.5J	<2.0	<2.0	<2.0	<2.0	<2.0	40	160	<2.0	<2.0	14	<2.0	
	4/5/2011	51.2	18	<4.0	<4.0	<4.0	12J	<4.0	<4.0	<4.0	<4.0	<4.0	46	200	<4.0	<4.0	5.8	<4.0	
	7/28/2011	51	13	<2.0	<2.0	<2.0	41	<2.0	<2.0	<2.0	<2.0	<2.0	23	150	<2.0	<2.0	3.8	<2.0	
	10/25/2011	60	19	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	44	230D	<2.0	<2.0	7.2	<2.0	
	1/17/2012	51	29	<2.0	<2.0	<2.0	10	<2.0	<2.0	<2.0	<2.0	<2.0	53	360D	<2.0	<2.0	3.7	<2.0	
	4/3/2012	51	25	<4.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	<4.0	59	320	<4.0	<4.0	<4.0	<4.0	
	5/2/2013	47.5	26	<4.0	<4.0	<4.0	62	<4.0	<4.0	<4.0	<4.0	<4.0	60	330	<4.0	<4.0	<4.0	<4.0	
	1/20/2014	41	26	<4.0	<4.0	<4.0	20	<4.0	<4.0	<4.0	<4.0	<4.0	87	350	<4.0	<4.0	7.6	<4.0	
AP-13-S	4/3/2009	16	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0019	0.0021	<0.0010	<0.0010	<0.0010	<0.0010	
	4/20/2010	17	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0037	0.0034	<0.0010	<0.0010	<0.0010	<0.0010	
	4/4/2011	16.1	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/26/2011	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0036	0.002	<0.0020	<0.0020	<0.0020	<0.0020	
	1/17/2012	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/5/2012	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/15/2013	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	1/21/2014	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.015	0.026	<0.0020	<0.0020	0.0034	<0.0020	
AP-14-S	4/3/2009	32	0.19	<0.0025	<0.0025	<0.0025	---	0.14	<0.0025	0.0091	<0.0025	<0.0025	0.28	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	
	4/21/2010	34	0.12	<0.010	<0.010	<0.010	---	0.1	<0.010	0.055	<0.010	<0.010	1.2	1.2	<0.010	<0.010	<0.010	<0.010	
	4/6/2011	29.1	0.080J	<0.020 UJ	<0.020 UJ	<0.020 UJ	<0.10 UJ	0.047J											

Table 2
Water Quality Data - VOC Results
2009 to Present
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	1/14/2009	51	<1.0	<1.0	<1.0	<1.0	---	<1.0	<1.0	<1.0	<1.0	<1.0	35	140	<1.0	<1.0	8.2	<1.0	
	4/2/2009	47	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	34	210	<2.0	<2.0	7	<2.0	
	10/26/2009	48	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	41	210	<2.0	4.2	29	<2.0	
	1/28/2010	51	<1.0	<1.0	<1.0	<1.0	---	<1.0	<1.0	1	<1.0	<1.0	32	150	<1.0	4.8	30	<1.0	
	4/22/2010	51	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	40	270	<2.0	<2.0	7.1	<2.0	
	7/14/2010	14	<2.0UJ	<2.0UJ	<2.0UJ	<2.0UJ	---	<2.0UJ	<2.0UJ	<2.0UJ	<2.0UJ	<2.0UJ	<2.0UJ	50J	330J	<2.0UJ	<2.0UJ	12J	<2.0UJ
	10/12/2010	47	<4.0	<4.0	<4.0	<4.0	30	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	46	270	<4.0	<4.0	17	<4.0
	1/4/2011	51	<1.0	<1.0	<1.0	<1.0	2.5J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11	86	<1.0	5.2	20	<1.0
	4/5/2011	47.4	<4.0	<4.0	<4.0	<4.0	14J	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	20	230	<4.0	<4.0	6.2	<4.0
	7/28/2011	47	<2.0	<2.0	<2.0	<2.0	2.9J	<2.0	<2.0	2	<2.0	<2.0	<2.0	20	140	<2.0	2.7	7.4	<2.0
	10/25/2011	51	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	23	240D	<2.0	3.3	9.6	<2.0
	1/17/2012	47.5	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	41	490D	<2.0	<2.0	4.7	<2.0
	4/3/2012	47	<4.0	<4.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	21	350	<4.0	<4.0	<4.0	<4.0
	5/2/2013	47.4	<4.0	<4.0	<4.0	<4.0	79	<4.0	<4.0	<4.0	<4.0UJ	<4.0	<4.0	47	510D	<4.0	<4.0	<4.0	<4.0
1/20/2014	47.6	<4.0	<4.0	<4.0	<4.0	23	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	40	390	<4.0	4.7	41	<4.0	
AP-24-DO	1/14/2009	52	22	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	41	210	<2.0	<2.0	10	<2.0	
	4/2/2009	47	36	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	54	270	<2.0	<2.0	19	<2.0	
	10/26/2009	48	62	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	32	270	<2.0	4.2	44	<2.0	
	1/28/2010	52	41	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	39	240	<2.0	6	14	<2.0	
	4/22/2010	52	52	<2.0	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0	<2.0	21	270	<2.0	3.7	14	<2.0	
	7/14/2010	15.5	38J	<2.0UJ	<2.0UJ	<2.0UJ	---	<2.0UJ	<2.0UJ	<2.0UJ	<2.0UJ	<2.0UJ	26J	260J	<2.0UJ	15J	65J	<2.0UJ	
	10/12/2010	47	27	<4.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	<4.0	13	190	<4.0	27	41	<4.0	
	1/4/2011	52	9.5	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	19	9.8D	<1.0	30	75	<1.0	
	4/5/2011	47.3	43	<4.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	<4.0	24	300	<4.0	10	28	<4.0	
	7/28/2011	47	1.2	<0.20	<0.20	<0.20	0.10J	<0.20	<0.20	0.22	<0.20	<0.20	1.7	16	<0.20	0.94	1.7	<0.20	
	10/25/2011	52	35D	<0.20	1.2	<0.20	<1.0	<0.20	<0.20	0.74	<0.20	<0.20	31D	350D	<0.20	6.9	12	<0.20	
	4/3/2012	47	27	<4.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	<4.0	26	240	<4.0	26	80	<4.0	
	1/20/2014	51.1	21	<4.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	<4.0	27	280	<4.0	4.2	45	<4.0	
	AP-25-DO	1/14/2009	51	0.021	0.006	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0059	<0.0050	0.56	0.62	<0.0050
4/2/2009		47	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	0.24	1.6	<0.20	2.2	17	<0.20	
10/26/2009		48	0.029	0.025	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0056	<0.0050	<0.0050	0.48	0.74	<0.0073	
1/28/2010		51	0.005	0.0054	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0025	0.01	<0.0010	0.047	0.13	<0.0010	
7/14/2010		51	0.14J	<0.10UJ	<0.10UJ	<0.10UJ	---	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	2.3J	12J	<0.10UJ	
10/12/2010		47	0.054	0.052	<0.040	<0.040	---	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	1.8	3.7	<0.040	
1/4/2011		51	0.029	0.065	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.8	0.66	<0.010	
4/5/2011		46.7	0.011	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.012	0.062	<0.010	0.13	0.45	<0.010
7/28/2011		46	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	2.6	5.4	<0.10
10/25/2011		51	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	1.6	2.7	<0.040
1/17/2012		46	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.049	<0.040	0.73	2.1	<0.040
4/3/2012		47	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	1.1	7.5D	<0.040
10/22/2013		46.75	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	3.9	9.1	<0.10
1/20/2014		46.8	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.5	6.1	<0.10
AP-26-DO	4/3/2009	61	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	8.7	16	<0.20	<0.20	0.42	<0.20	
	10/26/2009	62	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	4.4	7.2	<0.10	<0.10	<0.10	<0.10	
	4/22/2010	64	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	13	25	<0.20	<0.20	<0.20	<0.20	
	7/14/2010	64	<0.20UJ	<0.20UJ	<0.20UJ	<0.20UJ	---	<0.20UJ	<0.20UJ	<0.20UJ	<0.20UJ	<0.20UJ	9.2J	19J	<0.20UJ	<0.20UJ	<0.20UJ	<0.20UJ	
	10/13/2010	61	<0.40	<0.40	<0.40	<0.40	---	<0.40	<0.40	<0.40	<0.40	<0.40	8.7	21	<0.40	<0.40	<0.40	<0.40	
	4/5/2011	61.1	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	13	27D	<0.20	<0.20	<0.20	<0.20	
	10/26/2011	64	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	11	25D	<0.20	<0.20	<0.20	<0.20	
	4/5/2012	61	<0.40	<0.40	<0.40	<0.40	<2.0	<0.40	<0.40	<0.40	<0.40	<0.40	11	27	<0.40	<0.40	<0.40	<0.40	
	11/26/2012	64	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.35	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	
	4/15/2013	67	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	7.4J	17	<0.20	<0.20	<0.20	<0.20	
	10/23/2013	64	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.041	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	

Table 2
Water Quality Data - VOC Results
2009 to Present
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-27-DO	4/9/2009	60	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.003	0.019	<0.0010	<0.0010	0.0023	<0.0010	
	10/28/2009	57	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0017	0.022	<0.0010	<0.0010	0.001	<0.0010	
	4/21/2010	61	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0036	<0.0010	<0.0010	<0.0010	<0.0010	
	10/14/2010	57.5	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.009	1.2D	<0.0020	<0.0020	0.01	0.0049	
	4/7/2011	57.2	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.010UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.0027J	0.027J	<0.0020UJ	<0.0020UJ	0.010J	<0.0020UJ
	10/26/2011	61	<0.0020	<0.0020	0.0027	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.17	12D	<0.0020	0.0031	0.08	0.037
	4/6/2012	57	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	13	<0.20	<0.20	<0.20	<0.20
	11/27/2012	61	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	59	<0.0020	<0.0020	<0.0020	<0.0020	0.016	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.023	0.0039	<0.0020	<0.0020	<0.0020	<0.0020
	10/23/2013	59	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.33D	5.5D	<0.0020	<0.0020	0.014	<0.0020
AP-29-DO	4/2/2009	42	<0.010	<0.010	0.011	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.36	1.2	<0.010	<0.010	0.31	<0.010	
AP-30-DO	2/12/2010	NA	<1.2	<1.6	<1.5	<1.1	<4.0	<0.90	<1.1	<0.45	<0.88	<2.4	82	330	---	<1.3	<1.2	<1.2	
	5/24/2010	NA	<2.5	<2.5	<2.5	<2.5	---	<2.5	<2.5	<2.5	<2.5	<2.5	59	680D	<2.5	<2.5	<2.5	<2.5	
AP-30R-DO	4/7/2011	67	2.4J	<0.050UJ	<0.050UJ	<0.050UJ	<0.25UJ	6.4DJ	<0.050UJ	5.5DJ	<0.050UJ	<0.050UJ	0.47J	0.082J	<0.050UJ	<0.050UJ	<0.050UJ	<0.050UJ	
	11/7/2011	27	0.085	<0.0020	<0.0020	<0.0020	0.013	0.19D	<0.0020	0.18	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/17/2012	88	0.22	<0.010	<0.010	<0.010	<0.050	0.7	<0.010	0.27	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
	11/27/2012	28	0.95	0.017	<0.010	<0.010	<0.050	1.9D	<0.010	3.5D	<0.010	<0.010	0.073	<0.010	<0.010	<0.010	<0.010	<0.010	
	4/18/2013	50	0.72	<0.040	<0.040	<0.040	<0.20	1.1	<0.040	2.3	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	
	11/8/2013	35	0.7	<0.040	<0.040	<0.040	<0.20	1.1	<0.040	2.6	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
	1/21/2014	30	0.67	<0.040	<0.040	<0.040	<0.20	0.56	<0.040	2.1	<0.040	<0.040	<0.040	3.9D	17D	<0.040	<0.040	0.52	<0.040
	2/11/2010	NA	<1.2	<1.6	<1.5	<1.1	<4.0	<0.90	<1.1	<0.45	<0.88	<2.4	71	940D	---	<1.3	<1.2	<1.2	
10/18/2010	89	1.3D	0.011	<0.0040	<0.0040	---	0.97D	<0.0040	1.6D	<0.0040	0.0062	0.053	0.015	0.0049	<0.0040	<0.0040	<0.0040		
4/6/2011	30	1.6J	0.034J	<0.0020UJ	<0.0020UJ	0.062J	0.68DJ	0.0028J	2.1DJ	<0.0020UJ	0.0070J	0.082J	0.0099J	0.0090J	<0.0020UJ	<0.0020UJ	<0.0020UJ		
11/7/2011	38	1.8	0.041	<0.020	<0.020	<0.10	0.52	<0.020	1.9	<0.020	<0.020	0.043	<0.020	<0.020	<0.020	<0.020	<0.020		
4/17/2012	88	1.3	0.045	<0.040	<0.040	<0.20	0.27	<0.040	1.7	<0.040	<0.040	1.9	43D	<0.040	<0.040	<0.040	<0.040		
11/27/2012	28	1.4	<0.020	<0.020	<0.020	<0.10	0.49	<0.020	0.66	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		
4/18/2013	50	1.2	<0.020	0.022	<0.020	<0.10	0.28	<0.020	2	<0.020	<0.020	2.1D	4.4D	<0.020	<0.020	0.046	<0.020		
10/24/2013	35	0.98	<0.020	<0.020	<0.020	<0.10	0.25	<0.020	0.91	<0.020	<0.020	0.62	<0.020	<0.020	<0.020	<0.020	<0.020		
AP-32-DO	2/11/2010	NA	<1.2U	<1.6	<1.5	<1.1	<4.0	<0.90	<1.1	<0.45	<0.88	<2.4	91	950D	---	<1.3	<1.2	<1.2	
	10/18/2010	89	2.3	<0.10	<0.10	<0.10	---	1.2	<0.10	6.8	<0.10	<0.10	0.2	<0.10	<0.10	<0.10	<0.10	<0.10	
	4/7/2011	60	2.1J	<0.10UJ	<0.10UJ	<0.10UJ	<0.50UJ	0.87J	<0.10UJ	5.7J	<0.10UJ	<0.10UJ	6.2J	0.15J	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	
	11/7/2011	34	1.8	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	3.3	<1.0	<1.0	41	81D	<1.0	<1.0	<1.0	<1.0	
	4/17/2012	88	1.4	<0.10	<0.10	<0.10	<0.50	0.55	<0.10	2.4	<0.10	<0.10	62D	140D	<0.10	<0.10	<0.10	<0.10	
	11/27/2012	25	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	3	<2.0	<2.0	31	170	<2.0	<2.0	<2.0	<2.0	
	4/18/2013	50	2	<2.0	<2.0	<2.0	<10	<2.0	<2.0	3.5	<2.0	<2.0	56	370D	<2.0	<2.0	<2.0	<2.0	
	10/24/2013	35	1.8	<0.040	<0.040	<0.040	<0.20	0.83	<0.040	2.6	<0.040	<0.040	0.27	0.049	<0.040	<0.040	<0.040	<0.040	
	9/11/2013	NA	19	<0.50	0.85	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.50	24	26	<0.50	0.74	4.6	<0.50	
	1/20/2014	37.5	75D	6.2	0.71	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.50	99D	400D	<0.50	6	150D	<0.50	
AP-34-DO	9/11/2013	NA	<0.50	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.50	35	25	<0.50	<0.50	0.73	<0.50	
1/20/2014	36	7	1.1	0.77	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.4	<0.50	1.1	46	<0.50		
AP-35-DO	9/12/2013	NA	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	77	98	<2.0	2.1	19	<2.0	
1/20/2014	35.8	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	6.3	<2.0	<2.0	82	<2.0		
APBIO-01	4/6/2009	78	<0.0020	0.007	0.003	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.027	<0.0020	0.092	0.29	0.0022	
	4/23/2010	78	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.045	<0.010	0.12	0.77	<0.010	
	4/6/2011	77	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.023	<0.010	0.16	0.8	<0.010	
	4/6/2012	77	<0.0050	0.0084	0.012	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.024	0.076	<0.0050	0.065	1.1D	<0.0050	
	4/12/2013	77	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.021	<0.010	0.22	0.54	<0.010		
B-2	4/9/2009	11	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.019	<0.0010	<0.0010	0.022	<0.0010	
	10/26/2009	11	<0.0025	<0.0025	0.0026	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.091	<0.0025	<0.0025	0.32	0.0049	
	4/21/2010	12	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.29	<0.0050	0.022	0.46	0.0056	
	10/14/2010	12	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.011	<0.010	0.03	1.2D	0.016	
	4/6/2011	15.7	<0.0040UJ	0.0044J	<0.0040UJ	<0.0040UJ	<0.020UJ	<0.0040UJ	<0.0040UJ	<0.0040UJ	<0.0040UJ	<0.0040UJ	<0.0040UJ	0.092J	<0.0040UJ	<0.0040UJ	0.23J	0.0070J	
	10/27/2011	11.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020										

Table 2
Water Quality Data - VOC Results
2009 to Present
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)
B-2 (cont.)	4/6/2012	11.5	<0.0020	<0.0020	0.0025	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0069	0.27D	<0.0020	<0.0020	0.26D	0.0038
	11/27/2012	12	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0055	0.22	<0.0040	<0.0040	0.32	<0.0040
	4/16/2013	12	<0.0040	<0.0040	0.0052	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.015	0.56D	<0.0040	<0.0040	0.53D	0.0081
	10/23/2013	12	<0.0020	0.0022	0.0042	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.011	0.40D	<0.0020	<0.0020	0.49D	0.0077
B-3	4/3/2009	12.5	0.09	0.0017	0.0023	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.02	0.015	<0.0010	<0.0010	0.0011	<0.0010
	10/26/2009	12.5	0.044	0.0016	0.0014	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.013	0.0095	<0.0010	<0.0010	<0.0010	<0.0010
	4/21/2010	14	0.056	0.001	0.0014	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0062	0.01	<0.0010	<0.0010	<0.0010	<0.0010
	10/12/2010	12.5	0.049	0.0021	0.0028	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.016	0.011	<0.0020	<0.0020	<0.0020	<0.0020
	4/4/2011	12.5	0.042	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.015	0.0068	<0.0020	<0.0020UJ	<0.0020	<0.0020
	10/26/2011	12	0.069	<0.0020	0.0028	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.016	0.013	<0.0020	<0.0020	<0.0020	<0.0020
	4/3/2012	12.5	0.065	<0.0020	0.004	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.023	0.011	<0.0020	<0.0020	<0.0020	<0.0020
	11/13/2012	14	0.043	<0.0020	0.0027	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.018	0.0088	<0.0020	<0.0020	<0.0020	<0.0020
	4/15/2013	12.5	0.036	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.014J	0.0043	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2009	205	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0016	0.0016	<0.0010
BR-1_ZONE1	10/29/2009	205	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.028	0.067	<0.0010	0.083	0.20D	0.009
	4/22/2010	205	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/18/2010	205	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	0.042	<0.0020	0.036	0.11	0.0033
	4/14/2011	205	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.056	<0.020	0.43	1.5	0.027
	10/24/2011	205	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01	0.035	<0.0020	0.041	0.19	0.0031
	4/2/2012	205	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	205	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2009	152	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/29/2009	152	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	0.0024	0.042	<0.0010
	4/22/2010	152	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
BR-1_ZONE2	10/18/2010	152	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.002	<0.0020	<0.0020	0.013	0.23D	0.0065
	4/14/2011	152	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0046	<0.0020	0.012	0.095	<0.0020	
	10/24/2011	152	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.005	<0.0020	0.016	0.2	0.0031	
	4/2/2012	152	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	152	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/29/2009	105	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/22/2010	105	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/18/2010	105	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/14/2011	105	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/24/2011	105	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
BR-1_ZONE3	4/2/2012	105	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	105	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/29/2009	226	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/28/2010	226	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/14/2011	226	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/2/2012	226	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
BR-3_ZONE1	4/16/2013	226	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2009	200	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/28/2010	200	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/14/2011	200	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/2/2012	200	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
BR-3_ZONE2	4/16/2013	200	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/3/2009	200	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/28/2010	200	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/14/2011	200	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	&								

Table 2
Water Quality Data - VOC Results
2009 to Present
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-05 (cont.)	11/28/2012	15	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.006	<0.0020	
	2/6/2013	9.4	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0025	<0.0020	
	4/11/2013	9	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0044	<0.0020	
	10/22/2013	15	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
BW-06	7/28/2011	13	0.024	0.038	<0.0020	<0.0020	0.016	<0.0020	<0.0020	0.005	<0.0020	<0.0020	0.0028	<0.0020	<0.0020	<0.0020	0.0059	<0.0020	
	10/25/2011	13	3.5D	1.1D	0.06	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.017	<0.0020	0.027	0.019	<0.0020	0.92D	0.1	<0.0020	
	1/18/2012	13	0.0027	0.14	<0.0020	0.0028	<0.010	<0.0020	<0.0020	<0.0020	1.1D	<0.0020	<0.0020	<0.0020	<0.0020	0.002	<0.0020	<0.0020	
	4/3/2012	13	<0.0050	0.012	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	0.38	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
	8/21/2012	13.3	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020	<0.0020	0.0065	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0045	0.0027	<0.0020
	11/28/2012	15	<0.0020	0.0023	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0033	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.011	0.007	<0.0020
	2/6/2013	13.1	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	0.002	<0.0020
	4/11/2013	13	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0044	0.0023	<0.0020
		10/22/2013	14	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0035	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0025	<0.0020
		1/13/2009	15	0.39	0.42	<0.010	<0.010	---	<0.010	<0.010	<0.010	0.096	<0.010	<0.010	<0.010	<0.010	0.78	0.072	<0.010
BW-08	4/2/2009	13	<0.0020	0.02	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.25	<0.0020	<0.0020	<0.0020	<0.0020	0.005	<0.0020	<0.0020	
	7/14/2009	15	0.023	0.031	<0.0010	0.0026	---	<0.0010	<0.0010	<0.0010	0.13J	<0.0010	<0.0010	<0.0010	<0.0010	0.0088	<0.0010	<0.0010	
	10/27/2009	13	<0.010	0.046	<0.010	<0.010	---	<0.010	<0.010	<0.010	1	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
	1/28/2010	13	0.0053	0.05	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	0.41	<0.0050	<0.0050	<0.0050	<0.0050	0.0058	<0.0050	<0.0050	
	4/22/2010	15	2.4	0.12	0.13	<0.020	---	<0.020	<0.020	<0.020	0.047	<0.020	0.075	0.098	<0.020	1.8	2.2	<0.020	
	7/14/2010	15	0.59J	0.56J	<0.0050UJ	<0.0050UJ	---	<0.0050UJ	<0.0050UJ	<0.0050UJ	0.090J	<0.0050UJ	<0.0050UJ	<0.0050UJ	<0.0050UJ	0.045J	0.024J	<0.0050UJ	
	10/12/2010	14	<0.0020	0.013	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.045	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	1/5/2011	15	<0.0020	0.031	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.051	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/5/2011	13.7	0.09	0.037	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	0.053	<0.010	<0.010	<0.010	<0.010	0.72	0.19	<0.010	
	7/28/2011	13	<0.0020	0.13	<0.0020	0.0031	0.014	<0.0020	<0.0020	<0.0020	0.14	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/25/2011	13.5	0.12	0.73D	0.0031	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.24D	<0.0020	0.0096	0.017	<0.0020	0.30D	0.012	<0.0020	
	1/18/2012	13.5	<0.0020	3.5D	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.95D	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/3/2012	13	0.018	0.077	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	2.0D	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
	8/21/2012	14	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020	<0.0020	0.0054	0.018	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	11/28/2012	15	<0.0020	<0.0020	<0.0020	<0.0020	0.016	<0.0020	<0.0020	<0.0020	0.044	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.003	<0.0020
	2/6/2013	13.6	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.021	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/11/2013	17.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.015	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
		10/22/2013	14	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0033	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	BW-09	1/13/2009	15	0.17	0.22	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	0.25	<0.0025	<0.0025	<0.0025	<0.0025	0.16	0.019	<0.0025
		4/2/2009	11	0.0022	0.015	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.19	<0.0020	<0.0020	<0.0020	<0.0020	0.0024	<0.0020	<0.0020
7/14/2009		15	0.0051	0.017	<0.0010	0.0024	---	<0.0010	<0.0010	<0.0010	0.14J	<0.0010	<0.0010	<0.0010	<0.0010	0.0087	<0.0010	0.0013	
10/27/2009		11	<0.0050	0.017	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	0.62	<0.0050	<0.0050	<0.0050	<0.0050	0.0072	<0.0050	<0.0050	
1/28/2010		11	0.0062	0.07	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	0.46	<0.0050	<0.0050	<0.0050	<0.0050	0.018	<0.0050	<0.0050	
4/22/2010		15	0.33	0.16	0.026	<0.010	---	<0.010	<0.010	<0.010	0.059	<0.010	<0.010	0.022	<0.010	1.2	1	<0.010	
7/28/2011		12.5	<0.0040	0.13	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	0.22	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	
10/25/2011		12	0.0094	0.062	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.092	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
1/18/2012		12	0.012	1.1D	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	3.6D	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	
4/3/2012		12	0.0067	0.013	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	1.7D	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
8/21/2012		12	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020	<0.0020	0.0046	0.11	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
11/28/2012		15	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.057	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
2/6/2013		12.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.021	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
4/11/2013	12.5	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	<0.0020	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020		
	10/22/2013	14	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0075	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	

Table 2
Water Quality Data - VOC Results
2009 to Present
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)	
CL02-BR	4/27/2009	42	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	---	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.011J	0.086J	<0.0020UJ	<0.0020UJ	0.16J	<0.0020UJ	
	10/26/2009	75	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.039	0.2	<0.0020	
	4/21/2010	42	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.084	0.15	<0.0020	
	10/18/2010	42	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0038	0.0033	<0.0020	
	5/2/2011	80	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.017	<0.0050	<0.0050	0.018	<0.0050
	10/24/2011	42	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0097	0.035	<0.0020	
	4/3/2012	41.5	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.011	<0.0040	0.011	0.2	<0.0040
	11/12/2012	42	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.17	<0.0040	<0.0040	0.29	<0.0040	
	5/2/2013	79.6	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.043	0.057	<0.0020	
	10/24/2013	79	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	0.016	0.021	<0.0020	
CL03-DO	4/2/2009	75	<0.0010	0.033	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	10/27/2009	75	<0.010	0.057	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.43	0.23	<0.010	<0.010	0.072	<0.010	
	4/20/2010	79	<0.0010	0.035	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.083	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	10/14/2010	76	<0.0020	0.036	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.028	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/4/2011	75	<0.0020	0.03	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.069	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/27/2011	79	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0089	<0.0020	<0.0020	0.0034	<0.0020	
	4/6/2012	76	<0.020	0.035	0.024	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	6.0D	15D	<0.020	0.29	6.9D	<0.020	
	4/12/2013	76	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	10J	30D	<0.20	1.5J	13	<0.20	
10/23/2013	79	<0.0020	0.014	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.0082	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020		
CL03-S	4/20/2010	19	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0022	<0.0010	<0.0010	<0.0010	<0.0010	
	4/4/2011	18	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0038	<0.0020	<0.0020	<0.0020	<0.0020	
	4/6/2012	18	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0043	0.0075	<0.0020	<0.0020	<0.0020	<0.0020	
CL04-BR	4/12/2013	18	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0075	0.012	<0.0020	<0.0020	<0.0020	<0.0020	
	4/3/2009	54	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0045	<0.0010	<0.0010	0.017	<0.0010	
	4/21/2010	54	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0048	<0.0010	0.0014	0.023	<0.0010	
	4/6/2011	54	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.023	<0.0020	
	4/4/2012	54.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.036	0.0021	
CL04-DO	4/15/2013	54	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05	<0.0020	
	4/3/2009	27	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0015	0.019	<0.0010	<0.0010	<0.0010	<0.0010	
	4/21/2010	28	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	0.0083	<0.0010	<0.0010	<0.0010	<0.0010	
	4/6/2011	27	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.015	<0.0020	<0.0020	<0.0020	<0.0020	
	4/4/2012	27.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0022	0.031	<0.0020	<0.0020	<0.0020	<0.0020	
CL05-DOA	4/15/2013	28	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.03	<0.0020	<0.0020	<0.0020	<0.0020	
	4/3/2009	49	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
CL06-BR	4/20/2010	42	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/2/2009	69	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/22/2010	69	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/4/2011	68	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/4/2012	68	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
CL06-DO	4/15/2013	61	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/2/2009	43	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/22/2010	43	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/4/2011	41	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/4/2012	41	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
CL08-BR_ZONE1	4/15/2013	42	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/7/2009	159	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/28/2010	159	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	0.0028	0.0038	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/14/2011	159	<0.0020	<0.0020	<0.0020	<0.0020	0.35D	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/2/2012	159	<0.0020	<0.0020	<0.0020	<0.0020	0.12	<0											

Table 2
Water Quality Data - VOC Results
2009 to Present
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-BR_ZONE2 (cont.)	4/2/2012	102	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	102	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
CL08-BR_ZONE3	4/7/2009	70	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.0010
	4/28/2010	70	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001	<0.0010	<0.0010	<0.0010	<0.0010
	4/14/2011	70	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/2/2012	70	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
CL08-DO	4/16/2013	70	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2009	51	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	0.0013	<0.0010
	4/22/2010	52	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	<0.0010	0.0011	<0.0010
	4/6/2011	51	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/5/2012	51.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
4/12/2013	51.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
CL09-BR_ZONE1	4/6/2009	160	<0.025	<0.025	<0.025	<0.025	---	<0.025	<0.025	<0.025	<0.025	<0.025	1.3	2.2	<0.025	<0.025	0.4	<0.025
CL09-BR_ZONE1 (cont.)	11/2/2009	160	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.58	1.1	<0.010	0.069	1	<0.010
	4/21/2010	160	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	0.7	1.7	<0.050	<0.050	5.7	<0.050
	11/15/2010	160	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	0.62	1.1	<0.10	0.13	11D	<0.10
	4/14/2011	160	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.97	1.8	<0.020	0.086	1.8	<0.020
	10/24/2011	160	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.83	2.0D	<0.020	<0.020	1	<0.020
	4/2/2012	160	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.66	1.4	<0.040	0.11	6.4D	<0.040
	5/2/2013	160	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	0.56	1.8	<0.10	<0.10	4.8	<0.10
	4/6/2009	119	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	0.81	1.5	<0.050	0.12	5.9	<0.050
	11/2/2009	119	<0.025	<0.025	<0.025	<0.025	---	<0.025	<0.025	<0.025	<0.025	<0.025	0.43	0.94	<0.025	0.078	2.9	<0.025
	4/21/2010	119	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	0.68	1.3	<0.050	0.084	5.2	<0.050
CL09-BR_ZONE2	11/15/2010	119	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	0.42	0.75	<0.10	0.12	7.7	<0.10
	4/14/2011	119	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	0.42	0.76	<0.10	0.14	9.8	<0.10
	10/24/2011	119	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.33	1	<0.050	0.067	2.7	<0.050
	4/2/2012	119	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.38	0.96	<0.050	0.09	4.5	<0.050
	5/2/2013	119	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.54	1.6	<0.050	0.075	2.4	<0.050
	4/6/2009	81	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	0.56	0.84	<0.050	0.11	6.3	<0.050
	11/2/2009	81	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.21	0.29	<0.0050	0.75	0.62	<0.0050
CL09-BR_ZONE3	4/21/2010	81	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	0.24	0.36	<0.050	<0.050	5.9	<0.050
	11/15/2010	81	<0.040	<0.040	<0.040	<0.040	---	<0.040	<0.040	<0.040	<0.040	<0.040	0.22	0.33	<0.040	0.75	4.1D	<0.040
	4/14/2011	81	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.048	0.036	<0.010	0.063	0.98	0.016
	10/24/2011	81	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.05	0.09	<0.010	1.2D	1.2D	0.014
	4/2/2012	81	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.12	0.31	<0.020	0.3	2.6D	<0.020
	5/2/2013	81	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.24	0.64	<0.050	0.32	2.6	<0.050
	4/2/2009	35	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.015	0.037	<0.0010	<0.0010	0.0012	<0.0010
	4/21/2010	35	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.024	0.061	<0.0010	<0.0010	0.0024	<0.0010
CL09-DO	4/4/2011	32	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020
	4/2/2012	32.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.073	0.18	<0.0020	<0.0020	0.0061	<0.0020
	4/15/2013	32.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	9/24/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
CL10-BR	4/6/2009	44	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	0.0023	<0.0010	<0.0010	<0.0010	<0.0010
	10/27/2009	44	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/20/2010	46	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/14/2010	45	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/5/2011	44	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/25/2011	46	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0036	<0.0020	<0.0020	0.0027	<0.0020
	4/5/2012	44.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	11/12/2012	46	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	45	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020UJ	<0.0									

Table 2
Water Quality Data - VOC Results
2009 to Present
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-DO (cont.)	10/27/2009	30	0.0021	0.0019	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/20/2010	36	0.0045	0.0041	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0016	<0.0010	<0.0010	<0.0010	
	10/14/2010	31	<0.0020	0.0021	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/5/2011	30	<0.0020	0.0027	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/27/2011	36	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/6/2012	30.5	<0.0020	0.0034	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	11/12/2012	36	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	30	0.0023	0.0033	<0.0020	<0.0020	<0.010	<0.0020UJ	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/23/2013	36	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2009	13	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1.4	0.12	<0.020	<0.020	0.048	<0.020
10/27/2009	13	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0064	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
4/21/2010	15	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.64	0.041	<0.0050	<0.0050	0.024	<0.0050	
10/14/2010	13	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
4/5/2011	13	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.87	0.032	<0.010	<0.010	0.017	<0.010	
10/25/2011	15	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.045	0.0027	<0.0020	<0.0020	0.0096	<0.0020	
4/5/2012	13	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.13	0.0035	<0.0020	<0.0020	0.0032	<0.0020	
11/12/2012	15	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
4/16/2013	11	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020UJ	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.3D	0.15	<0.0020	<0.0020	0.033	0.0038	
10/23/2013	12	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020	
CL11-DO	4/3/2009	49	0.019	0.034	0.021	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0096	0.07	<0.0010	<0.0010	0.0016	<0.0010	
	4/20/2010	50	0.011	0.024	0.017	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0096	0.067	<0.0010	<0.0010	0.0013	<0.0010	
	4/6/2011	49.5	0.0087J	0.021J	0.019J	<0.0020UJ	0.012J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.0076J	0.067J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	
	4/6/2012	49.5	0.0043	0.0095	0.012	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0059	0.044	<0.0020	<0.0020	<0.0020	<0.0020	
	4/15/2013	49	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0056	<0.0020	<0.0020	<0.0020	<0.0020	
CL11-S	4/3/2009	24	0.011	0.0029	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.011	0.005	<0.0010	<0.0010	<0.0010	<0.0010	
	4/20/2010	24	0.01	0.0026	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.014	0.0061	<0.0010	<0.0010	<0.0010	<0.0010	
	4/6/2011	23.4	0.0057J	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.011J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.0086J	0.0037J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	
	4/6/2012	23.5	0.0077	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.012	0.0063	<0.0020	<0.0020	<0.0020	<0.0020	
	4/15/2013	22	0.0032	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.011J	0.0079	<0.0020	<0.0020	<0.0020	<0.0020	
CL12-S1	4/2/2009	22	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0031	<0.0010	<0.0010	<0.0010	<0.0010	
GZ-1	4/3/2009	12	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001	0.016	<0.0010	<0.0010	0.0024	<0.0010	
	4/20/2010	14	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	0.022	<0.0010	<0.0010	0.0062	<0.0010	
	4/5/2011	12	0.0031	0.0044	0.0074	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.17	1.6D	<0.0020	0.0029	0.62D	0.0036	
	4/5/2012	12.3	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.18	0.76D	<0.010	<0.010	0.35	<0.010	
	4/12/2013	12.4	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.19J	1.3	<0.020	<0.020	0.32	<0.020	
GZ-2R	4/3/2009	10	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0083	0.23	<0.0025	<0.0025	0.17	<0.0025	
GZ-4	10/26/2009	14	<0.0010	0.003	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0039	0.029	<0.0010	0.0016	0.045	<0.0010	
	4/20/2010	14	<0.0010	0.0015	0.0015	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0028	0.044	<0.0010	0.0037	0.069	<0.0010	
	10/14/2010	14	<0.0020	0.0046	0.0045	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.047	0.24D	<0.0020	0.0028	0.43D	0.0028	
	4/5/2011	14	<0.0050	0.0056	0.0072	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.097	0.78D	<0.0050	0.006	0.55D	<0.0050	
	10/25/2011	14	<0.0020	0.0027	0.002	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	0.003	<0.0020	0.11	0.36D	0.0021	
	4/5/2012	14	<0.010	<0.010	0.01	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.14	0.84	<0.010	<0.010	0.6	<0.010	
	11/12/2012	14	<0.0020	0.0049	0.0036	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.2	0.54D	0.0034	
	4/11/2013	12	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.11	0.71	<0.010	<0.010	0.7	<0.010
	10/23/2013	12	<0.0020	0.004	0.0068	<0.0020	0.014	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	0.042	0.75D	0.0044	

Table 2
Water Quality Data - VOC Results
2009 to Present
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-001	4/3/2009	17	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
MW-001DO	4/3/2009	55	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
MW-002R	4/27/2009	13	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.0020J	0.0070J	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ
	4/21/2010	13	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/12/2010	10	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	5/2/2011	9	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	10/24/2011	9	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/2/2012	9.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	5/2/2013	9.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
MW-003R	4/1/2009	30	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0041	<0.0010
	10/26/2009	30	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0021	<0.0010	0.014	0.0078	<0.0010
	4/21/2010	33	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/4/2011	30	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020
	4/2/2012	30.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0035	<0.0020	0.0037	0.015	<0.0020
	4/11/2013	30.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0051	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.006	0.007	<0.0020
MW-004R	4/27/2009	38	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.019J	<0.0010UJ	<0.0010UJ	0.0025J	<0.0010UJ
	4/21/2010	38	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.021	<0.0010	<0.0010	0.0023	<0.0010
	10/12/2010	35.5	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.066	<0.0020	<0.0020	0.0087	<0.0020
	5/2/2011	36	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.026	<0.0050	<0.0050	<0.0050	<0.0050
	10/24/2011	35.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.048	<0.0020	<0.0020	0.0065	<0.0020
	4/2/2012	35.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.066	<0.0020	<0.0020	0.0081	<0.0020
	5/2/2013	35.4	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0061	<0.0020	<0.0020	<0.0020	<0.0020
MW-005R	4/1/2009	17	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0033	0.0086	<0.0010	<0.0010	0.0023	<0.0010
	10/26/2009	17	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.008	0.019	<0.0010	<0.0010	0.011	<0.0010
	4/21/2010	21	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0042	0.011	<0.0010	<0.0010	0.0037	<0.0010
	4/4/2011	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.006	0.02	<0.0020	<0.0020UJ	0.0071	<0.0020
	4/2/2012	17.25	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	0.0054	<0.0020	<0.0020	<0.0020	<0.0020
	4/11/2013	17.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0061	0.019	<0.0020	<0.0020	0.0064	<0.0020
	10/23/2013	23	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0064	0.022	<0.0020	<0.0020	<0.0020	<0.0020
MW-007R	4/2/2009	24	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/28/2010	29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
MW-008	4/3/2009	17	1.3	1.3	0.066	<0.050	---	<0.050	<0.050	<0.050	0.18	<0.050	<0.050	<0.050	<0.050	5.1	1.5	<0.050
	4/20/2010	19	3	0.38	0.15	<0.025	---	<0.025	<0.025	<0.025	<0.025	<0.025	0.07	0.087	<0.025	2.1	2.5	<0.025
	4/6/2011	16.9	0.92J	0.21J	0.055J	<0.020UJ	<0.10UJ	<0.020UJ	<0.020UJ	<0.020UJ	0.023J	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	1.3J	0.50J	<0.020UJ
	4/4/2012	17	0.1	0.9	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	0.64	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	8/21/2012	16.8	0.034	0.24	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	0.41	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	11/28/2012	19	<0.0040	0.084	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	0.21	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	2/6/2013	16.8	0.45	0.4	0.014	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	0.17	<0.0050	<0.0050	<0.0050	<0.0050	0.19	0.054	<0.0050
	4/11/2013	17.9	0.42	1.1D	0.029J	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	0.32	<0.0050	0.044	0.029	<0.0050	0.93D	0.19	<0.0050
MW-009	1/14/2009	19	<0.0010	0.0025	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	0.014	<0.0010	<0.0010	0.0015	<0.0010	0.007	0.0061	<0.0010
	4/2/2009	20	<0.0010	0.003	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	0.0099	<0.0010	<0.0010	0.0015	<0.0010	0.0036	0.0053	<0.0010
	7/14/2009	19	0.0018	0.011	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0065	0.047	0.0018	0.026	0.043	0.0018
	10/27/2009	20	<0.0010	0.0028	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	0.0056	<0.0010	<0.0010	<0.0010	<0.0010	0.005	0.0059	0.0014
	1/28/2010	20	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	0.0023	<0.0010	<0.0010	<0.0010	<0.0010	0.0035	0.0058	<0.0010
	4/22/2010	19	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	0.0044	<0.0010	<0.0010	0.0013	<0.0010	0.0086	0.0036	<0.0010
	7/14/2010	19	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.0025J	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.0026J	0.0039J	<0.0010UJ
	10/12/2010	20	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.002	0.0024	<0.0020
	1/4/2011	19	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0023	<0.0020	0.013	0.011	<0.0020
	4/5/2011																	

Table 2
Water Quality Data - VOC Results
2009 to Present
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)
MW-009 (cont.)	8/21/2012	19.7	<0.0020	<0.0020	<0.0020	<0.0020	0.01	<0.0020	<0.0020	0.003	<0.0020	<0.0020	<0.0020	0.0027	<0.0020	0.0058	0.016	<0.0020
	11/28/2012	19	<0.0020	0.003	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0048	<0.0020	0.0045	0.019	<0.0020	0.11	0.13D	0.0032
	2/6/2013	20	<0.0020	0.0083	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0052	<0.0020	0.0058	0.023	<0.0020	0.45D	0.60D	0.0029
	4/11/2013	19	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.022	<0.010	0.63	0.74	<0.010
	10/22/2013	20.21	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.46	1.2	<0.10
1/20/2014	20.2	<0.010	0.015	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	1.7D	3.0D	<0.010	
MW-009A	4/3/2009	13	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/26/2009	13	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/20/2010	9	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.01	0.0084	<0.0010	<0.0010	0.016	<0.0010
	10/12/2010	9	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/4/2011	13.4	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0041	0.0049	<0.0020	0.0033	0.062	<0.0020
	10/26/2011	13	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0049	0.012	<0.0020	0.097	0.13	<0.0020
	4/3/2012	13	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0033	<0.0020
	11/13/2012	9	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/15/2013	13.3	<0.0020	<0.0020	<0.0020	<0.0020	0.012	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/23/2013	13.33	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
MW-013	4/3/2009	42	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	21	12	<0.20	<0.20	<0.20	<0.20
	4/21/2010	54	1.2	<0.020	<0.020	<0.020	---	2.2	<0.020	0.24	<0.020	<0.020	0.074	<0.020	<0.020	<0.020	<0.020	<0.020
	10/14/2010	54	0.77D	0.0072	<0.0020	<0.0020	---	2.7D	0.014	0.30D	<0.0020	0.0061	0.0037	<0.0020	0.003	<0.0020	<0.0020	<0.0020
	4/14/2011	44	0.25D	0.0041	<0.0020	<0.0020	0.024	0.73D	0.0076	0.17	<0.0020	0.0022	0.062	0.0075	<0.0020	<0.0020	<0.0020	<0.0020
	10/27/2011	41	0.25	<0.0050	<0.0050	<0.0050	<0.025	0.42	0.0053	0.24	<0.0050	<0.0050	0.0066	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	4/5/2012	53	0.27	<0.0050	<0.0050	<0.0050	<0.025	0.38	0.0051	0.31	<0.0050	<0.0050	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	11/26/2012	54	0.39	<0.0050	<0.0050	<0.0050	<0.025	0.55D	0.0054	0.55D	<0.0050	<0.0050	0.058	0.026	<0.0050	<0.0050	<0.0050	<0.0050
	4/17/2013	41.8	0.25	<0.0050	<0.0050	<0.0050	<0.025	0.28	<0.0050	0.41	<0.0050	<0.0050	0.017	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
10/24/2013	50	0.29D	0.0051	<0.0020	<0.0020	0.011	0.42D	0.0052	0.48D	<0.0020	<0.0020	0.022	0.0061	<0.0020	<0.0020	<0.0020	<0.0020	
MW-014A	4/3/2009	60	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.42	<0.0050	<0.0050	0.054	<0.0050
	4/20/2010	60	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.007	0.44	<0.0050	<0.0050	0.054	<0.0050
	4/4/2011	59	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.005	0.38D	<0.0020	<0.0020UJ	0.065	<0.0020
	4/5/2012	59	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0027	0.16D	<0.0020	0.0023	0.06	<0.0020
	4/17/2013	58.8	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.41	<0.0050	<0.0050	0.087	<0.0050	
MW-016	10/23/2013	35	<0.0020	0.007	<0.0020	<0.0020	<0.010	<0.0020	0.0024	<0.0020	<0.0020	<0.0020	0.012	0.50D	<0.0020	<0.0020	0.12	<0.0020
MW-030	4/9/2009	20	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
MW-033B	4/9/2009	24	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/21/2010	24	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/5/2011	24.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2012	24.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
4/15/2013	19	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
MW-034	4/9/2009	NA	<0.010	<0.010	0.014	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	0.21	<0.010	0.013	1.1	<0.010
	4/28/2010	64	<0.010	<0.010	0.013	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.11	<0.010	0.014	1.1	<0.010
	4/7/2011	64	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	<0.10UJ	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	0.14J	<0.020UJ	0.020J	1.2J	<0.020UJ
	4/4/2012	63	<0.020	<0.020	0.021	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.16	<0.020	0.022	1.3	<0.020
	4/16/2013	63	<0.020	<0.020	0.02	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.089	<0.020	0.026	1.6	<0.020
MW-035	4/1/2009	24	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
MW-036	4/2/2009	51	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0039	<0.0010	<0.0010	<0.0010	<0.0010
	4/20/2010	55	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.25	0.59	<0.0050	<0.0050	0.22	<0.0050
	4/4/2011	51	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.54	1.2D	<0.010	0.017	0.42	<0.010
	4/6/2012	51.8	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.75	1.8	<0.020	0.061	0.8	<0.020
4/12/2013	51.7	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	1.2J	2.3D	<0.020	0.14J	1.2	<0.020	
MW-1_32-TOZER	2/24/2011	NA	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	0.013	0.62D	<0.0050	<0.0050	0.046	<0.0050
	4/6/2012	18	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0067					

Table 2
Water Quality Data - VOC Results
2009 to Present
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-2_32-TOZER (cont.)	4/6/2012	17.3	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	12	1.8	<0.20	<0.20	3.3	<0.20
	11/28/2012	19	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	16	4.3	<0.20	<0.20	4.6	<0.20
	4/16/2013	17	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10UJ	<0.10	<0.10	<0.10	<0.10	6.7	3.8	<0.10	<0.10	4.6	<0.10
	10/23/2013	17	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	8.1	1.2	<0.10UJ	<0.10	2.2	<0.10
MW-3_32-TOZER	2/24/2011	NA	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	0.039	0.012	<0.0010	<0.0010	0.013	<0.0010
	4/6/2012	18.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
MW-4_32-TOZER	11/8/2011	NA	<0.0010	<0.0010	<0.0010	<0.0010	<0.010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	0.0044	0.0025	<0.0010	<0.0010	0.066	<0.0010
	11/12/2012	14	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	14	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020UJ	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
MW-5_32-TOZER	11/8/2011	NA	<0.0010	0.0026	<0.0010	<0.0010	0.028	<0.0010	<0.0010	<0.0010	<0.0020	<0.0020	0.0051	0.019	<0.0010	<0.0010	0.0038	<0.0010
	11/12/2012	14	<0.0020	0.015	0.0052	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0053	0.041	<0.0020	<0.0020	0.12	<0.0020
	4/16/2013	14	<0.0020	0.0057	0.003	<0.0020	<0.010	<0.0020UJ	<0.0020	<0.0020	<0.0020	<0.0020	0.0043	0.029	<0.0020	<0.0020	0.043	<0.0020
OB-04-BR	4/1/2009	89	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/20/2010	89	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/4/2011	77	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/3/2012	88	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/12/2013	77.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
OB-04-DO	4/1/2009	69	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.035	0.07	<0.0010	<0.0010	0.038	<0.0010
	4/20/2010	69	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.054	0.1	<0.0010	<0.0010	0.027	<0.0010
	4/4/2011	67	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04	0.094	<0.0020	<0.0020	0.043	<0.0020
	4/3/2012	67	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.059	0.14	<0.0020	0.011	0.091	<0.0020
	4/12/2013	67	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.075	0.16	<0.0020	0.013	0.086	<0.0020
OB-04-S	4/1/2009	23	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0016	<0.0010	<0.0010	<0.0010	<0.0010
	9/24/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0022	<0.0010	<0.0010	<0.0010	<0.0010
	4/20/2010	24	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/4/2011	23	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/3/2012	23.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
OB-05-BR	4/12/2013	23.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/1/2009	106	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.084	0.036	<0.0010
	10/26/2009	104	<0.0010	0.0013	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.067	0.026	<0.0010
	4/20/2010	109	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.24	1.2	<0.010
	10/12/2010	109	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.41	0.48	<0.0050
	4/4/2011	104	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.004	<0.0040	0.22	0.032	<0.0040
	10/24/2011	109	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0042	<0.0020	0.086	0.013	<0.0020
	4/3/2012	104	<0.0020	0.0022	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.11	0.0069	<0.0020
	4/12/2013	104	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.012	0.0085	<0.0020
	OB-05-DO	4/1/2009	81	<0.0050	0.014	0.014	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.13	0.47	<0.0050	<0.0050	0.11
10/26/2009		81	<0.0050	0.011	0.0096	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.16	0.69	<0.0050	<0.0050	0.23	<0.0050
4/20/2010		85	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.52	1.4	<0.010	<0.010	0.4	<0.010
10/12/2010		81.5	<0.040	<0.040	<0.040	<0.040	---	<0.040	<0.040	<0.040	<0.040	<0.040	0.47	1.9	<0.040	<0.040	0.48	<0.040
4/4/2011		81	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.87	3.0D	<0.020	<0.020UJ	0.76	<0.020
10/24/2011		81	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.99	2.7D	<0.010	0.026	1.0D	<0.010

Table 2
Water Quality Data - VOC Results
2009 to Present
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-DO (cont.)	4/3/2012	81.3	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.6	1.8	<0.020	<0.020	0.44	<0.020	
	4/12/2013	81.5	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.85	3	<0.040	<0.040	0.72	<0.040	
OB-05-S	4/1/2009	25	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	0.0068	<0.0010	<0.0010	<0.0010	<0.0010	
	10/26/2009	25	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0019	<0.0010	<0.0010	<0.0010	<0.0010	
	4/20/2010	29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0043	0.014	<0.0010	<0.0010	0.0028	<0.0010	
	10/12/2010	25	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0043	<0.0020	<0.0020	<0.0020	<0.0020	
	4/4/2011	25	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0022	0.0036	<0.0020	<0.0020UJ	<0.0020	<0.0020	
	10/24/2011	27	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0034	0.0053	<0.0020	<0.0020	<0.0020	<0.0020
	4/3/2012	25	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0024	<0.0020	<0.0020	<0.0020	<0.0020
OB-06-BR	4/2/2009	99	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.22	0.46	<0.0050	<0.0050	0.15	<0.0050	
	10/26/2009	99	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.12	0.22	<0.0025	<0.0025	0.07	<0.0025	
	4/22/2010	101	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.12	0.22	<0.0025	<0.0025	0.04	<0.0025	
	10/12/2010	101	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.061	0.19	<0.0020	<0.0020	0.023	<0.0020	
	4/5/2011	99	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0028	0.0025	<0.0020	0.029	0.074	<0.0020	
	10/24/2011	101	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.07	0.14	<0.0020	<0.0020	0.019	<0.0020	
	4/3/2012	89	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.049	0.14	<0.0020	<0.0020	0.023	<0.0020	
4/12/2013	100	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.069	0.11	<0.0020	<0.0020	0.038	<0.0020		
OB-06-DO	4/2/2009	65	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0039	0.015	<0.0010	0.0099	0.076	<0.0010	
	10/26/2009	65	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.044	0.1	<0.020	0.031	1.5	<0.020	
	4/22/2010	75	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.18	0.35	<0.010	0.013	0.97	<0.010	
	10/12/2010	65.5	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.045	0.096	<0.020	0.075	1.8	<0.020	
	4/5/2011	65	<0.0020	<0.0020	0.0034	<0.0020	0.011	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.110	0.310	<0.0020	0.027	1.20	0.0044	
	10/24/2011	75	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.25	0.49	<0.010	0.014	0.77	<0.010	
	4/3/2012	65.6	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	0.033	<0.010	0.15	0.59	<0.010	
	4/12/2013	63.6	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.16	0.25	<0.010	0.012	0.57	<0.010	
OB-07-DO	4/2/2009	36	<0.0050	0.0075	0.0092	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.16	0.54	<0.0050	<0.0050	0.2	<0.0050	
OB-08-DO	4/3/2009	79	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.51	2.6	<0.020	<0.020	1.4	<0.020	
	10/27/2009	78	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.46	2.2	<0.020	<0.020	1.5	<0.020	
	4/28/2010	79	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.46	2.3	<0.020	<0.020	1.1	<0.020	
	10/18/2010	78	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.42	2.50	<0.020	<0.020	1.2	<0.020	
	11/15/2010	77	<0.040	<0.040	<0.040	<0.040	---	<0.040	<0.040	<0.040	<0.040	<0.040	0.38	2.4	<0.040	<0.040	1.1	<0.040	
	4/5/2011	77	<0.0020	0.013	0.02	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.260	1.90	<0.0020	0.0084	2.20	0.0089	
	10/25/2011	79	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.34	2.2	<0.040	<0.040	1.1	<0.040	
	4/3/2012	77	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.37	2.5	<0.040	<0.040	1.2	<0.040	
	4/11/2013	78	<0.0050	0.0061	0.015	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.43	3.30	<0.0050	0.0052	1.50	0.0062	
	OB-08-S	4/3/2009	12	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.075	0.31	<0.0025	<0.0025	0.11	<0.0025
10/27/2009		12	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.029	0.15	<0.0020	<0.0020	0.062	<0.0020	
4/28/2010		14	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.044	0.21	<0.0025	<0.0025	0.066	<0.0025	
10/18/2010		12	<0.0020	0.0028	0.0028	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.09	0.450	<0.0020	<0.0020	0.230	<0.0020	
11/15/2010		12	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.069	0.38	<0.0050	<0.0050	0.16	<0.0050	
4/5/2011		12	<0.0020	0.0022	0.0028	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.081	0.390	<0.0020	<0.0020	0.12	<0.0020	
10/25/2011		12	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.038	0.15	<0.0020	<0.0020	0.042	<0.0020	
4/2/2012		12	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.056	0.28	<0.0050	<0.0050	0.1	<0.0050	
11/12/2012	14	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.058	0.27	<0.0050	<0.0050	0.12	<0.0050		
4/11/2013	12	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.074	0.36	<0.0050	<0.0050	0.082	<0.0050		
OB-09-BR	1/14/2009	121	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.23	0.91	<0.010	
	4/9/2009	118	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	0.016	<0.0020	<0.0020	0.23	0.01	
	7/14/2009	121	<0.025	<0.025	<0.025	<0.025	---	<0.025	<0.025	<0.025	<0.025	<0.025	0.068	0.069	<0.025	0.24	3.6	<0.025	
	10/28/2009	121	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	0.45	0.66	<0.050	0.1	5.3	<0.050	
	1/28/2010	118	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.011	0.018	<0.0050	0.0081	0.4	0.015	
	4/22/2010	121	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<							

Table 2
Water Quality Data - VOC Results
2009 to Present
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	4/3/2009	74	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.31	1.7	<0.020	0.034	1.6	<0.020	
	4/21/2010	75	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.079	0.51	<0.020	0.04	2.9	<0.020	
	4/5/2011	73.4	<0.0020	0.0032	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0043	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/6/2012	73	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.25	1.6	<0.020	<0.020	0.3	<0.020	
	4/12/2013	71	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	2.0DJ	4.8D	<0.020	<0.020	0.51	<0.020	
OB-10-DO	1/13/2009	49	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.017	0.39	<0.0050	<0.0050	0.4	<0.0050	
	4/1/2009	46	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.034	1.1	<0.010	<0.010	0.66	<0.010	
	7/14/2010	48.5	<0.010UJ	<0.010UJ	<0.010UJ	<0.010UJ	---	<0.010UJ	<0.010UJ	<0.010UJ	<0.010UJ	<0.010UJ	0.020J	1.2J	<0.010UJ	<0.010UJ	0.16J	0.014J	
	10/13/2010	46	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	1.1D	0.014	
	1/5/2011	48.5	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.37	<0.010	<0.010	0.69	0.014	
	4/6/2011	46	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.17	<0.010	<0.010	0.76	0.013	
	7/28/2011	46	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.13	0.87	<0.010	<0.010	0.4	0.017
	10/26/2011	48.5	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.25	<0.010	<0.010	0.81	0.019	
	1/18/2012	46	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.13	0.92	<0.010	<0.010	0.38	0.023	
	4/4/2012	46	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.3	<0.010	<0.010	0.74	0.021	
	OB-10-S	1/13/2009	29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
4/1/2009		29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
7/14/2009		29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
10/27/2009		29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
1/28/2010		29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
4/22/2010		29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
7/14/2010		29	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	
10/13/2010		29	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
1/5/2011		29	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
4/6/2011		31	<0.0020	<0.0020	<0.0020	<0.0020	0.01	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
7/28/2011		29	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
10/26/2011		29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
1/18/2012		29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
4/4/2012		29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0081	0.02	<0.0020	<0.0020	<0.0020	
8/21/2012		29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	0.004	<0.0020	
11/28/2012	29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0038	0.03	<0.0020	<0.0020	0.0092	<0.0020	
2/6/2013	29.1	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0023	0.024	<0.0020	<0.0020	0.0079	<0.0020	
5/2/2013	29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0051	0.032	<0.0020	<0.0020	0.0093	<0.0020	
OB-11-BR	4/3/2009	85	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0031	<0.0010	0.004	0.022	0.0021	
	4/6/2011	86.1	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.010UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.0064J	<0.0020UJ	0.0027J	0.036J	0.0045J	
	4/5/2012	86	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0032	<0.0020	<0.0020	0.045	0.0051	
	4/17/2013	82	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	<0.0020	<0.0020	0.047	0.0058	
OB-11-DO	4/3/2009	61	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.065	<0.0010	<0.0010	0.023	<0.0010	
	4/6/2011	59.8	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.010UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.075J	<0.0020UJ	<0.0020UJ	0.021J	<0.0020UJ	
	4/5/2012	59	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.083	<0.0020	<0.0020	0.021	<0.0020	
	4/17/2013	60	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.084	<0.0020	<0.0020	0.027	<0.0020	
OB-11-S	4/3/2009	29	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
OB-12-BR	1/13/2009	87	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0016	0.023	<0.0010	0.0013	0.037	<0.0010	
	4/1/2009	84	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0021	0.051	<0.0010	0.002	0.084	<0.0010	
OB-12-DO	1/13/2009	59	<0.40	<0.40	<0.40	<0.40	---	<0.40	<0.40	<0.40	<0.40	<0.40	2.3	39	<0.40	<0.40	18	<0.40	
	4/1/2009	50	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50	<0.50	<0.50	<0.50	2.1	43	<0.50	<0.50	20	<0.50	
	10/27/2009	50	<0.0010	0.0078	<0.0010	0.0027	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	5/7/2010	57	<0.0010	0.0075	<0.0010	0.0026	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.088	<0.0010	<0.0010	<0.0010	<0.0010	
	7/14/2010	59	<0.0010UJ	0.0084J	<0.0010UJ	0.0034J	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.27DJ	0.0038J	<0.0010UJ	<0.0010UJ	<0.0010UJ	
	10/13/2010	46																	

Table 2
Water Quality Data - VOC Results
2009 to Present
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-DO (cont.)	10/26/2011	48	<0.0020	0.0069	<0.0020	0.0022	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0034	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	1/17/2012	48.5	<0.0020	0.008	0.018	0.0021	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.8D	<0.0020	<0.0020	<0.0020	5.5D	0.013
	4/4/2012	48	<0.40	<0.40	<0.40	<0.40	<2.0	<0.40	<0.40	<0.40	<0.40	<0.40	2.5	37	<0.40	<0.40	19	<0.40
	11/26/2012	59	<0.0020	0.0068	<0.0020	0.0024	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/17/2013	56	<0.0020	0.0076	<0.0020	<0.0020	0.014	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.086	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
10/24/2013	59	<0.0020	0.0057	0.025	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.8D	18D	<0.0020	<0.0020	7.5D	0.051	
OB-12-S	1/13/2009	29	0.0041	<0.0025	<0.0025	<0.0025	---	0.0051	<0.0025	<0.0025	<0.0025	<0.0025	0.25	0.18	<0.0025	<0.0025	<0.0025	<0.0025
	4/1/2009	26	0.0021	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.17	0.11	<0.0020	<0.0020	<0.0020	<0.0020
	7/14/2009	29	0.0048	<0.0025	<0.0025	<0.0025	---	0.0061	<0.0025	<0.0025	<0.0025	<0.0025	0.26	0.19	<0.0025	<0.0025	<0.0025	<0.0025
	10/27/2009	26	0.0012	<0.0010	<0.0010	<0.0010	---	0.0017	<0.0010	<0.0010	<0.0010	<0.0010	0.088	0.022	<0.0010	<0.0010	<0.0010	<0.0010
	1/28/2010	26	0.0022	<0.0010	<0.0010	<0.0010	---	0.002	<0.0010	<0.0010	<0.0010	<0.0010	0.072	0.015	<0.0010	<0.0010	<0.0010	<0.0010
	4/22/2010	29	0.0023	<0.0010	<0.0010	<0.0010	---	0.0017	<0.0010	<0.0010	<0.0010	<0.0010	0.089	0.055	<0.0010	<0.0010	<0.0010	<0.0010
	7/14/2010	29	0.0043J	<0.0010UJ	<0.0010UJ	<0.0010UJ	---	0.0039J	<0.0010UJ	0.0025J	<0.0010UJ	<0.0010UJ	0.22DJ	0.14J	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ
	10/13/2010	26	0.005	<0.0040	<0.0040	<0.0040	0.0091J	0.0052	<0.0040	<0.0040	<0.0040	<0.0040	0.22	0.15	<0.0040	<0.0040	<0.0040	<0.0040
	1/5/2011	29	0.0038	<0.0020	<0.0020	<0.0020	0.012	0.0034	<0.0020	0.0026	<0.0020	<0.0020	0.17	0.098	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2011	27.7	<0.0020	<0.0020	<0.0020	<0.0020	0.0053J	0.002	<0.0020	<0.0020	<0.0020	<0.0020	0.15	0.071	<0.0020	<0.0020	<0.0020	<0.0020
	7/28/2011	26	0.0033	<0.0020	<0.0020	<0.0020	0.015	0.0025	<0.0020	0.0023	<0.0020	<0.0020	0.19	0.12	<0.0020	<0.0020	<0.0020	<0.0020
	10/26/2011	26	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.058	0.021	<0.0020	<0.0020	<0.0020	<0.0020
	1/17/2012	26.5	0.0041	<0.0020	<0.0020	<0.0020	<0.010	0.0037	<0.0020	0.0033	<0.0020	<0.0020	0.19	0.14	<0.0020	<0.0020	<0.0020	<0.0020
	4/4/2012	26	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.2	0.11	<0.0040	<0.0040	<0.0040	<0.0040
	8/21/2012	27.7	0.0042	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	0.0043	<0.0040	<0.0040	0.19	0.13	<0.0040	<0.0040	<0.0040	<0.0040
	11/28/2012	29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	2/6/2013	27.4	0.0061	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	0.007	<0.0040	<0.0040	0.26	0.16	<0.0040	<0.0040	<0.0040	<0.0040
	4/12/2013	27	0.004	<0.0020	<0.0020	<0.0020	<0.010	0.0028	<0.0020	0.0038	<0.0020	<0.0020	0.18D	0.12	<0.0020	<0.0020	<0.0020	<0.0020
OB-14-DO	4/3/2009	55	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.086	0.84	<0.010	<0.010	0.21	<0.010
	4/6/2011	55.4	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	<0.10UJ	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	0.096J	1.0J	<0.020UJ	<0.020UJ	0.17J	<0.020UJ
	4/5/2012	55	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.095	1.2	<0.020	<0.020	0.13	<0.020
	4/18/2013	56	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.094	1.1	<0.020	<0.020	0.15	<0.020
OB-15-S	1/13/2009	19	0.5	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	6.1	4.3	<0.050	<0.050	0.76	<0.050
	4/1/2009	18	0.25	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	4.4	4.4	<0.10	<0.10	7.6	<0.10
	7/14/2009	19	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	0.21	<0.10	<0.10	0.78	9.5	<0.10
	10/27/2009	18	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	0.092	<0.050	<0.050	1.3	4.4	<0.050
	1/28/2010	18	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	0.13	0.27	<0.050	1.4	5.6	<0.050
	4/22/2010	19	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1.2	3.7	<0.050
	7/14/2010	19	0.0044J	0.0054J	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.0011J	<0.0010UJ	0.0060J	0.0044J	0.0021J
	10/12/2010	19	0.0026	0.0085	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	0.014	<0.0020
	1/4/2011	19	<0.0020	0.0022	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.0065	<0.0020	<0.0020	<0.0020	<0.0020	0.1	0.11	0.0022
	4/6/2011	18.7	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.05	<0.010	<0.010	0.53	1.2D	<0.010
	7/28/2011	19	<0.0020	<0.0020	<0.0020	<0.0020	0.017	<0.0020	<0.0020	<0.0020	0.0028	<0.0020	<0.0020	0.012	<0.0020	0.04	0.026	<0.0020
	10/25/2011	18.5	<0.0020	0.0051	<0.0020	<0.0020	0.013	<0.0020	<0.0020	<0.0020	0.0054	<0.0020	<0.0020	<0.0020	<0.0020	0.18	0.15	<0.0020
	1/17/2012	18.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0043	<0.0020	<0.0020	<0.0020	<0.0020	0.0052	0.0045	<0.0020
	4/3/2012	18.75	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.64	1.4	<0.020
	8/21/2012	18.6	<0.0020	<0.0020	<0.0020	<0.0020	0.014	<0.0020	<0.0020	0.02	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0088	0.024	<0.0020
	11/28/2012	19	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	0.0056	0.0031	<0.0020	0.0074	0.01	<0.0020	0.067	0.055	<0.0020
	2/6/2013	18.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0025	<0.0020	<0.0020	0.004	<0.0020	0.032	0.035	<0.0020
	4/11/2013	19	<0.0020	<0.0020	<0.0020	<0.0020	0.014	<0.0020	<0.0020	<0.0020	0.0035	<0.0020	<0.0020	<0.0020	<0.0020	0.15	0.024	<0.0020
10/22/2013	18.47	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0021	<0.0020	<0.0020	0.0023	<0.0020	0.057	0.017	<0.0020	
1/21/2014	19.7	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0036	<0.0020	0.095	0.0058	<0.0020	
OB-16-BR	4/3/2009	32	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0055	<0.0010	<0.0010	<0.0010	<0.0010
	4/20/2010	32	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/5/2011	32	<0.0020	<0.0020	<0.0020	<0.0020	<											

Table 2
Water Quality Data - VOC Results
2009 to Present
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-16-S	4/3/2009	15	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	0.0016	<0.0010	<0.0010	<0.0010	<0.0010
	4/20/2010	17	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0017	<0.0010	<0.0010	<0.0010	<0.0010
	4/6/2011	15	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/5/2012	15.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020UJ	<0.0020	0.048	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
OB-17-BR	4/1/2009	95	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.018	0.37	<0.0025
	4/21/2010	97	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.17	0.11	<0.0025
	4/4/2011	96	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0029	<0.0020	0.13	0.039	<0.0020
	4/2/2012	98	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.13	<0.0020	<0.0020
	4/12/2013	97	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	0.097J	0.016	<0.0020
OB-17-DO	4/1/2009	41	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.017	0.019	<0.0010	<0.0010	<0.0010	<0.0010
	4/21/2010	42	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.016	0.018	<0.0010	<0.0010	<0.0010	<0.0010
	4/4/2011	41	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.014	0.015	<0.0020	<0.0020UJ	<0.0020	<0.0020
	4/2/2012	41.24	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	0.015	<0.0020	<0.0020	<0.0020	<0.0020
	4/12/2013	41.4	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0094J	0.0096	<0.0020	<0.0020	<0.0020	<0.0020
OB-18-DO	4/2/2009	23	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0051	0.088	<0.0010	0.0016	0.056	<0.0010
	10/26/2009	23	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0019	<0.0010	<0.0010	0.012	0.11	<0.0010	<0.0010	0.048	<0.0010
	4/20/2010	25	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.071	0.7	<0.010	0.013	0.47	<0.010
	10/14/2010	24	<0.0020	0.0023	0.0038	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.035	0.36D	<0.0020	0.016	0.46D	0.0032
	4/5/2011	23	<0.0020	0.0027	0.0048	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.076	0.63D	<0.0020	0.051	0.66D	<0.0020
	10/25/2011	23	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.027	0.16	<0.0020	0.007	0.099	<0.0020
	4/5/2012	23.8	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.018	0.23	<0.0050	0.024	0.37	<0.0050
	4/12/2013	23.8	<0.0050	<0.0050	0.0057	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.039J	0.37	<0.0050	0.063J	0.43	<0.0050
	10/26/2009	11	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
OB-18-S	4/2/2009	11	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/26/2009	11	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/20/2010	14	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	<0.0010	0.0011	<0.0010
	10/14/2010	11	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0026	0.0082	<0.0020	0.019	0.07	0.0082
	4/5/2011	11	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/25/2011	11	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/5/2012	11.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0049	<0.0020	<0.0020	0.0026	<0.0020
	11/12/2012	14	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/12/2013	11.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/23/2013	11	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020UJ	0.0087	0.086	0.0031
OB-19-BR	1/13/2009	91	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	0.85	9.4	<0.10	<0.10	4.7	<0.10
	4/9/2009	82	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	1	12	<0.10	<0.10	6	<0.10
	7/14/2010	91	<0.050UJ	<0.050UJ	<0.050UJ	<0.050UJ	---	<0.050UJ	<0.050UJ	<0.050UJ	<0.050UJ	<0.050UJ	0.39J	6.3J	<0.050UJ	0.13J	5.8J	0.053J
OB-19-DO	1/13/2009	64	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	8.7	17	<0.20	<0.20	2.3	<0.20
	4/9/2009	57	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	8.1	17	<0.20	<0.20	2.1	<0.20
	7/14/2010	64	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	---	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	0.52J	2.6J	<0.020UJ	0.10J	1.4J	0.075J
	10/13/2010	57	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.25	0.94	<0.020	0.085	1.9D	0.058
	1/5/2011	64	<0.040	<0.040	<0.040	<0.040	---	<0.040	<0.040	<0.040	<0.040	<0.040	0.87	3.2	<0.040	0.1	1.5	0.064
	4/4/2011	57	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.46	1.8	<0.020	0.066J	1.4	0.051
	7/28/2011	57	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.74	2.8	<0.040	0.11	1.7	0.061
	10/26/2011	64	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.72	3.2D	<0.020	0.079	1.3	0.053
	1/17/2012	56.5	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.82	3.1	<0.040	0.094	1.5	0.066
	4/4/2012	57	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.8	3.1	<0.040	0.1	1.5	0.066
	11/26/2012	64	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	12D	24D	<0.040	0.086	4.1	0.07
	4/15/2013	57	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.83J	3.8	<0.050	0.097	1.3	0.063
	10/23/2013	64	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.64	2.4	<0.040	0.044	0.8	0.051
OB-19-S	4/3/2009	34	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.001										

Table 2
Water Quality Data - VOC Results
2009 to Present
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.)	4/15/2013	32	<0.0020	<0.0020	<0.0020	<0.0020	0.012	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
OB-20-BR	4/6/2009	95	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	10/27/2009	95	<0.0010	0.0014	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/28/2010	100	<0.0010	0.0014	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	10/13/2010	96	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0027	<0.0020	<0.0020	0.014	<0.0020	
	4/6/2011	95	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.056	<0.0020	<0.0020	0.29D	<0.0020	
	10/26/2011	97	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0031	0.13	<0.0020	0.0024	0.47D	0.002
	4/6/2012	94.75	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.024	<0.0040	<0.0040	0.19	<0.0040	
	4/15/2013	93.5	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.11	<0.0040	<0.0058	0.89D	0.011	
OB-20-DO	4/6/2009	75	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.031	<0.0050	0.0075	0.42	<0.0050	
	10/27/2009	75	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0058	0.076	<0.0025	<0.0025	0.25	<0.0025	
	4/23/2010	77	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.012	<0.0050	<0.0050	0.34	<0.0050	
	10/13/2010	75	<0.0040	<0.0040	<0.0040	<0.0040	---	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.014	<0.0040	0.005	0.45D	<0.0040	
	4/6/2011	75	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0036	0.023	<0.0020	<0.0020	0.19	<0.0020	
	10/26/2011	75	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.012	<0.0050	0.027	0.47	<0.0050	
	4/6/2012	74.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/15/2013	73	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0079	<0.0020	0.013	0.30D	<0.0020	
OB-20-S	4/6/2009	11	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	10/27/2009	11	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/23/2010	12	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	10/13/2010	11	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/6/2011	11	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/26/2011	12	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/6/2012	10.9	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	11/12/2012	12	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/15/2013	11	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/23/2013	12	<0.0020U	<0.0020U	<0.0020U	<0.0020U	<0.010U	<0.0020U	<0.0020U	<0.0020U	<0.0020U	<0.0020U	<0.0020U	<0.0020U	0.003	<0.0020U	<0.0020U	0.0029	<0.0020U
	OB-21-BR	4/6/2009	97	<0.0050	0.008	0.0087	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.037	0.16	<0.0050	0.012	0.74	<0.0050
		10/27/2009	97	<0.010	<0.010	0.012	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.043	0.12	<0.010	0.014	1	<0.010
4/28/2010		97	<0.010	<0.010	0.013	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.063	0.45	<0.010	0.014	1.1	<0.010	
10/13/2010		97	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.13	<0.020	0.03	1.6	<0.020	
4/6/2011		98.2	<0.0040	0.0092	0.011	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.013	0.14	<0.0040	0.017	1.5D	0.0043
10/26/2011		97	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.033	0.061	<0.020	0.022	1.5	<0.020	
4/6/2012		99.5	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.49	<0.010	
4/15/2013		96	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.024	<0.0050	<0.0050	<0.0050	0.31	<0.0050	
OB-21-DO	4/6/2009	79	<0.0050	0.0069	0.0074	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.21	0.71	<0.0050	<0.0050	0.27	<0.0050	
	10/27/2009	79	<0.0050	0.0097	0.01	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.17	0.61	<0.0050	<0.0050	0.42	<0.0050	
	4/28/2010	79	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.32	1.1	<0.010	<0.010	0.49	<0.010	
	10/13/2010	79	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.32	1.4	<0.020	<0.020	0.47	<0.020	
	4/6/2011	79	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.34	1.3	<0.020	<0.020	0.41	<0.020	
	10/26/2011	79	<0.010	<0.010	0.011	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.28	1.4D	<0.010	<0.010	0.51	<0.010	
	4/6/2012	78.5	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.22	1	<0.020	<0.020	0.39	<0.020	
	4/15/2013	78.6	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.31	1.1	<0.020	<0.020	0.33	<0.020	
OB-22-DO	4/6/2009	56	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.38	0.58	<0.0050	<0.0050	0.15	<0.0050	
	10/27/2009	57	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.066	0.25	<0.0025	0.0039	0.28	<0.0025	
	10/12/2010	56	<0.0040	<0.0040	<0.0040	<0.0040	---	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.023	0.054	<0.0040	0.032	0.40D	<0.0040	
	10/25/2011	55	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0069	<0.0020	<0.0020	0.031	<0.0020		
OB-23-BR	4/1/2009	95	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.01	
	4/21/2010	97	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001	<0.0010	0.071	0.065	<0.0010	
	4/4/2011	83	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020											

Table 2
Water Quality Data - VOC Results
2009 to Present
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-24-S (cont.)	4/21/2010	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/5/2011	2	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/5/2012	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/18/2013	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
OB-25-BR	4/3/2009	95	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	<0.50	18	64	<0.50
	4/20/2010	99	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50	<0.50	<0.50	<0.50	0.51	3.8	<0.50	21	56	<0.50
	7/14/2010	99.5	<0.50UJ	<0.50UJ	<0.50UJ	<0.50UJ	---	<0.50UJ	<0.50UJ	<0.50UJ	<0.50UJ	<0.50UJ	<0.50UJ	2.9J	<0.50UJ	20J	65J	<0.50UJ
	10/13/2010	97	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.7	<0.50	21	67D	<0.50
	4/14/2011	101	<0.0020	0.023	<0.0020	<0.0020	0.018	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/26/2011	99.5	<0.40	<0.40	<0.40	<0.40	<2.0	<0.40	<0.40	<0.40	<0.40	<0.40	1.9	8.8	<0.40	4	22	<0.40
	4/5/2012	90	<0.0020	0.037	0.11	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.69D	7.8D	<0.0020	6.8D	30D	0.14
	11/26/2012	99	<0.0020	0.0026	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.014	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/15/2013	95	<0.0020	0.019	<0.0020	<0.0020	0.015	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/23/2013	99	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.11	1.1	<0.050	0.3	4.4	<0.050
	OB-25-DO	7/14/2010	69	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	---	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	<0.10UJ	1.0J	13J	<0.10UJ	<0.10UJ	1.3J
11/8/2013		69	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	0.46	8.4	<0.10	<0.10	0.21	<0.10
1/21/2014		50.5	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	0.46	15D	<0.10	<0.10	0.59	<0.10
OB-26-BR	4/3/2009	93	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.019	0.48	<0.0050	<0.0050	0.19	<0.0050
	4/20/2010	95	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0016	<0.0010	<0.0010	<0.0010	<0.0010
	4/4/2011	93.1	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	
	4/17/2012	95	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0039	0.031	<0.0020	0.011	0.28D	<0.0020
	4/15/2013	90	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0082	<0.0020	<0.0020	0.021	<0.0020
OB-26-DO	10/23/2013	65	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	1.3	5	<0.050	<0.050	0.27	<0.050	
OB-27-BR	4/3/2009	86	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	10	26	<0.20	<0.20	7.7	<0.20
	10/27/2009	78.5	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	10	24	<0.20	<0.20	7.6	<0.20
	4/22/2010	86	<0.0025	0.028	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.19	0.048	<0.0025	<0.0025	0.005	<0.0025
	10/14/2010	86	<0.0020	0.045	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/14/2011	81	<0.0020	0.017	<0.0020	<0.0020	0.01	<0.0020	<0.0020	0.0056	<0.0020	<0.0020	0.0026	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/28/2011	86	<0.0050	0.036	0.05	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	7.4D	22D	<0.0050	0.03	4.9D	0.012	<0.0050
	4/6/2012	85	<0.0020	0.033	0.054	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	3.2D	20D	<0.0020	0.026	4.7D	0.028
	11/26/2012	86	<0.0020	0.037	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/15/2013	85	<0.0020	0.047	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.071J	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/24/2013	86	<0.0020	0.036	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0061	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
OB-27-DO	4/3/2009	61	<0.0010	0.0013	0.0029	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0028	<0.0010	<0.0010	<0.0010	<0.0010
OB-28-BR	4/6/2009	93	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.024	<0.0010	<0.0010	0.0011	<0.0010
	4/20/2010	93	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	5/27/2011	122	<0.0020	<0.0020	<0.0020	<0.0020	0.022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/5/2012	89	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/15/2013	84	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.082	<0.0020	<0.0020	0.0059	<0.0020
OB-30-DO	4/6/2009	68	<0.0020	0.18	0.18	0.0025	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0025	0.18	<0.0020	<0.0020	0.0089	<0.0020
OB-32-DO	4/3/2009	60	2.4	<0.020	<0.020	<0.020	---	2	<0.020	0.85	<0.020	<0.020	0.16	0.03	<0.020	<0.020	<0.020	<0.020
	10/27/2009	60	1.5	<0.010	<0.010	<0.010	---	1.4	<0.010	0.53	<0.010	<0.010	0.059	<0.010	<0.010	<0.010	<0.010	<0.010
	11/23/2009	60	2	<0.020	<0.020	<0.020	---	1.7	<0.020	0.51	<0.020	<0.020	0.3	<0.020	<0.020	<0.020	<0.020	<0.020
	4/20/2010	60	1.5	<0.010	<0.010	<0.010	---	1.3	<0.010	0.36	<0.010	<0.010	0.046	<0.010	<0.010	<0.010	<0.010	<0.010
	10/14/2010	60	1.4D	<0.0020	<0.0020	<0.0020	---	1.2D	<0.0020	0.28D	<0.0020	0.0025	0.0021	<0.0020	0.004	<0.0020	<0.0020	<0.0020
	4/14/2011	52	0.57D	<0.0040	<0.0040	<0.0040	<0.020	0.50D	<0.0040	0.1	<0.0040	<0.0040	0.079	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	10/28/2011	60	0.43	<0.0050	<0.0050	<0.0050	<0.025	0.45	<0.0050	0.079	<0.0050	<0.0050	0.0068	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	4/5/2012	48	0.19	<0.0020	<0.0020	<0.0020	<0.010	0.19	<0.0020	0.041	<0.0020	<0.0020	0.042	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	12/18/2012	60	0.097	<0.00020	<0.00057	<0.00036	0.012	0.12	<0.00029	0.026	<0.00024	<0.00021	<0.00030	<0.00022	<0.00020	<0.00032	<0.00030	<0.00033
	4/18/2013	60	0.062	<0.0020	<0.0020	<0.0020	<0.010	0.067	<0.0020	0.019	<0.0020	<0.0020	0.014	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/24/2013	60	0.043	<0.0020	<0.0020	<0.0020	<0.010											

Table 2
Water Quality Data - VOC Results
2009 to Present
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-34-DO (cont.)	10/27/2009	62	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	1.6	8.6	<0.10	<0.10	0.65	<0.10
	4/20/2010	63	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	1.6	10	<0.10	<0.10	1.1	<0.10
	10/14/2010	63	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	0.0093	<0.0050	<0.0050	0.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	4/14/2011	61	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.9	0.37	<0.010	<0.010	0.011	<0.010
	10/28/2011	63	<0.0050	<0.0050	0.006	<0.0050	<0.025	<0.0050	<0.0050	0.0058	<0.0050	<0.0050	1.3D	11D	<0.0050	<0.0050	0.95D	<0.0050
	4/5/2012	62	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	1.2	8.5	<0.10	<0.10	0.77	<0.10
	11/27/2012	63	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	1.5	9.5D	<0.10	<0.10	0.83	<0.10
	4/17/2013	58.2	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	1.2	7.6	<0.10	<0.10	0.58	<0.10
	10/24/2013	63	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	1.3	10	<0.10	<0.10	0.78	<0.10
	OB-35-DO	4/9/2009	57	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	19	6.2	<0.20	<0.20	1.7
10/28/2009		57	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	22	6.9	<0.20	<0.20	1.6	<0.20
4/22/2010		62	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	22	7.5	<0.20	<0.20	1.6	<0.20
10/14/2010		49	<0.40	<0.40	<0.40	<0.40	---	<0.40	<0.40	<0.40	<0.40	<0.40	34	7.7	<0.40	<0.40	1.6	<0.40
4/7/2011		48.7	<0.50UJ	<0.50UJ	<0.50UJ	<0.50UJ	<2.5UJ	<0.50UJ	<0.50UJ	<0.50UJ	<0.50UJ	<0.50UJ	32J	7.7J	<0.50UJ	<0.50UJ	1.6J	<0.50UJ
10/27/2011		62	<0.40	<0.40	<0.40	<0.40	<2.0	<0.40	<0.40	<0.40	<0.40	<0.40	29	5	<0.40	<0.40	0.95	<0.40
4/6/2012		48	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	19	5.4	<0.20	<0.20	0.79	<0.20
11/27/2012		62	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	32D	4.8	<0.20	<0.20	0.78	<0.20
4/15/2013		61	<0.40	<0.40	<0.40	<0.40	<2.0	<0.40	<0.40	<0.40	<0.40	<0.40	47D	8.6	<0.40	0.41	1.4	<0.40
10/24/2013		56	<0.0020	0.009	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.007	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
OB-36-DO	1/14/2009	62	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	4	8.2	<0.10	<0.10	<0.10	<0.10
	4/9/2009	54	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	3.9	6.3	<0.050	<0.050	<0.050	<0.050
	10/26/2009	55	<0.25	<0.25	<0.25	<0.25	---	<0.25	<0.25	<0.25	<0.25	<0.25	7.9	29	<0.25	<0.25	<0.25	<0.25
	4/22/2010	61	<0.050	<0.050	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	4.4	5.8	<0.050	<0.050	<0.050	<0.050
	10/13/2010	54	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	6.4	15	<0.20	<0.20	<0.20	<0.20
	4/7/2011	53.9	<0.20UJ	<0.20UJ	<0.20UJ	<0.20UJ	<1.0UJ	<0.20UJ	<0.20UJ	<0.20UJ	<0.20UJ	<0.20UJ	7.0J	9.8J	<0.20UJ	<0.20UJ	0.24J	<0.20UJ
	10/28/2011	61	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	6.6	5.2	<0.10	<0.10	<0.10	<0.10
	4/6/2012	41	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	12D	10	<0.10	<0.10	<0.10	<0.10
	11/27/2012	61	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	10	9.1	<0.20	<0.20	<0.20	<0.20
	4/15/2013	46	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	8.1D	48D	<0.20	<0.20	<0.20	<0.20
10/24/2013	51.5	0.02	0.013	<0.0020	<0.0020	0.021	<0.0020	<0.0020	0.0034	<0.0020	<0.0020	<0.0020	0.012	<0.0020	<0.0020	<0.0020	<0.0020	
OB-37-DO	1/30/2009	61	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	0.79	17	<0.20	<0.20	<0.20	<0.20
	4/9/2009	61	<0.20	<0.20	<0.20	<0.20	---	<0.20	<0.20	<0.20	<0.20	<0.20	2.4	23	<0.20	<0.20	<0.20	<0.20
	10/26/2009	49	<0.40	<0.40	<0.40	<0.40	---	<0.40	<0.40	<0.40	<0.40	<0.40	2.3	43	<0.40	<0.40	<0.40	<0.40
	4/22/2010	61	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.36	0.98	<0.010	<0.010	<0.010	<0.010
	10/13/2010	61	<0.0050	<0.0050	<0.0050	<0.0050	---	0.007	<0.0050	0.019	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	4/7/2011	35	0.0031J	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.016J	<0.0020UJ	<0.0020UJ	0.0093J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ
	10/28/2011	61	0.0084	<0.0020	<0.0020	<0.0020	0.12	0.0033	<0.0020	0.007	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2012	46	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.014J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	0.0028J	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ	<0.0020UJ
	11/27/2012	61	0.039	0.01	<0.0020	<0.0020	0.02	<0.0020	<0.0020	0.0045	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/15/2013	53.7	0.05	0.018	<0.0020	<0.0020	0.025	<0.0020	<0.0020	0.0048	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
10/24/2013	59	0.0069	<0.0020	<0.0020	<0.0020	0.018	<0.0020	<0.0020	0.0084	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
OB-38-DO	4/9/2009	47	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.74	0.55	<0.010	<0.010	0.13	<0.010
	10/28/2009	47	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.25	0.36	<0.010	<0.010	1.1	<0.010
	4/21/2010	54	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.25	0.27	<0.0025	<0.0025	0.056	<0.0025
	10/14/2010	45.5	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.43	0.32	<0.0050	0.0064	0.34	<0.0050
	4/5/2011	45	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.27	0.22	<0.0040	<0.0040	0.037	<0.0040
	10/26/2011	45	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.52D	0.39	<0.0050	0.0052	0.28	0.0057
	4/6/2012	44.5	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.47	0.46	<0.0050	<0.0050	0.15	0.0067
	11/27/2012	54	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.24	0.19	<0.0050	<0.0050	0.13	<0.0050
	4/15/2013	42	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.45	0.62D	<0.0050	0.0061	0.12	0.0075
	10/23/2013	46	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0094	0.014	<0.0050	<0.0050	0.54D	0.0074
OB-39-DO	4/9/2009	53	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0076	<0.0010	<0.0010	<0.0010	<0.0010
OB-40-DO	4/9/2009	68	<0.0010	<0.0010	<0													

Table 2
Water Quality Data - VOC Results
2009 to Present
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-41-S	4/5/2011	13	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.05	0.26	<0.0040	<0.0040	0.081	<0.0040	
	10/25/2011	13	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.03	0.12	<0.0020	<0.0020	0.04	<0.0020	
	4/5/2012	13.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.017	0.069	<0.0020	<0.0020	0.028	<0.0020	
	11/12/2012	14	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.022	0.082	<0.0020	<0.0020	0.034	<0.0020	
	4/12/2013	13.3	<0.0020	<0.0020	0.0024	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.071	0.29D	<0.0020	<0.0020	0.08	<0.0020	
10/23/2013	13.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.021	0.089	<0.0020UJ	<0.0020	0.035	<0.0020		
OB-42-S	4/5/2011	13	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.1	2.7	<0.040	<0.040	1.2	<0.040	
	10/24/2011	13	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.096	3	<0.050	<0.050	1	<0.050	
	4/4/2012	13.5	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.078	2.4	<0.040	<0.040	0.94	<0.040	
	11/12/2012	14	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.11	2.6	<0.040	<0.040	0.79	<0.040	
	4/12/2013	13.6	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.13J	3.5	<0.040	<0.040	1.4	<0.040	
10/23/2013	12.2	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.081	2.2	<0.040UJ	<0.040	0.6	<0.040		
OB-43-S	10/24/2011	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0052	0.007	<0.0020	<0.0020	<0.0020	<0.0020	
	4/4/2012	15	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	11/12/2012	14	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	0.003	<0.0020	<0.0020	<0.0020	<0.0020	
	4/12/2013	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0024	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
10/23/2013	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020		
OB-44-S	1/7/2014	NA	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	47	24	<1.0	<1.0	<1.0	<1.0	
P-05R	4/27/2009	NA	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	
P-09R	4/6/2009	4.5	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.016	<0.0010
	10/27/2009	4.5	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/23/2010	4.5	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0036	<0.0010
	10/13/2010	4.5	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/6/2011	3.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	<0.0020
	10/24/2011	4.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	11/12/2012	5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	5/2/2013	3.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/23/2013	4.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020	<0.0020
	4/27/2009	NA	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ
4/22/2010	9	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
4/5/2011	8	<0.0020	<0.0020	<0.0020	<0.0020	0.01	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
4/5/2012	8.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
4/12/2013	8.75	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
P-19A	4/6/2009	10	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	0.025	<0.0020	<0.0020	0.28	<0.0020	
	10/27/2009	10	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0067	0.031	<0.0020	<0.0020	0.28	<0.0020	
	4/22/2010	10	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0019	<0.0010	<0.0010	0.033	<0.0010		
	10/13/2010	10	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0065	0.037	<0.0020	<0.0020	0.47D	<0.0020	
	4/6/2011	9	<0.0020	<0.0020	<0.0020	<0.0020	0.01	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0031	0.012	<0.0020	<0.0020	0.12	<0.0020	
	10/24/2011	10	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0047	0.021	<0.0040	<0.0040	0.2	<0.0040	
	4/6/2012	9.4	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0054	0.03	<0.0040	<0.0040	0.29	<0.0040	
	11/12/2012	10	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0076	0.045	<0.0040	<0.0040	0.39	<0.0040	
	4/12/2013	9.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.006	0.031	<0.0020	<0.0020	0.16	<0.0020	
	10/23/2013	10	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	0.0063	<0.0020	
P-20R	4/6/2009	10	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0024	0.014	<0.0010	<0.0010	0.0012	<0.0010	

Table 2
Water Quality Data - VOC Results
2009 to Present
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.)	4/22/2010	11	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	4/6/2011	10	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/6/2012	10	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	5/2/2013	10	<0.0020	<0.0020	<0.0020	<0.0020	0.012	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
RW-01_MW-18	4/9/2009	39	0.32	0.017	<0.0025	<0.0025	---	0.027	<0.0025	0.21	<0.0025	<0.0025	0.051	0.1	<0.0025	<0.0025	0.12	<0.0025	
	1/20/2014	37.1	<0.0050	0.014	0.025	<0.0050	<0.025	<0.0050	<0.0050	0.011	<0.0050	<0.0050	0.53D	1.1D	<0.0050	0.80D	8.7D	0.11	
RW-03	7/14/2009	70	0.047	<0.025	<0.025	<0.025	---	<0.025	<0.025	<0.025	<0.025	<0.025	0.32	0.34	<0.025	2.6	2.4	<0.025	
	7/14/2009	15	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.26	0.14	<0.010	0.56	0.85	<0.010	
	10/26/2009	15	0.068	0.0071	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.052	0.025	<0.0050	0.67D	0.058	<0.0050	
	10/26/2009	56	0.036	0.0069	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.055	0.093	<0.0050	0.62	0.14	<0.0050	
	1/28/2010	55	0.014	0.0028	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.028	0.035	<0.0020	0.14	0.2	<0.0020	
	1/28/2010	15	0.01	0.0026	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.02	0.016	<0.0020	0.14	0.19	<0.0020	
	4/22/2010	55	0.022	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.46	0.6	<0.020	0.36	2.2	<0.020	
	4/28/2010	15	<0.025	<0.025	<0.025	<0.025	---	<0.025	<0.025	<0.025	<0.025	<0.025	0.92	0.84	<0.025	0.56	3.5	<0.025	
	7/14/2010	69	0.032J	<0.025UJ	<0.025UJ	<0.025UJ	---	<0.025UJ	<0.025UJ	<0.025UJ	<0.025UJ	<0.025UJ	0.62J	1.1J	<0.025UJ	3.2J	3.7J	<0.025UJ	
	10/12/2010	55	0.78	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	0.59	1.1	<0.10	5.2	5.4	<0.10	
	1/4/2011	55	0.29	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	0.098	0.2	<0.020	0.51	1.1	<0.020	
	4/5/2011	54.7	0.01	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.079	0.15	<0.0020	0.0022	0.11	<0.0020	
	RW-22	4/3/2009	144	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0086	0.12	<0.0025	<0.0025	0.36	<0.0025
4/20/2010		144	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0063	0.094	<0.0050	<0.0050	0.38	<0.0050	
4/4/2011		105	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.07	<0.0040	<0.0040UJ	0.36	<0.0040	
4/5/2012		62	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0061	0.047	<0.0040	<0.0040	0.34	<0.0040	
4/17/2013		106	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0062	0.04	<0.0040	<0.0040	0.26	<0.0040	
STR-03	1/13/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	<0.0010	0.0013	0.011	<0.0010	
	4/9/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0083	0.0072	<0.0010	0.012	0.085	0.0024	
	7/14/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	0.0079	0.015	<0.0010	
	10/27/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
	1/28/2010	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0067	0.0084	<0.0010	0.0053	0.047	<0.0010	
	4/22/2010	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	0.003	<0.0010	
	7/14/2010	NA	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	
	10/12/2010	NA	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	1/5/2011	NA	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	4/5/2011	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	7/28/2011	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	10/25/2011	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0067	0.027	<0.0020
	1/18/2012	NA	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.011	0.02	<0.0040	0.041	0.21	<0.0040	
	4/3/2012	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	8/21/2012	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	11/28/2012	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	
	2/6/2013	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	0.032	<0.0020	0.02	0.43D	<0.0020	
	4/11/2013	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.004	0.0083	<0.0020	0.0092	0.17	0.0037	
10/23/2013	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020		

Table 2
Water Quality Data - VOC Results
2009 to Present
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)	
STRHA-07A	4/7/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0015	<0.0010	<0.0010	0.0017	<0.0010	
	10/27/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.013	0.058	<0.0010	<0.0010	0.051	<0.0010	
	4/28/2010	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0035	0.02	<0.0010	<0.0010	0.02	<0.0010	
	10/14/2010	NA	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0061	0.036	<0.0020	<0.0020	0.035	<0.0020	
	4/6/2011	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0026	0.013	<0.0020	<0.0020	0.012	<0.0020	
	10/25/2011	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	0.011	<0.0020	<0.0020	0.011	<0.0020	
	4/6/2012	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0054	0.03	<0.0020	<0.0020	0.036	<0.0020	
	11/13/2012	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0068	0.033	<0.0020	<0.0020	0.032	<0.0020	
	4/15/2013	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01	0.046	<0.0020	<0.0020	0.013	<0.0020	
	10/23/2013	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.006	0.035	<0.0020UJ	<0.0020	0.037	<0.0020	
	STRHA-07B	4/7/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
		10/27/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0044	0.025	<0.0010	<0.0010	0.0091	<0.0010
		4/28/2010	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0058	0.031	<0.0010	<0.0010	0.0098	<0.0010
10/14/2010		NA	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.012	<0.0020	<0.0020	0.0052	<0.0020	
4/6/2011		NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0062	0.028	<0.0020	<0.0020	0.0089	<0.0020	
10/25/2011		NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0055	0.025	<0.0020	<0.0020	0.0076	<0.0020	
4/6/2012		NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	0.019	<0.0020	<0.0020	0.0071	<0.0020	
11/13/2012		NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0068	0.034	<0.0020	<0.0020	0.031	<0.0020	
4/15/2013		NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0073	0.035	<0.0020	<0.0020	0.017	<0.0020	
10/23/2013		NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0082	<0.0020UJ	<0.0020	0.0025	<0.0020	
STRM-A-SCDS		4/6/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0035	<0.0010	<0.0010	0.0012	<0.0010
		10/27/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	0.0079	<0.0010	<0.0010	0.0034	<0.0010
		4/22/2010	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0016	0.0059	<0.0010	<0.0010	0.0044	<0.0010
	10/13/2010	NA	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0051	0.02	<0.0020	<0.0020	0.057	<0.0020	
	4/6/2011	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0033	<0.0020	<0.0020	0.0022	<0.0020	
	10/26/2011	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0025	<0.0020	<0.0020	<0.0020	<0.0020	
	4/6/2012	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0048	0.017	<0.0020	<0.0020	0.013	<0.0020	
	11/12/2012	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0038	0.012	<0.0020	<0.0020	0.0051	<0.0020	
	4/15/2013	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0055	<0.0020	<0.0020	0.0028	<0.0020	
	10/23/2013	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0057	0.019	<0.0020UJ	<0.0020	0.0092	<0.0020	
	UNNAMED_STREAM	1/14/2009	NA	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.016	0.031	<0.010	0.18	1	<0.010
		4/9/2009	NA	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.9	0.43	<0.010	0.081	0.82	<0.010
		7/14/2009	NA	<0.025	<0.025	0.033	<0.025	---	<0.025	<0.025	<0.025	<0.025	<0.025	1.7	0.95	<0.025	0.48	3.4	<0.025
10/27/2009		NA	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0027	0.015	<0.0025	0.1	0.31	<0.0025	
1/28/2010		NA	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	1.4	1.2	<0.020	0.22	1.9	<0.020	
4/22/2010		NA	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.29	0.17	<0.010	0.14	1	<0.010	
10/12/2010		NA	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.005	0.0053	<0.0020	<0.0020	0.016	<0.0020	
1/4/2011		NA	<0.0020	<0.0020	0.011	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.51D	0.24D	<0.0020	0.20D	1.4D	0.0094	
4/5/2011		NA	0.0022	<0.0020	0.015	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.1D	0.86D	<0.0020	0.083	2.3D	0.012	
10/25/2011		NA	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.91	0.59	<0.020	0.16	1.4	<0.020	
1/17/2012		NA	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.98	0.61	<0.010	0.037	0.48	<0.010	
4/3/2012		NA	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	1.2	0.73	<0.020	0.18	2	<0.020	
8/21/2012		NA	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.043	0.071	<0.010	0.11	0.56	<0.010	
2/6/2013	NA	<0.010	<0.010	0.019	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	1.7D	1.5D	<0.010	0.18	2.2D	0.012		
4/11/2013	NA	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.065	0.071	<0.040	0.14	2.9	<0.040		
W-1	10/26/2009	9	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.013	0.21	<0.0025	<0.0025	0.048	<0.0025	
	4/21/2010	9	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0065	0.11	<0.0010	<0.0010	0.055	<0.0010	
	10/14/2010	9	<0.0040	<0.0040	<0.0040	<0.0040	---	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0066	0.23	<0.0040	<0.0040	0.028	<0.0040	
	4/5/2011	11	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0072	0.095	<0.0020	<0.0020	0.056	<0.0020	
	10/24/2011	9	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0066	<0.0020	<0.0020	<0.0020	<0.0020	
	4/5/2012	11	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<											

Table 2
Water Quality Data - VOC Results
2009 to Present
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.

DCA - Dichloroethane

DCE - Dichloroethene

PCE - Tetrachloroethene

TCA - Trichloroethane

TCE - Trichloroethene

NA = discreet sample depth not applicable.

< = Not Detected at indicated detection limit

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

E - Estimated concentration

J - Estimated concentration

L - Sample analyzed outside of holding time.

N - Matrix interference

U - Non-detect

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

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
2009 to Present
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-12-BR	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	10/23/2013	137	---	ND(0.50)	230
	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-13-DO	10/23/2013	109	---	ND(0.10)	36
	1/14/2009	150	---	0.26	9.3
	4/2/2009	273	---	0.2	13
AP-19	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)
	5/2/2013	28.2	---	ND(0.10)	0.021
AP-20	10/24/2013	26.3	---	0.12	1.0
	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
AP-21	5/2/2013	45	---	ND(0.10)	2.1
	10/24/2013	109	---	ND(0.10)	0.17
	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
AP-22	11/13/2012	271	---	ND(0.10)	640
	5/2/2013	275	---	ND(0.10)	190
	10/24/2013	323	---	ND(0.10)	0.24
	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
AP-22	4/5/2012	1360	---	ND(2.0)	2000
	11/13/2012	794	---	ND(1.0)	4100
	4/17/2013	425	---	ND(0.10)	150
	10/24/2013	892	---	ND(0.50)	440

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
2009 to Present
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)
AP-23-DO	1/14/2009	43.6	---	1.7	6.4
	4/2/2009	60.7	---	3.2	19
AP-24-DO	1/14/2009	117	---	0.48	7.5
	4/2/2009	283	---	0.25	11
AP-25-DO	1/14/2009	34.9	---	0.28	0.24
	4/2/2009	61.1	---	ND(0.10)	0.11
AP-26-DO	11/26/2012	33.5	---	ND(0.10)	8.5
	4/15/2013	39.4	---	ND(0.10)	0.01
	10/23/2013	91.2	---	ND(0.10)	3.9
AP-27-DO	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
	11/27/2012	624	---	ND(0.10)	9.1
	4/16/2013	79.6	---	ND(0.10)	0.073
10/23/2013	50	---	ND(0.10)	0.095	
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
	10/24/2013	907	---	ND(0.10)	23
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
	10/24/2013	624	---	ND(0.10)	99
BW-01	1/13/2009	86.1	---	2.1	2.3
	4/2/2009	67.3	---	3.8	3.2
BW-02	1/13/2009	87.2	---	8.2	2.3
	4/2/2009	97.8	---	6.4	2.4
BW-03	1/13/2009	80.8	---	13	5.6
	4/2/2009	91.3	---	18	8
BW-04	1/13/2009	96.5	---	9.5	3.8
	4/2/2009	95.1	---	10	3.2
BW-05	1/13/2009	205	---	20	4.7
	4/2/2009	130	---	27	4.9
BW-08	1/13/2009	124	---	18	5.3
	4/2/2009	104	---	27	7.9
BW-09	1/13/2009	131	---	20	7.1
	4/2/2009	174	---	41	11
CL03-DO	10/23/2013	302	---	ND(0.50)	300
CL10-DO	10/23/2013	25.1	---	ND(0.10)	510
MW-009	1/14/2009	822	---	60	7
	4/2/2009	711	---	70	6

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
2009 to Present
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)
MW-013	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
	10/24/2013	491	---	ND(0.10)	31
MW-030	4/9/2009	135	---	0.16	0.012
OB-09-BR	1/14/2009	16	---	1.5	0.17
	4/9/2009	20	---	1.5	0.24
OB-09-DO	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	4/9/2009	122	---	16	2
OB-12-DO	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
	4/17/2013	62.8	---	ND(0.10)	22
	10/24/2013	53.8	---	ND(0.10)	0.11
OB-19-DO	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
	10/23/2013	30.4	---	ND(0.10)	2.3
OB-25-BR	11/26/2012	812	---	ND(1.0)	7300
	10/23/2013	151	---	ND(0.10)	0.64
	Dup. 10/23/2013	145	---	ND(0.10)	0.63
OB-27-BR	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
	10/24/2013	117	---	ND(0.50)	200
OB-32-DO	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
	10/24/2013	132	---	ND(0.10)	40
OB-34-DO	10/27/2009	38.7	---	ND(0.50)	10

TABLE 3
Water Quality Data - Chloride, Dissolved Iron and Dissolved Manganese Results
2009 to Present
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	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
10/24/2013	91.5	---	ND(0.10)	15	
OB-37-DO	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	
OB-38-DO	4/9/2009	459	---	ND(0.10)	0.14
	10/28/2009	31.7	---	ND(0.10)	0.025
OB-39-DO	4/9/2009	15.5	---	ND(0.10)	ND(0.010)
OB-40-DO	4/9/2009	48.2	---	ND(0.10)	ND(0.010)
STR-03	1/13/2009	1790	---	1.4	0.58
	4/9/2009	1320	---	3.5	2.6
UNNAMED_STREAM	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
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	AP-13-DO 1/17/2012	AP-13-DO 4/3/2012	AP-13-DO 1/20/2014	AP-23-DO 1/14/2009	AP-23-DO 4/2/2009	AP-23-DO 1/28/2010	AP-23-DO 4/22/2010
Dissolved Metals																	
Iron	mg/L	0.26	0.2	---	---	---	---	---	---	---	---	---	---	1.73	3.2	---	---
Manganese	mg/L	9.27	13	---	---	---	---	---	---	---	---	---	---	6.44	19	---	---
Metabolic Acids																	
Acetic acid	mg/L	78	180	460	630J	980	2500	1600	2700	2500	1300	1200	---	220	290	28	320
Lactic Acid	mg/L	<1.0	<1.0	<5.0	<10J	360	16000	930	35000	6300	740	290	---	6.1	33	5.7	15
n-Butanoic acid	mg/L	<2.0	6.3	<10	<20J	18	<200	68	<400	<100	<40	20	---	36	77	3.1	22
Propionic acid	mg/L	26	48	74	85J	150	220	93	270	210	41	16	---	500	670D	41	770
Pyruvic Acid	mg/L	<0.50	<0.50	<2.5	<5.0J	14	<50	7.7	<100	<25	<10	<5.0	---	<2.5	<0.50	<0.50	<2.5
Miscellaneous Analyses																	
Methane	ug/L	<2.0	2.8	83	18J	6.6	5.4	2.7	8.6	3.6	3	2.3	<1.0	3.9	36	27	14
Ethane	ug/L	<1.0	<1.0	<1.0	<1.0J	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	2.2	2.1	<2.0	<1.0
Ethene	ug/L	<1.0	<1.0	17	5.6J	17	21	5	71	35	7.8	3.3	1.9	22	36	170	65
Chloride	mg/L	150	273	---	---	---	---	---	---	---	---	---	---	43.6	60.7	---	---
TOC	mg/L	65.1	106	---	---	---	---	---	---	---	---	---	484	324	417	---	---
Dehalococcoides sp.	cells/ml	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	$<2.8 \times 10^1$	$<4.2 \times 10^1$	$<9.2 \times 10^1$	3.1×10^6	4.5×10^4	3.5×10^4	1.0×10^5
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	8.15	8.83	---	7.81	7.19	7.28	7.17	---	---	---	---	6.52	7.66	8.1	8.31	8.44
ORP	mV	-170	-153.5	---	-32	-71	-181.9	-354	---	---	---	---	-7	54.3	-36.3	-231	-390
Dissolved Oxygen	mg/L	0.32	0.44	---	0.39	0.22	0.79	0.43	---	---	---	---	3.86	0.92	0.65	0.2	0.16
Specific Conductivity	ms/cm	8.547	12.369	---	9.527	9.191	11.269	9.699	---	---	---	---	0.071	28.13	25.632	20.055	19.235

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	AP-23-DO 7/14/2010	AP-23-DO 10/12/2010	AP-23-DO 1/4/2011	AP-23-DO 4/5/2011	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-23-DO 1/20/2014	AP-24-DO 1/14/2009	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
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	---	0.48	0.25	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	7.46	11	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	260J	620	2800	2000	920	220	26	190	---	440	780D	73	260	190J	480	2500
Lactic Acid	mg/L	<10J	<10	20000	11000	150	5.5	6	4.1	---	<10	4600D	4.8	340	<1.0J	<5.0	11000
n-Butanoic acid	mg/L	41J	240	<400	1200	140	25	<2.0	17	---	53	130	11	21	16J	15	250
Propionic acid	mg/L	620J	1100	5200	3100	1800	390	42	290	---	930	1200D	48	330	200J	340	4900
Pyruvic Acid	mg/L	<5.0J	<5.0	430	<50	19	<1.0	<0.50	<1.0	---	<5.0	2.5	<0.50	<1.0	<0.50J	<2.5	89
Miscellaneous Analyses																	
Methane	ug/L	19J	700D	200	240	340	120	26	130	120J	59	110	<4.0	<20	<20J	<50	<100
Ethane	ug/L	<1.0J	2.5	<10	<10	<10U	<2.0	<2.0	<4.0	17J	<1.0	<2.0	<2.0	<10	<10J	<25	<50
Ethene	ug/L	65J	310D	2500D	640	500	65	230D	510D	4700DJ	1.6	3.9	160	680	1900DJ	4600D	4500
Chloride	mg/L	---	---	---	---	---	---	---	---	---	117	283	---	---	---	---	---
TOC	mg/L	---	---	---	---	---	---	---	---	2270	629	1950	---	---	---	---	---
Dehalococcoides sp.	cells/ml	3.6 X 10 ⁴	7.1 x 10 ⁵	6.0 x 10 ⁴	3.7 x 10 ⁵	2.1 x 10 ⁴	2.7 x 10 ⁵	5.5 x 10 ⁵	1.4 x 10 ⁷	3.16 x 10 ³	3.2 x 10 ⁴	6.2 x 10 ³	5.1 x 10 ⁴	2.1 X 10 ⁶	8.8 X 10 ⁴	1.8 x 10 ⁵	1.5 x 10 ⁵
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradors	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	7.3	7.28	6.52	7.2	---	---	---	---	6.52	7.83	7.74	8.38	8.05	7.29	7.1	6.35
ORP	mV	-156	-200	-348.6	-360	---	---	---	---	-238.2	-238.3	-92.7	-223	-195	-33	-191	-133.1
Dissolved Oxygen	mg/L	0.43	0.21	0.21	0.35	---	---	---	---	0.87	0.28	0.69	0.32	0.49	0.41	0.39	0.39
Specific Conductivity	ms/cm	16.707	17.112	16.25	16.20	---	---	---	---	3.162	14.33	8.644	3.816	3.262	3.473	3.415	12.112

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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-24-DO 1/20/2014	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	AP-25-DO 10/22/2013	AP-25-DO 1/20/2014	AP-33-DO 1/20/2014	AP-34-DO 1/20/2014	AP-35-DO 1/20/2014	BW-01 1/13/2009
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	0.28	<0.10	---	---	---	---	---	--	--	--	2.1
Manganese	mg/L	---	---	---	---	---	0.243	0.11	---	---	---	---	---	--	--	--	2.27
Metabolic Acids																	
Acetic acid	mg/L	480	280	780	380	---	24	59	<1.0	8.2	---	--	---	--	--	--	<1.0
Lactic Acid	mg/L	33	20000	750	<5.0	---	<1.0	1.9	<1.0	<1.0	---	--	---	--	--	--	<1.0
n-Butanoic acid	mg/L	120	<400U	710	54	---	<2.0	<2.0	<2.0	<2.0	---	--	---	--	--	--	<2.0
Propionic acid	mg/L	740	<200U	1600	420	---	5.8	15	<1.0	<1.0	---	--	---	--	--	--	<1.0
Pyruvic Acid	mg/L	<5.0	<100U	6.5	<2.5	---	<0.50	<0.50	<0.50	<0.50	---	--	---	--	--	--	<0.50
Miscellaneous Analyses																	
Methane	ug/L	<100	<40U	<8.0	<8.0	2.1	<10	57	16	130D	---	5.7	13J	61J	19J	24	1700
Ethane	ug/L	<50	<20U	<4.0	<4.0	1.1	<5.0	<20	<1.0	<1.0	---	<1.0	<1.0UJ	100DJ	39J	4.3	<20U
Ethene	ug/L	2600	1400	300	5100D	100D	440	1100	18	320D	---	<1.0	110DJ	4800DJ	240DJ	36	<20U
Chloride	mg/L	---	---	---	---	---	34.9	61.1	---	---	---	---	---	--	--	--	86.1
TOC	mg/L	---	---	---	---	1520	19.3	32.2	---	---	---	1.8	3.3	3100	1010	1330	2.4
Dehalococcoides sp.	cells/ml	1.8 x 10 ⁶	8.0 x 10 ³	3.4 x 10 ⁴	2.2 x 10 ⁷	---	9.5 x 10 ⁵	2.3 x 10 ⁴	2.6 x 10 ⁴	1.1 x 10 ⁴	---	---	---	1.2 X 10 ¹ JD	2.3 X 10 ¹ JD	3.68 X 10 ³ D	5.7 x 10 ²
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	--	--	--	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	--	--	--	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	--	--	--	---
Field Parameters																	
pH	--	7.27	---	---	---	6.6	7.03	8.17	8.04	7.62	10.02	8.02	7.13	6.57	6.59	7.49	6.15
ORP	mV	-360	---	---	---	-7.6	-110.3	-133.5	-165	-175.9	-351	111.1	-73.9	-205.7	-153.7	-56.0	-45.5
Dissolved Oxygen	mg/L	0.59	---	---	---	4.27	0.2	0.22	0.13	0.38	0.8	2.05	0.52	0.49	0.48	10.51	0.29
Specific Conductivity	ms/cm	3.542	---	---	---	1.834	0.357	0.495	0.185	0.271	0.116	0.106	3.503	9.869	5.261	0.061	0.348

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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-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-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	
Dissolved Metals																			
Iron	mg/L	3.8	---	---	---	---	8.16	6.4	---	---	---	---	12.6	18	---	---	---	---	
Manganese	mg/L	3.2	---	---	---	---	2.32	2.4	---	---	---	---	5.64	8	---	---	---	---	
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	<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	<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	<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	<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	<0.50	<0.50	<0.50	<0.50	
Miscellaneous Analyses																			
Methane	ug/L	260	170	77	54	1300	1900	1300	71	100	170	1400	1900	2300	1300	45	800	2000	
Ethane	ug/L	<5.0	<2.0	<1.0	<1.0	<25	<20	<25	<1.0	<1.0	<2.0	<25	<20	<40	<20	<1.0	<10	<20	
Ethene	ug/L	<5.0	<2.0	<1.0	<1.0	<25	<20	<25	1.9	<1.0	<2.0	<25	<20	<40	<20	<1.0	<10	<20	
Chloride	mg/L	67.3	---	---	---	---	87.2	97.8	---	---	---	---	80.8	91.3	---	---	---	---	
TOC	mg/L	1.6	---	---	---	---	2.3	3.8	---	---	---	---	3.8	2.8	---	---	---	---	
Dehalococcoides sp.	cells/ml	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	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	2.0 x 10 ³	1.5 x 10 ³	1.7 x 10 ⁴	1.0 x 10 ⁴	---	<2.9 X 10 ¹	
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Field Parameters																			
pH	--	6.46	6.01	6.21	---	---	6.12	6.46	6.11	6.25	---	---	6.43	6.67	6.19	6.43	---	---	
ORP	mV	35.3	59	-0.8	---	---	-49.5	11.4	4	13.9	---	---	-102.1	-16.7	-84	-53.7	---	---	
Dissolved Oxygen	mg/L	5.5	0.27	0.17	---	---	0.35	2.53	0.48	0.22	---	---	0.62	1.27	0.25	0.12	---	---	
Specific Conductivity	ms/cm	0.174	0.216	0.253	---	---	0.361	0.219	0.192	0.213	---	---	0.398	0.237	0.29	0.279	---	---	

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	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
Dissolved Metals																		
Iron	mg/L	9.46	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	3.82	3.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																		
Acetic acid	mg/L	1.9	<1.0	86	<1.0	<1.0	2	280J	3.9	<1.0	<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	<10J	<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	35J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	---	---
Propionic acid	mg/L	<1.0	<1.0	110	<1.0	<1.0	<1.0	660J	<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	0.58	<5.0J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---
Miscellaneous Analyses																		
Methane	ug/L	4800	9200	2700	2300	37	1800	2200J	3200D	2000	1100	590	240	17	1200D	960	970D	1200D
Ethane	ug/L	<50	<100	<50	130	<1.0	<25	68J	99	110	40	62	19	<1.0	28	60	140	14
Ethene	ug/L	99	1300	1100	550	26	830	950J	66	110	370	330	130	5.1	70	310	180	<5.0U
Chloride	mg/L	96.5	95.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	22.1	15.2	---	---	---	---	---	---	---	---	---	---	---	---	5.5	3.9	15.3
Dehalococcoides sp.	cells/ml	6.2 x 10 ⁴	<2.2 x 10 ¹	2.4 x 10 ⁶	7.6 x 10 ⁴	1.4 x 10 ⁴	<2.9 X 10 ¹	2.5 X 10 ⁵	<8.0 x 10 ²	2.3 X 10 ³	<6.3 x 10 ¹	1.4 X 10 ²	5.5 x 10 ⁴	1.8 x 10 ⁴	<1.1 x 10 ¹	<3.7 x 10 ¹	4.1 x 10 ⁶	<1.0 x 10 ²
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	7.17	7.38	6.81	6.9	---	---	---	---	---	7.52	7.17	7.1	---	---	---	6.79	6.79
ORP	mV	-154	-140.4	-138	-116.7	---	---	---	---	---	-367	-179.5	-141	---	---	---	-89.1	-93.5
Dissolved Oxygen	mg/L	0.39	0.36	0.13	0.2	---	---	---	---	---	0.24	0.24	0.43	---	---	---	0.26	0.32
Specific Conductivity	ms/cm	1.134	0.821	1.186	0.701	---	---	---	---	---	0.69	0.484	0.567	---	---	---	0.602	0.635

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-04 4/11/2013	BW-05 1/13/2009	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
Dissolved Metals																		
Iron	mg/L	---	20.1	27	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	4.7	4.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																		
Acetic acid	mg/L		81	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	<1.0	<1.0J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---
n-Butanoic acid	mg/L		2.1	<2.0	---	<2.0	<2.0	<2.0	4.8J	<2.0	<2.0	<2.0	6.6	<2.0	<2.0	<2.0	<2.0	---
Propionic acid	mg/L		140	43	34	<1.0	<1.0	43	88J	1.5	<1.0	<1.0	120	20	<1.0	<1.0	---	---
Pyruvic Acid	mg/L		<0.5	<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	<0.50	---
Miscellaneous Analyses																		
Methane	ug/L	3100D	<100	210	340	260	490	<100	1600J	1400	8900D	200	970	110	710	600D	4800D	11000D
Ethane	ug/L	23	<50	<100	<50	23	<40	<50	<25J	130	1000	<50	31	<25	<25	67	49	<50
Ethene	ug/L	<20	4400	5100	3600	1900	2300	4700	1900J	700	59	3700	1500	1700	4000D	750D	170	<50
Chloride	mg/L	---	205	130	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	6.8	106	42.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococoides sp.	cells/ml	<1.2x10 ¹	3.3 x 10 ⁴	1.8 x 10 ⁴	1.2 x 10 ⁵	4.5 x 10 ⁴	3.4 x 10 ⁴	1.1 X 10 ⁶	2.4 X 10 ⁴	8.7 x 10 ³	6.5 x 10 ²	5.9 x 10 ⁴	5.5 x 10 ²	1.9 x 10 ⁵	1.2 x 10 ⁴	<1.0 x 10 ¹	<3.3 x 10 ³	1.2 x 10 ⁶
Dehalococoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	---	7.2	7.41	7.18	7.22	---	---	---	---	---	7.67	7.34	7.36	---	---	---	6.34
ORP	mV	---	-171.3	-165.6	-185	-138.8	---	---	---	---	---	-366	-170.8	-145.5	---	---	---	-135.6
Dissolved Oxygen	mg/L	---	1.11	0.27	0.34	0.43	---	---	---	---	---	0.34	0.43	0.66	---	---	---	0.21
Specific Conductivity	ms/cm	---	0.952	0.862	0.692	0.571	---	---	---	---	---	0.617	0.816	0.64	---	---	---	2.559

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-05 2/6/2013	BW-05 4/11/2013	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 1/13/2009	BW-08 4/2/2009	BW-08 7/14/2009	BW-08 10/27/2009	BW-08 1/28/2010	BW-08 4/22/2010
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	18.5	27	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	5.26	7.9	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	---	---	180	1.5	110	63	---	---	---	---	7	39	160	57	<1.0	<1.0
Lactic Acid	mg/L	---	---	<2.0	<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
Propionic acid	mg/L	---	---	300	<1.0	58	<1.0	---	---	---	---	2.5	26	140	1.9	<1.0	<1.0
Pyruvic Acid	mg/L	---	---	<1.0	<0.50	<0.50	<0.50	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	20000	18000	210D	51	270	1700	350	6300D	11000D	13000D	220	350	520	1000	81	210
Ethane	ug/L	<200U	<200	<1.0	<5.0	<5.0	62	20	68	<100U	<100	<20	<100	<100	<100	12	<10
Ethene	ug/L	<200U	<200	2800D	380	3900D	3500	77	140	<100U	<100	1500	7300	6900	5900	280	620
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	124	104	---	---	---	---
TOC	mg/L	105	180	---	---	---	---	271	167	34.1	72.2	10.1	34.4	---	---	---	---
Dehalococcoides sp.	cells/ml	<1.2 x 10 ²	<1.4 x 10 ¹	9.9 x 10 ³	2.5 x 10 ⁴	3.1 x 10 ⁴	1.2 x 10 ⁵	<3.3 x 10 ³	<4.6 x 10 ¹	<1.1 x 10 ²	<2.4 x 10 ¹	4.5 x 10 ²	1.3 x 10 ³	1.4 x 10 ⁵	5.6 x 10 ⁵	4.8 x 10 ⁴	<2.6 X 10 ¹
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	6.55	---	7.15	7.29	---	---	---	---	6.3	---	6.95	7.36	7.1	7.39	---	---
ORP	mV	15.4	---	-157	-87.9	---	---	---	---	-62.5	---	-160.2	-138.4	-162	-191.5	---	---
Dissolved Oxygen	mg/L	0.52	---	0.16	0.92	---	---	---	---	0.41	---	0.2	0.16	0.14	0.06	---	---
Specific Conductivity	ms/cm	2.078	---	1.174	0.508	---	---	---	---	0.525	---	0.659	0.647	1.122	0.96	---	---

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	BW-09 1/13/2009	BW-09 4/2/2009	BW-09 7/14/2009
Dissolved Metals																
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	19.6	41	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	7.09	11	---
Metabolic Acids																
Acetic acid	mg/L	130J	270	290	21	220	1.8	12	100	---	---	---	---	5.6	17	260
Lactic Acid	mg/L	<2.0J	<2.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	---	---	---	---	<1.0	<1.0	<2.0
n-Butanoic acid	mg/L	22J	4.8	5.9	<2.0	11	<2.0	<2.0	<2.0	---	---	---	---	<2.0	<2.0	---
Propionic acid	mg/L	260J	110	120	<1.0	250	<1.0	<1.0	2.2	---	---	---	---	<1.0	2.2	250
Pyruvic Acid	mg/L	<1.0J	<1.0	<1.0	<0.50	<1.0	<0.50	<0.50	<0.50	---	---	---	---	<0.50	<0.50	<1.0
Miscellaneous Analyses																
Methane	ug/L	1500DJ	4900D	16000D	8900	2800	250	1600D	4300D	1700	15000D	21000D	19000	650	660	2500
Ethane	ug/L	29J	75	1700	650	<100	17	20	82	40	40	<200U	<200	42	<20	74
Ethene	ug/L	3800DJ	1300D	250	1900	4800	1000D	760	3400D	39	<20	<200U	<200	1200	2000	4600
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	131	174	---
TOC	mg/L	---	---	---	---	---	---	---	---	194	630	181	52	9.8	13.8	---
Dehalococcoides sp.	cells/ml	2.3 X 10 ⁴	1.0 x 10 ⁴	<1.0 x 10 ¹ U	3.7 x 10 ⁴	2.1 x 10 ²	4.6 x 10 ⁴	2.9 x 10 ⁵	1.8 x 10 ⁵	<3.7 x 10 ¹	<3.1 x 10 ¹	<8.3 x 10 ¹	3.3 X 10 ³	1.9 x 10 ³	6.7 x 10 ³	4.0 x 10 ⁴
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
pH	--	---	---	---	7.5	7.21	7.43	---	---	---	6.15	6.59	---	7.06	7.34	7.24
ORP	mV	---	---	---	-373	-167.6	-116.7	---	---	---	-88.1	-106.3	---	-167.1	-106.5	-174
Dissolved Oxygen	mg/L	---	---	---	0.22	0.36	0.82	---	---	---	0.26	0.72	---	0.22	0.2	0.11
Specific Conductivity	ms/cm	---	---	---	0.608	1.408	0.565	---	---	---	2.384	1.754	---	0.724	0.699	1.463

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	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 1/14/2009	MW-009 4/2/2009	MW-009 7/14/2009	MW-009 10/27/2009	MW-009 1/28/2010
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	59.5	70	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	6.98	6	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	56	<1.0	<1.0	530	<1.0	32	85	---	---	---	---	210E	390	1000	500	250
Lactic Acid	mg/L	1.5	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	---	---	---	---	<1.0	<1.0	370	<5.0	<2.0
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	31	<2.0	<2.0	<2.0	---	---	---	---	4.9	11	---	30	12
Propionic acid	mg/L	<1.0	<1.0	<1.0	680	<1.0	4.1	4.2	---	---	---	---	7.7	17	2900	810	200
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50	<0.50	---	---	---	---	<0.50	<0.50	<20	<2.5	<1.0
Miscellaneous Analyses																	
Methane	ug/L	2800	370	640	7500D	7400	2200	4500D	9400D	17000D	22000D	17000	15000	17000	9500	14000	16000
Ethane	ug/L	140	57	<10	200	1500	160	350	450	<100	<200U	<200	1300	1900	360	330	870
Ethene	ug/L	4600	830	900	3500D	280	1100	4100D	370	<100	<200U	<200	<250	<250	1600	690	<250
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	822	711	---	---	---
TOC	mg/L	---	---	---	---	---	---	---	1010	630	124	144	109	183	---	---	---
Dehalococcoides sp.	cells/ml	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	3.1 x 10 ⁵	<3.1 x 10 ¹	<3.1 x 10 ¹	<7.7 x 10 ¹	<3.1 x 10 ¹	8.8 x 10 ³	1.5 x 10 ⁴	2.7 x 10 ⁵	1.2 x 10 ⁵	2.5 x 10 ⁴
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	7.51	---	---	6.71	7.17	---	---	---	6.3	6.55	---	6.83	6.87	6.51	6.51	---
ORP	mV	-197.9	---	---	-163.4	-113.6	---	---	---	-111.7	-118.1	---	-168.2	-143.3	-116	-105.1	---
Dissolved Oxygen	mg/L	0.14	---	---	0.62	0.55	---	---	---	0.15	0.22	---	0.52	0.74	0.74	0.31	---
Specific Conductivity	ms/cm	1.094	---	---	3.207	0.636	---	---	---	2.362	1.725	---	3.53	3.435	7.494	5.223	---

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	MW-009 2/6/2013	MW-009 4/11/2013	MW-009 10/22/2013	MW-009 1/20/2014
Dissolved Metals																
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																
Acetic acid	mg/L	600	320J	6.1	<1.0	6	<1.0U	<1.0	<1.0	<1.0	---	---	---	---	---	---
Lactic Acid	mg/L	<5.0	<2.0J	<1.0	<1.0	<1.0	<1.0U	<1.0	<1.0	<1.0	---	---	---	---	---	---
n-Butanoic acid	mg/L	63	11J	<2.0	<2.0	<2.0	<2.0U	<2.0	<2.0	<2.0	---	---	---	---	---	---
Propionic acid	mg/L	370	74J	<1.0	<1.0	1.6	<1.0U	<1.0	<1.0	<1.0	---	---	---	---	---	---
Pyruvic Acid	mg/L	<2.5	<1.0J	<0.50	<0.50	<0.50	<0.50U	<0.50	<0.50	<0.50	---	---	---	---	---	---
Miscellaneous Analyses																
Methane	ug/L	15000	15000J	12000	20000D	24000	15000	9500	17000D	16000	16000	20000	23000	15000	15000	12000
Ethane	ug/L	1200	1200J	930	1500	1900	1400	830	1900	2000	2500	2600	2200	1200	1000	690
Ethene	ug/L	1000	<250J	220	430	910	1400	1100	2000	1200	1600	2700	6800	5400	3000	4000
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	---	---	---	---	---	---	---	---	---	28000	11900	7200	5800	1910	1370
Dehalococcoides sp.	cells/ml	5.6 X 10 ⁵	9.0 X 10 ³	<6.4 X 10 ¹	3.3 X 10 ³	1.5 x 10 ⁵	2.1 x 10 ²	---	<4.0 X 10 ¹	<3.7 X 10 ¹	<3.3 x 10 ³	<1.0 x 10 ¹	<3.3 x 10 ³	<3.3 x 10 ³	2.0 x 10 ⁵	---
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
pH	--	---	---	---	---	7.17	7.07	7.05	---	---	---	---	5.43	---	6.06	6.26
ORP	mV	---	---	---	---	-368	-169.8	-128.4	---	---	---	---	12	---	41.3	-89.2
Dissolved Oxygen	mg/L	---	---	---	---	0.59	0.2	0.39	---	---	---	---	1.56	---	0.89	0.78
Specific Conductivity	ms/cm	---	---	---	---	5.494	4.105	2.545	---	---	---	---	3.539	---	5.052	4.527

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-BR 1/14/2009	OB-09-BR 4/9/2009	OB-09-BR 7/14/2009	OB-09-BR 10/28/2009	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
Dissolved Metals																	
Iron	mg/L	1.5	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	0.166	0.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	2.7J	2.4	6	2.8	8.6	1.5	110	6.2	---	---
Lactic Acid	mg/L	<1.0	<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	<1.0	---
n-Butanoic acid	mg/L	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.7	<2.0	---
Propionic acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	58	<1.0	---
Pyruvic Acid	mg/L	<0.50	<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	<0.50	---
Miscellaneous Analyses																	
Methane	ug/L	210	12000	170	500	170	340	560DJ	490	1300D	720	1600D	1200	660	1700D	2500D	2100
Ethane	ug/L	<2.5	<200	<2.5	<5.0	<2.0	<5.0	<5.0J	<10	<10	<10	<10	<20	<10	<10	<20	<50
Ethene	ug/L	4.5	<200	6.4	8.4	3	8.1	16J	13	28	20	34	<20	11	42	66	57
Chloride	mg/L	16	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	6.5	4.1	---	---	---	---	---	---	---	---	---	---	---	---	12.3	13.2
Dehalococcoides sp.	cells/ml	2.7 x 10 ⁴	<3.2 x 10 ¹	8.5 x 10 ³	1.8 x 10 ⁴	<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 Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	9.18	7.69	7.91	8.83	7.48	---	8.51	7.65	8.51	8.10	---	---	---	---	---	---
ORP	mV	-335.4	-156	-323	-415.7	-174	---	-63	-311	-405.5	-363	---	---	---	---	---	---
Dissolved Oxygen	mg/L	1.2	0.36	0.11	0.86	0.36	---	0.26	0.31	0.67	0.31	---	---	---	---	---	---
Specific Conductivity	ms/cm	0.111	0.136	0.139	0.144	0.146	---	0.157	0.17	0.173	0.190	---	---	---	---	---	---

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-BR 2/6/2013	OB-09-BR 4/11/2013	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	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
Dissolved Metals																	
Iron	mg/L	---	---	<0.100	<0.10	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	<0.0100	<0.010	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	---	---	<1.0	---	<1.0	<1.0	2.8	<1.0	72	4.0J	3.7	1.5	1.2	2.1	7.8	1.4
Lactic Acid	mg/L	---	---	<1.0	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J	<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	2.5	<2.0J	<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	140	<1.0J	<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	<0.50J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Miscellaneous Analyses																	
Methane	ug/L	2300	1800	<2.0	10000	---	2100	610	180	4500	13000DJ	3000	12000D	3000	600	1800D	1200
Ethane	ug/L	<25U	<25	<1.0	320	---	130	16	<2.0	140	240J	80	410	100	<10	<10	<25
Ethene	ug/L	64	58	<1.0	370	---	73	31	<2.0	110	210J	57	330	80	11	37	<25
Chloride	mg/L	---	---	32.6	44.6	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	10.3	11.5	5.7	4.4	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	---	---	<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	---	---	2.4 x 10 ⁵	---	---	---	1.8 x 10 ⁵
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	7.53	---	6.48	6.22	6.52	6.95	6.69	6.52	---	6.71	6.75	6.82	6.43	---	---	---
ORP	mV	-172.1	---	7.6	-41	37.9	-126	-130.7	-65	---	-34	-135	-171.6	-390	---	---	---
Dissolved Oxygen	mg/L	0.4	---	0.77	0.14	0.34	0.12	0.32	0.26	---	0.19	0.27	0.32	0.16	---	---	---
Specific Conductivity	ms/cm	0.31	---	0.105	0.233	0.161	0.21	0.226	0.124	---	0.266	0.259	0.225	0.105	---	---	---

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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 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
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	<1.0	---	---	---	---	---	150	660	92	53	310	160J	250	870	390	940
Lactic Acid	mg/L	<1.0	---	---	---	---	---	<1.0	<20	<1.0	<1.0	290	220J	<2.0	<10	<5.0	<10
n-Butanoic acid	mg/L	<2.0	---	---	---	---	---	31	---	16	9	100	17J	8.5	270	100	48
Propionic acid	mg/L	<1.0	---	---	---	---	---	230	1700	110	57	830	210J	170	1700	510	1100
Pyruvic Acid	mg/L	<0.50	---	---	---	---	---	<0.50	<10	<0.50	<0.50	<2.5	<1.0J	<1.0	<5.0	<2.5	<5.0
Miscellaneous Analyses																	
Methane	ug/L	1200	1800	330	240	840D	10000	---	10000	3700	12000	12000	13000J	9000	25000D	25000	21000D
Ethane	ug/L	<20	<20	<5.0	<5.0U	<5.0	<200	---	<200	<50	320	<200	240J	370	470	<500	330
Ethene	ug/L	<20	<20	<5.0	<5.0U	5.6	4300	---	2000	580	820	1300	1700J	290	1000	1000	<200
Chloride	mg/L	---	---	---	---	---	122	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	---	29.7	8.8	6.4	5.5	231	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	---	---	---	---	---	---	1.0×10^4	9.6×10^5	2.4×10^6	1.5×10^5	9.6×10^5	$<1.0 \times 10^2$	7.2×10^3	8.1×10^3	9.4×10^5	1.6×10^3
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	6	6.54	---	6.43	6.43	6.3	---	6.45	---	6.42	6.3	6.16	6.8	---
ORP	mV	---	---	-99.2	-16.1	---	-126	-106.4	-100	-102	-102	---	-43	-98	-144.9	-367	---
Dissolved Oxygen	mg/L	---	---	0.15	2.26	---	0.53	0.24	0.17	0.31	1.49	---	0.44	0.19	0.40	0.54	---
Specific Conductivity	ms/cm	---	---	0.212	0.112	---	14	11.583	10.859	7.857	12.945	---	6.045	6.144	---	11.86	---

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-S 10/25/2011	OB-09-S 1/18/2012	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-09-S 10/22/2013	OB-09-S 1/21/2014	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
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	360	<1.0	54	---	---	---	---	---	---	180	<1.0	12	12	120	670	230
Lactic Acid	mg/L	<2.0	<1.0	<1.0	---	---	---	---	---	---	420	<1.0	490	<1.0	<1.0	<10	<2.0
n-Butanoic acid	mg/L	74	<2.0	<2.0	---	---	---	---	---	---	---	<2.0	<10	<2.0	4.6	120	37
Propionic acid	mg/L	300	<1.0	19	---	---	---	---	---	---	310	<1.0	24	11	110	1200	310
Pyruvic Acid	mg/L	<1.0	<0.50	<0.50	---	---	---	---	---	---	<1.3U	<0.50	<2.5	<0.50	<0.50	<5.0	<1.0
Miscellaneous Analyses																	
Methane	ug/L	18000	18000	27000D	13000	15000	21000D	18000	10000	16000D	55	92	390	5400D	12000D	8100	11000D
Ethane	ug/L	290	310	690	<200	<200	<200U	<200	<200	170	<1.0U	<1.0	<5.0	<5.0	150	<100	210
Ethene	ug/L	<250	<250	<250	<200	<200	<200U	<200	<200	<130	90	24	170	540D	210	230	480
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	---	---	---	210	32.7	23	34.9	81	28.1	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	4.9 x 10 ⁵	4.8 x 10 ⁴	6.4 x 10 ⁵	<3.3 x 10 ³	<9.1 x 10 ¹	<9.7 x 10 ¹	<1.2 x 10 ²	<6.8 x 10 ¹	---	8.5 x 10 ⁴	5.2 x 10 ³	<7.7 X 10 ¹	8.8 x 10 ⁴	1.1 x 10 ⁵	6.1 x 10 ¹	1.8 x 10 ⁷
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	---	---	---	---	5.8	6.43	---	6.52	6.65	6.64	---	---	---	---	6.29	6.52
ORP	mV	---	---	---	---	-62.2	-77.9	---	-34.8	-90.8	-163	---	---	---	---	-145	-94.2
Dissolved Oxygen	mg/L	---	---	---	---	0.08	0.3	---	3.11	0.93	0.37	---	---	---	---	0.24	0.41
Specific Conductivity	ms/cm	---	---	---	---	0.276	1.539	---	2.151	1.88	9.071	---	---	---	---	14.038	3.543

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-15-S 1/17/2012	OB-15-S 4/3/2012	OB-15-S 8/21/2012	OB-15-S 11/28/2012	OB-15-S 2/6/2013	OB-15-S 4/11/2013	OB-15-S 10/22/2013	OB-15-S 1/21/2014	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	STR-03 10/12/2010
Dissolved Metals																	
Iron	mg/L	---	---	---	---	---	---	---	---	1.44	3.5	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	0.577	2.6	---	---	---	---	---	---
Metabolic Acids																	
Acetic acid	mg/L	57	9.4	---	---	---	---	---	---	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	1.5J	<1.0
Lactic Acid	mg/L	<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	<2.0J	<2.0
Propionic acid	mg/L	31	<1.0	---	---	---	---	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J	<1.0
Pyruvic Acid	mg/L	<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	21000D	21000	21000	18000	24000	15000	13000	12000	20	39	270	4.5	24	46	4.3J	<2.0
Ethane	ug/L	400	370	300	300	280	280	340	310	<1.0	1.3	13	<1.0	1.1	1.5	<1.0J	<1.0
Ethene	ug/L	160	310	280	<250	<250U	<250	<250U	210	<1.0	6.2	13	<1.0	3.6	3.5	<1.0J	<1.0
Chloride	mg/L	---	---	---	---	---	---	---	---	1790	1320	---	---	---	---	---	---
TOC	mg/L	---	---	1750	1670	620	543	187	59	1.7	1.6	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	<6.6 x 10 ¹	7.5 x 10 ⁵	<3.3 x 10 ³	<1.7 x 10 ²	<1.1 x 10 ²	1.1 x 10 ⁵	<8.6 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	<6.4 x 10 ¹
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
pH	--	6.52	---	---	---	6.48	---	6.65	6.61	---	---	---	---	---	---	---	---
ORP	mV	-94.2	---	---	---	-96.5	---	-105.2	-40.3	---	---	---	---	---	---	---	---
Dissolved Oxygen	mg/L	0.41	---	---	---	0.99	---	0.2	2.09	---	---	---	---	---	---	6.05	8.02
Specific Conductivity	ms/cm	3.543	---	---	---	2.18	---	2.505	1.046	---	---	---	---	---	---	---	---

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	STR-03 1/5/2011	STR-03 4/5/2011	STR-03 7/28/2011	STR-03 10/25/2011	STR-03 1/18/2011	STR-03 4/3/2012	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	
Dissolved Metals																
Iron	mg/L	---	---	---	---	---	---	47.8	22	---	---	---	---	---	---	
Manganese	mg/L	---	---	---	---	---	---	6.89	6.1	---	---	---	---	---	---	
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	<1.0	4.5	<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	<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	<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	<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	1.4	<0.50
Miscellaneous Analyses																
Methane	ug/L	5.5	2	5	49	170D	7.7	470	240	240	2300	360	260	<2.0	780D	
Ethane	ug/L	<1.0	<1.0	<1.0	2.5	10	<1.0	37	15	14	110	31	11	<1.0	57	
Ethene	ug/L	<1.0	<1.0	<1.0	7.8	36	<1.0	37	24	65	61	70	46	<1.0	61	
Chloride	mg/L	---	---	---	---	---	---	1460	1170	---	---	---	---	---	---	
TOC	mg/L	---	---	---	---	---	---	16.7	3.7	---	---	---	---	---	---	
Dehalococcoides sp.	cells/ml	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	---	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	
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Mn Degradars	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Field Parameters																
pH	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
ORP	mV	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Dissolved Oxygen	mg/L	---	10.12	2.87	---	---	---	---	---	---	---	---	---	8.48	---	
Specific Conductivity	ms/cm	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

TABLE 4
Water Quality Data
2009 to Present
Bioremediation Parameters
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---
Metabolic Acids								
Acetic acid	mg/L	<1.0	<1.0	<1.0	<1.0	---	---	---
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	---	---	---
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0	<2.0	---	---	---
Propionic acid	mg/L	<1.0	<1.0	<1.0	<1.0	---	---	---
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50	---	---	---
Miscellaneous Analyses								
Methane	ug/L	290	620D	200	350D	160	540D	370D
Ethane	ug/L	19	52	12	26	14	33	17
Ethene	ug/L	21	32	9.6	49	55	100	35
Chloride	mg/L	---	---	---	---	---	---	---
TOC	mg/L	---	---	---	---	16.2	4.5	13.8
Dehalococcoides sp.	cells/ml	<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 Degraders	(3)	---	---	---	---	---	---	---
Field Parameters								
pH	--	---	---	---	---	---	---	---
ORP	mV	---	---	---	---	---	---	---
Dissolved Oxygen	mg/L	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 Sohier Road
Beverly, Massachusetts**

Well ID	January 2011		April 2011		October-November 2011		April 2012		November 2012		April-May 2013		October 2013	
	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	---	---	110,000	11.0	9,900	0.990	19,000	1.900	8,000	0.800	2,800	0.280	1100	0.110
AP-12-DO	ND(<0.2)	NA	0.3	0.00003	ND(<0.2)	NA	0.2	0.00002	9,100	0.910	17,000	1.700	180	0.018
AP-12-S	---	---	---	---	---	---	ND(<0.2)	NA	---	---	0.5	0.00005	---	---
AP-14-S	1	0.0001	---	---	---	---	---	---	---	---	---	---	---	---
AP-19	---	---	ND(<0.1)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.1)	NA
AP-20	---	---	0.1	0.00001	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA	0.1	0.00001	ND(<0.1)	NA
AP-21	---	---	8,200	0.8	1,000	0.1	2,200	0.220	1,900	0.190	500	0.050	ND(<0.1)	NA
AP-22	---	---	1.0	0.0001	3,200	0.32	10,000	1.000	9,700	0.970	400	0.04	1300	0.130
AP-26-DO	---	---	---	---	ND(<0.2)	NA	ND(<0.2)	NA	17.0	0.00170	ND(<0.2)	NA	12	0.001
AP-27-DO	---	---	---	---	0.4	0.00004	ND(<0.2)	NA	57.0	0.00570	0.3	0.00003	ND(<0.1)	NA
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	120	0.012
AP-32-DO	---	---	3.7	0.00037	ND(<0.2)	NA	0.2	0.00002	---	---	ND(<0.2)	NA	590	0.059
B-2	---	---	---	---	---	---	---	---	ND(<0.2)	NA	---	---	---	---
CL10-BR	---	---	0.2	0.00002	---	---	---	---	---	---	---	---	---	---
CL10-DO	---	---	250	0.0	7.1	0.00071	44.0	0.0044	---	---	85.0	0.0085	140	0.014
CL10-S	---	---	ND(<0.1)	NA	---	---	---	---	---	---	---	---	---	---
MW-013	---	---	6,900	0.7	1,200	0.12	1,300	0.130	440	0.044	610	0.061	140	0.014
OB-10-BR	ND(<0.2)	NA	---	---	---	---	---	---	---	---	---	---	---	---
OB-10-S	---	---	87	0.0087	---	---	---	---	---	---	---	---	---	---
OB-12-DO	ND(<0.2)	NA	---	---	190	0.01903	ND(<0.2)	NA	2,000	0.200	47.0	0.0047	ND(<0.1)	NA
OB-19-DO	---	---	---	---	ND(<0.2)	NA	---	---	---	---	ND(<0.2)	NA	ND(<0.1)	NA
OB-25-BR	---	---	9,200	0.9	---	---	ND(<0.2)	NA	17,000	1.700	1,200	0.120	ND(<0.1)	NA
OB-26-BR	---	---	---	---	---	---	0.2	0.00002	12,000	1.200	ND(<0.2)	NA	ND(<0.1)	NA
OB-27-BR	---	---	14,000	1.4	1,500	0.1500	5,700	0.570	---	---	2,000	0.200	1200	0.120
OB-28-BR	---	---	15	0.0015	---	---	ND(<0.2)	NA	---	---	0.5	0.00005	---	---
OB-32-DO	500	0.05	1,200	0.1	670	0.0670	630.0	0.063	470	0.047	300	0.030	180	0.018
OB-34-DO	41.3	0.00413	18	0.0018	ND(<0.2)	NA	31	0.0031	31.0	0.0031	18.0	0.0018	20	0.002
OB-35-DO	---	---	ND(<0.1)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA	ND(<0.2)	NA	20	0.002
OB-36-DO	---	---	ND(<0.1)	NA	---	---	0.3	0.00003	ND(<0.2)	NA	---	---	---	---
OB-37-DO	---	---	180,000	18.0	34.0	0.003	9,700	0.9700	60.0	0.006	84.0	0.0084	ND(<0.1)	NA

Notes:

Color Key:

	Sample Dark Purple
	Sample Medium Purple
	Sample Light Purple
	Sample Pink
	Sample 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 Previous Reporting Period ¹	Total Injection Volume This Reporting Period ²
AP31-DO	560	0
AP32-DO	1050	235
AP26-DO	450	0
OB35-DO	70.5	19.5
OB36-DO	148.5	30
CL3-DO	455	500
Total	2734.0	784.5

Notes:

- 1 - Previous injection period includes July 24, 2013 through September 31, 2013
- 2 - This injection period includes October 1, 2013 through December 11, 2013

Table 7
Bioremediation Injection Volume
2013 Treatment Program
Former Varian Facility Site
150 Sohier Road
Beverly, MA

Location	Sodium Lactate Bioinjection Solution Volume (in gallons) ¹							Total Injected Volume
	14-Oct-13	15-Oct-13	17-Oct-13	21-Oct-13	25-Oct-13	28-Oct-13	30-Oct-13	
AP33-DO	139	75	150	66	70	100	97	697
AP34-DO	124	109	150	85	50	100	103	721
AP35-DO	120	106	150	89	49	100	100	714
								2132

Notes:

(1) Wilclear Plus Sodium Lactate was mixed with groundwater and potable water to an appropriate dilution. The solution was seeded with SDC-9 and TCA-20 culture mix.

Table 8
Operation and Maintenance Data
Building 3 SVE System
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

	Extraction Well BLD3-SVE1		Extraction Well BLD3-SVE2		BLDG3-VP1		BLDG3-VP2		BLDG3-VP3		BLDG3-VP5		BLDG3-VP6		BLDG3-VP7		Carbon Influent	Carbon Midpoint	Carbon Effluent	Total Flow Rate	Effluent Percent Reduction ⁽¹⁾
	Vacuum (*wc)	VOC (ppm)	Vacuum (*wc)	VOC (ppm)	Vacuum (*wc)	VOC (ppm)	Vacuum (*wc)	VOC (ppm)	Vacuum (*wc)	VOC (ppm)	Vacuum (*wc)	VOC (ppm)	Vacuum (*wc)	VOC (ppm)	Vacuum (*wc)	VOC (ppm)	VOC (ppm)	VOC (ppm)	VOC (ppm)	cfm	
10/14/2013	13.55	3.4	14.61	9.4	0.264	1.2	0.064	0.6	0.031	2.3	0.016	7	0.028	49	0.009	2.7	5.1	ND	ND	160	>99%
10/25/2013	14.81	7.9	14.02	10.4	---	---	---	---	---	---	---	---	---	---	---	---	9.5	ND	ND	160	>99%
11/5/2013	15.03	4.8	14.1	27.9	0.300	1.4	0.07	1.2	0.000	4.0	ND	9	ND	61	ND	2.0	7.7	ND	ND	160	>99%
11/18/2013	14.52	5.5	13.63	6.1	0.293	0.9	0.065	0.7	0.032	3.1	0.026	7	0.03	63	0.017	2.1	8.1	0.2	ND	160	>99%
12/5/2013	15.04	3.7	14.03	2.4	0.311	1.3	0.077	0.7	0.043	3.0	0.028	8	0.038	66	0	3.1	7.2	0.1	ND	160	>99%
12/18/2013	14.19	2.3	13.23	12.5	0.284	1.3	0.069	1.7	0.042	2.8	0.026	8	0.038	65	0.011	2.3	9.4	0.2	ND	150	>99%
1/8/2014	14.2	3.9	12.1	5	0.290	1	0.06	1.7	0.040	3.0	ND	10	0.04	26	ND	3.0	4	0.9	ND	144	>99%
1/27/2014	13.5	0.3	12.5	0.3	0.284	0.7	0.063	2.5	0.032	1.2	0.028	8	0.32	20	---	---	6	1.5	ND	144	>99%
2/4/2014	7.48	ND	5.83	ND	0.087	1.4	0.029	1.6	0.017	3.2	0.011	7	0.013	52	0.009	1.0	ND	ND	ND	160	>99%
2/20/2014	7.05	ND	3.96	ND	0.048	1	0.025	1.4	0.013	2.5	ND	6	ND	40	0.013	0.3	ND	ND	ND	160	>99%
3/4/2014	NC	1	NC	1.9	0.059	4.1	0.026	3.8	0.014	4.9	0.003	6	0.005	45	0.011	2.5	3.1	ND	ND	160	>99%
3/20/2014	6.5	2.3	4.5	3.0	0.175	1.5	0.028	2	0.023	2.1	0.019	4	0.026	22	---	---	4.5	0.3	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-detected

NC = not collected

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

readings are suspect due to excess moisture in carbon that interfered with the meter reading

--- = not collected

Table 9
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	Vapor Influent			VOC Mass	Total lbs. VOC
Sample Date	Concentration (ppm(v))	Flow (scfm)	Days Operational	Removal Rate (lb./day)	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	ND	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
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

Table 9
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	Vapor Influent			VOC Mass	Total lbs. VOC
Sample Date	Concentration (ppm(v))	Flow (scfm)	Days Operational	Removal Rate (lb./day)	Mass Removed (lb.)
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	ND	143	772	0.54	942
2/21/2012	ND	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
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

Table 9
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	Vapor Influent			VOC Mass	Total lbs. VOC
Sample Date	Concentration (ppm(v))	Flow (scfm)	Days Operational	Removal Rate (lb./day)	Mass Removed (lb.)
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
10/14/2013	5.1	147	1371	0.67	1,306
10/25/2013	9.5	147	1382	0.64	1,313
11/5/2013	7.7	148	1393	0.76	1,321
11/18/2013	8.1	146	1406	0.69	1,330
12/5/2013	7.2	148	1423	0.68	1,342
12/18/2013	9.4	139	1435	0.69	1,350
1/8/2014	4.0	135	1455	0.54	1,361
1/27/2014	6.0	134	1474	0.40	1,368
2/4/2014	ND	150	1482	0.27	1,371
2/20/2014	ND	149	1498	0.00	1,371
3/4/2014	3.1	151	1510	0.14	1,372
3/20/2014	4.5	149	1526	0.34	1,378

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

- 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)/
 $10E6 \times 1 \text{ lbmole}/379.4 \text{ cu ft.} \times (158\text{lbs/lbmole}) \times \text{flow (ft}^3\text{/min)} \times (1440 \text{ min/day})$
- 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).
- VOC concentration not monitored on 2/4/10, assumed concentration noted on 2/18/10.
- 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

TABLE 10
Sub-Sab Soil Vapor Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-VP1										BLDG3-VP2			
	8/5/2010	11/22/2010	2/22/2011	6/27/2011	1/24/2012	3/5/2012 (1)	11/7/2012	3/29/2013	8/5/2013	11/1/2013	11/7/2012	3/29/2013	8/5/2013	11/1/2013
1,1,1-Trichloroethane	<19	<4.2	<26	<14	<13	<30	<17	<5.7	<45	<11	<13	<9.5	<1.8	<2.0
1,1,2,2-Tetrachloroethane	<4.7	<1.1	<6.5	<3.4	<3.3	<7.4	<4.2	<1.4	<11	<2.6	<3.2	<2.4	<0.44	<0.50
1,1,2-Trichloroethane	<19	<4.2	<26	<14	<13	<30	<17	<5.7	<45	<11	<13	<9.5	<1.8	<2.0
1,1-Dichloroethane	<14	<3.2	<20	<10	<10	<22	<13	<4.3	<34	<7.9	<9.7	<7.2	<1.3	<1.5
1,1-Dichloroethene	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<7.7	<9.5	<7.0	<1.3	<1.5
1,2-Dibromoethane (EDB)	---	---	<7.4	<3.8	<3.8	<8.4	---	---	---	---	---	---	---	---
1,2-Dichlorobenzene	---	---	<57	<30	<29	<66	---	---	---	---	---	---	---	---
1,2-Dichloroethane	<14	<3.2	<20	<10	<10	<22	<13	<4.3	<34	<7.9	<9.7	<7.2	<1.3	<1.5
1,2-Dichloropropane	<16	<3.6	<22	<12	<11	<25	<14	<4.8	<38	<9.0	<11	<8.1	<1.5	<1.7
1,3-Dichlorobenzene	---	---	<57	<30	<29	<66	---	---	---	---	---	---	---	---
1,4-Dichlorobenzene	---	---	<57	<30	<29	<66	---	---	---	---	---	---	---	---
1,4-Dioxane	---	---	---	<110	<110	<250	---	---	---	---	---	---	---	---
2-Butanone	---	---	<28	<15	15	<32	---	---	---	---	---	---	---	---
2-Hexanone	---	---	<20	<10	<10	<22	---	---	---	---	---	---	---	---
4-Methyl-2-pentanone	---	---	<39	<20	<20	<45	---	---	---	---	---	---	---	---
Acetone	---	---	800	110	140	<250	150	120	<380	120	360	320	220D	140D
Benzene	---	---	<15	<7.9	<7.8	<17	---	---	---	---	---	---	---	---
Bromodichloromethane	<4.7	<1.1	<6.5	<3.4	<3.3	<7.4	<4.2	<1.4	<11	<2.6	<3.2	<2.4	<0.44	<0.50
Bromoform	<36	<8.0	<50	<26	<25	<57	<32	<11	<86	<20	<25	<18	<3.4	<3.8
Bromomethane	<14	<3.0	<19	<9.7	<9.5	<21	<12	<4.1	<32	<7.6	<9.2	<6.8	<1.3	<1.4
Carbondisulfide	---	---	<15	---	---	---	---	---	---	---	---	---	---	---
Carbontetrachloride	<2.2	0.64	<3.0	<1.6	<1.6	<3.5	<2.0	<0.66	<5.3	<1.2	<1.5	<1.1	0.52	0.54
Chlorobenzene	<16	<3.6	<22	<12	<11	<25	<14	<4.8	<38	<9.0	<11	<8.1	<1.5	<1.7
Chloroethane	<18	<4.1	<25	---	---	---	<16	<5.5	<44	<10	<12	<9.2	2.5	<1.9
Chloroform	<17	4.4	29	22	17	29	<15	9.5	<41	16	19	13	25	14
Chloromethane	<14	<3.2	<20	---	---	---	<13	<4.3	<34	<7.9	<9.7	<7.2	<1.3	<1.5
cis-1,2-Dichloroethene	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<7.7	<9.5	<7.0	<1.3	<1.5
cis-1,3-Dichloropropene	<31	<7.0	<44	<23	<22	<50	<28	<9.5	<75	<18	<22	<16	<3.0	<3.3
Dibromochloromethane	<6.0	<1.3	<8.3	<4.3	<4.2	<9.4	<5.3	<1.8	<14	<3.3	<4.1	<3.0	<0.56	<0.63
Dichloromethane	<12	<2.7	<17	<8.6	<8.4	<19	<11	<3.6	<29	<6.7	<8.2	<6.0	<1.1	<1.3
Ethylbenzene	---	---	160	240	150	120	79	26	---	---	24	<15	---	---
Freon 113	---	---	<7.4	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	<68	<66	<150	---	---	---	---	---	---	---	---
m/p-xylene	---	---	610	990	600	480	340	100	---	---	86	<30	---	---
Methyltert-butylether	---	---	<34	<18	<18	<39	---	---	---	---	---	---	---	---
Naphthalene	---	---	---	<45	<44	<99	---	---	---	---	---	---	---	---
o-Xylene	---	---	57	87	57	<47	37	14	---	---	32	<15	---	---
Styrene	---	---	<41	<21	<21	<47	---	---	---	---	---	---	---	---
Tetrachloroethene	1600	480	2100	2100D	1100	2100	1300	500	3200	1000	61	26	130	31
Toluene	---	---	<18	<9.3	<9.1	<20	---	---	---	---	---	---	---	---
trans-1,2-Dichloroethene	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<7.7	<9.5	<7.0	<1.3	<1.5
Trans-1,3-Dichloropropene	<16	<3.5	<22	<11	<11	<25	<14	<4.7	<38	<8.8	<11	<8.0	<1.5	<1.7
Trichloroethene	510	130	1500	630	350	810	320	150	670	290	12	11	25	11
Trichlorofluoromethane	<19	<4.4	<27	---	---	---	<17	<5.9	<47	<11	<13	<9.9	<1.8	<2.1
Vinyl acetate	---	---	<220	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	<1.9	<0.42	<2.6	<1.4	<1.3	<3.0	<1.7	<0.57	<4.5	<1.1	<1.3	<0.95	<0.18	<0.20
Xylene (total)	---	---	670	1100	660	480	380	110	---	---	120	<30	---	---

TABLE 10
Sub-Sub Soil Vapor Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-VP3											BLDG3-VP5			
	8/5/2010	11/22/2010	2/22/2011	6/27/2011	10/6/2011	1/10/2012	3/5/2012 (1)	11/7/2012	3/29/2013	8/5/2013	11/1/2013	10/6/2011	1/10/2012	3/5/2012 (1)	11/7/2012
1,1,1-Trichloroethane	<400	<39	<290	<260	<19	<67	<71	<19	<10	<7.7	<12	<3200	<1700	<1400	<180
1,1,2,2-Tetrachloroethane	<100	<9.8	<72	<65	<4.7	<17	<18	<4.8	<2.6	<1.9	<2.9	<810	<430	<340	<46
1,1,2-Trichloroethane	<400	<39	<290	<260	<19	<67	<71	<19	<10	<7.7	<12	<3200	<1700	<1400	<180
1,1-Dichloroethane	<300	<29	<220	<200	<14	<50	<53	<14	<7.9	<5.8	<8.7	<2400	<1300	<1000	<140
1,1-Dichloroethene	<290	<29	<210	<190	<14	<49	<52	<14	<7.7	<5.6	<8.5	<2400	<1200	<1000	<140
1,2-Dibromoethane (EDB)	---	---	<81	<74	---	<19	<20	---	---	---	---	---	<480	<390	---
1,2-Dichlorobenzene	---	---	<630	<570	---	<150	<160	---	---	---	---	---	<3700	<3000	---
1,2-Dichloroethane	<300	<29	<220	<200	<14	<50	<53	<14	<7.9	<5.8	<8.7	<2400	<1300	<1000	<140
1,2-Dichloropropane	<340	<33	<240	<220	<16	<57	<60	<16	<8.9	<6.5	<9.9	<2800	<1400	<1200	<160
1,3-Dichlorobenzene	---	---	<630	<570	---	<150	<160	---	---	---	---	---	<3700	<3000	---
1,4-Dichlorobenzene	---	---	<630	<570	---	<150	<160	---	---	---	---	---	<3700	<3000	---
1,4-Dioxane	---	---	---	<2200	---	<560	<590	---	---	---	---	---	<14000	<11000	---
2-Butanone	---	---	<310	<280	---	<73	<77	---	---	---	---	---	<1800	<1500	---
2-Hexanone	---	---	<220	<200	---	<50	<53	---	---	---	---	---	<1300	<1000	---
4-Methyl-2-pentanone	---	---	<430	<390	---	<100	<110	---	---	---	---	---	<2600	<2000	---
Acetone	---	---	<2400	<2200	1300	<560	<590	260	140	160	160	<27000	<14000	<11000	<1500
Benzene	---	---	<170	<150	---	<39	<41	---	---	---	---	---	<990	<790	---
Bromodichloromethane	<100	<9.8	<72	<65	<4.7	<17	<18	<4.8	<2.6	<1.9	<2.9	<810	<430	<340	<46
Bromoform	<760	<74	<550	<490	<36	<130	<130	<36	<20	<15	<22	<6200	<3200	<2600	<350
Bromomethane	<290	<28	<210	<190	<14	<48	<51	<14	<7.5	<5.5	<8.3	<2300	<1200	<970	<130
Carbondisulfide	---	---	<160	---	---	---	---	---	---	---	---	---	---	---	---
Carbontetrachloride	<47	<4.6	<34	<30	<2.2	<7.8	<8.3	<2.2	<1.2	1	<1.4	<380	<200	<160	<22
Chlorobenzene	<340	<33	<240	<220	<16	<57	<60	<16	<8.9	<6.5	<9.9	<2800	<1400	<1200	<160
Chloroethane	<390	<38	<280	---	<18	---	---	<19	<10	<7.4	<11	<3100	---	---	<180
Chloroform	<360	<35	<260	<230	<17	<60	<64	20	17	14	15	<2900	<1500	<1200	<170
Chloromethane	<300	<29	<220	---	<14	---	---	<14	<7.9	<5.8	<8.7	<2400	---	---	<140
cis-1,2-Dichloroethene	<290	<29	<210	<190	<14	<49	<52	32	22	19	19	<2400	<1200	<1000	<140
cis-1,3-Dichloropropene	<670	<65	<480	<430	<31	<110	<120	<32	<17	<13	<19	<5400	<2800	<2300	<310
Dibromochloromethane	<130	<12	<91	<82	<6.0	<21	<22	<6.1	<3.3	<2.4	<3.7	<1000	<540	<430	<59
Dichloromethane	<250	<25	<180	<160	<12	<42	<45	<12	<6.6	<4.9	<7.3	<2100	<1100	<860	<120
Ethylbenzene	---	---	<460	<410	<30	<110	<110	<30	<17	---	---	120000	60000	36000	8100
Freon 113	---	---	130	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	<1300	---	<340	<360	---	---	---	---	---	<8500	<6800	---
m/p-xylene	---	---	<920	<830	<60	<210	<230	110	<33	---	---	470000	240000	140000	40000D
Methyltert-butylether	---	---	<380	<340	---	<88	<93	---	---	---	---	---	<2200	<1800	---
Naphthalene	---	---	---	<870	---	<220	<240	---	---	---	---	---	<5700	<4500	---
o-Xylene	---	---	<460	<410	<30	<110	<110	38	<17	---	---	47000	29000	18000	5700
Styrene	---	---	<450	<410	---	<100	<110	---	---	---	---	---	<2700	<2100	---
Tetrachloroethene	36000	3000	51000	27000	410	4800	5000	2200	960	1200D	620	<430	<230	350	62
Toluene	---	---	<200	<180	---	<46	<49	---	---	---	---	---	<1200	<930	---
trans-1,2-Dichloroethene	<290	<29	<210	<190	<14	<49	<52	<14	<7.7	<5.6	<8.5	<2400	<1200	<1000	<140
Trans-1,3-Dichloropropene	<330	<33	<240	<220	<16	<56	<59	<16	<8.7	<6.4	<9.7	<2700	<1400	<1100	<150
Trichloroethene	3600	1000	4900	2100	42	640	620	600	390	380	270	<320	<170	<140	<18
Trichlorofluoromethane	<410	<40	<300	---	<19	---	---	<20	<11	<7.9	<12	<3300	---	---	<190
Vinyl acetate	---	---	<2400	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	<40	<3.9	<29	<26	<1.9	<6.7	<7.1	<1.9	<1.0	<0.77	<1.2	<320	<170	<140	<18
Xylene (total)	---	---	<920	<830	<60	<210	<110	150	<33	---	---	520000	270000	158000	46000D

TABLE 10
Sub-Sub Soil Vapor Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-VP6								BLDG3-VP7
	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	<57	<17	<11	<1700	<990	<8600	<8200	<95	
1,1,2,2-Tetrachloroethane	<14	<4.2	<2.8	<420	<250	<2200	<2000	<24	
1,1,2-Trichloroethane	<57	<17	<11	<1700	<990	<8600	<8200	<95	
1,1-Dichloroethane	<43	<13	<8.5	<1300	<740	<6500	<6100	<71	
1,1-Dichloroethene	<42	<12	<8.3	<1200	<730	<6300	<6000	<69	
1,2-Dibromoethane (EDB)	---	<4.8	---	<480	<280	---	<2300	<27	
1,2-Dichlorobenzene	---	<37	---	<3700	<2200	---	<18000	<210	
1,2-Dichloroethane	<43	<13	<8.5	<1300	<740	<6500	<6100	<71	
1,2-Dichloropropane	<48	<14	<9.7	<1400	<840	<7300	<6900	<80	
1,3-Dichlorobenzene	---	<37	---	<3700	<2200	---	<18000	<210	
1,4-Dichlorobenzene	---	<37	---	<3700	<2200	---	<18000	<210	
1,4-Dioxane	---	<140	---	---	<8300	---	<68000	<790	
2-Butanone	---	<18	---	<1800	<1100	---	<8800	<100	
2-Hexanone	---	<13	---	<1300	<740	---	<6100	<71	
4-Methyl-2-pentanone	---	<25	---	<2500	<1500	---	<12000	<140	
Acetone	---	410	---	24000	<130000D	150000	<68000	<790	
Benzene	---	<9.8	---	<980	<580	---	<4800	<55	
Bromodichloromethane	<14	<4.2	<2.8	<420	<250	<2200	<2000	<24	
Bromoform	<110	<32	<22	<3200	<1900	<16000	<16000	<180	
Bromomethane	<41	<12	<8.1	<1200	<710	<6200	<5800	<68	
Carbendisulfide	---	---	---	<950	---	---	---	---	
Carbontetrachloride	<6.6	<2.0	<1.3	<200	<120	<1000	<950	<11	
Chlorobenzene	<48	<14	<9.7	<1400	<840	<7300	<6900	<80	
Chloroethane	<55	---	<11	<1600	---	<8400	---	---	
Chloroform	<51	<15	<10	<1500	<890	<7800	<7300	<85	
Chloromethane	<43	---	69	<1300	---	<6500	---	---	
cis-1,2-Dichloroethene	<42	<12	<8.3	<1200	<730	<6300	<6000	<69	
cis-1,3-Dichloropropene	<94	<28	<19	<2800	<1700	<14000	<14000	<160	
Dibromochloromethane	<18	<5.3	<3.6	<530	<310	<2700	<2600	<30	
Dichloromethane	<36	<11	<7.2	<1100	<630	<5500	<5200	<60	
Ethylbenzene	---	40	---	190000D	300000D	200000	180000	4700	
Freon 113	---	---	---	<480	---	---	---	---	
Hexachlorobutadiene	---	<84	---	---	<5000	---	<41000	<470	
m/p-xylene	---	240	---	680000D	1100000D	700000	640000	150000D	
Methyltert-butylether	---	<22	---	<2200	<1300	---	<11000	<120	
Naphthalene	---	<56	---	---	<3300	---	<27000	<320	
o-Xylene	---	<27	---	68000	100000D	62000	61000	1200	
Styrene	---	<26	---	<2600	<1600	---	<13000	<150	
Tetrachloroethene	8.9J	<2.2	<1.5	<220	<130	<1200	<1100	210	
Toluene	---	<11	---	<1100	1000	---	<5600	<65	
trans-1,2-Dichloroethene	<42	<12	<8.3	<1200	<730	<6300	<6000	<69	
Trans-1,3-Dichloropropene	<47	<14	<9.5	<1400	<830	<7200	<6800	<79	
Trichloroethene	<5.7	<1.7	1.2	<170	<99	<860	<820	170	
Trichlorofluoromethane	<59	---	<12	<1700	---	<8900	---	---	
Vinyl acetate	---	---	---	<14000	---	---	---	---	
Vinyl chloride	<5.7	<1.7	<1.1	<170	<99	<860	<820	<9.5	
Xylene (total)	---	240	---	748000D	1200000D	760000	700000	160000D	

Notes:

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

ug/m³ = micrograms per cubic meter.

J = Estimated concentration.

D = Result is from a diluted sample.

--- Not analyzed for.

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

TABLE 11
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG2-6													
	Environmental Testing Room Building 2 Basement													
	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 (1)	11/7/2012	8/5/2013	11/1/2013
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	<18
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	<4.4
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	<18
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	<13
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	<13
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	<13
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	<15
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	440
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	<4.4
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	<34
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	<13
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	<2.1
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	<15
Chloroethane	<38	<0.85	<1.5	<1.2	<0.90	<1.1	<0.84	<0.89	<1.4	<7.4	---	<5.0	<1.1	<17
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	<16
Chloromethane	<30	0.89	1.1	1.2	1.1	1.1	1.2	1.1	1.1	<5.8	---	<3.9	<0.84	<13
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	<13
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	<29
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	<5.6
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	<11
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	22
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	<13
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	<15
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	5.7
Trichlorofluoromethane	<41	1.1	1.7	2.1	2	1.6	1.4	1.9	1.7	<7.9	---	<5.4	1.8	<18
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	<1.8
Xylene (total)	---	---	---	---	---	---	---	<2.9	<4.5	<24	<1.7	<17	---	---

TABLE 11
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-1							
	Main Chemical Laboratory							
	6/1/2009	10/8/2009	2/9/2010	5/19/2010	8/5/2010	11/22/2010	2/22/2011	3/5/2012 (1)
1,1,1-Trichloroethane	<75	<3.0	<4.6	<2.8	<1.5	<0.88	<0.91	<1.1
1,1,2,2-Tetrachloroethane	<19	<0.74	<1.2	<0.70	<0.38	<0.22	<0.23	<0.27
1,1,2-Trichloroethane	<75	<3.0	<4.6	<2.8	<1.5	<0.88	<0.91	<1.1
1,1-Dichloroethane	<56	<2.2	<3.5	<2.1	<1.1	<0.66	<0.68	<0.82
1,1-Dichloroethene	<55	<2.2	<3.4	<2.0	<1.1	<0.65	<0.67	<0.80
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	<0.31
1,2-Dichlorobenzene	---	---	---	---	---	---	---	<2.4
1,2-Dichloroethane	<56	<2.2	<3.5	<2.1	<1.1	<0.66	<0.68	<0.82
1,2-Dichloropropane	<63	<2.5	<3.9	<2.4	<1.3	<0.75	<0.78	<0.93
1,3-Dichlorobenzene	---	---	---	---	---	---	---	<2.4
1,4-Dichlorobenzene	---	---	---	---	---	---	---	<2.4
1,4-Dioxane	---	---	---	---	---	---	---	<9.1
2-Butanone	---	---	---	---	---	---	---	2.2
2-Hexanone	---	---	---	---	---	---	---	<0.82
4-Methyl-2-pentanone	---	---	---	---	---	---	---	<1.6
Acetone	---	---	---	---	---	---	---	300D
Benzene	---	---	---	---	---	---	---	<0.64
Bromodichloromethane	<19	<0.74	<1.2	<0.70	<0.38	<0.22	<0.23	<0.27
Bromoform	<140	<5.6	<8.8	<5.3	<2.9	<1.7	<1.7	<2.1
Bromomethane	<53	<2.1	<3.3	<2.0	<1.1	<0.63	<0.65	<0.78
Carbontetrachloride	<8.7	0.36	<0.54	0.58	0.3	0.55	0.58	0.56
Chlorobenzene	<63	<2.5	<3.9	<2.4	<1.3	<0.75	<0.78	<0.93
Chloroethane	<72	<2.9	<4.5	<2.7	<1.5	<0.85	<0.88	---
Chloroform	<67	<2.7	<4.2	<2.5	<1.4	<0.79	<0.82	<0.98
Chloromethane	<56	<2.2	<3.5	<2.1	<1.1	1.1	1.2	---
cis-1,2-Dichloroethene	<55	<2.2	<3.4	<2.0	<1.1	<0.65	<0.67	<0.80
cis-1,3-Dichloropropene	<120	<4.9	<7.7	<4.7	<2.5	<1.5	<1.5	<1.8
Dibromochloromethane	<24	<0.94	<1.5	<0.88	<0.48	<0.28	<0.29	<0.35
Dichloromethane	<47	<1.9	<2.9	<1.8	0.96	2.5	<0.58	<0.59
Ethylbenzene	---	---	---	---	---	---	---	<1.7
Hexachlorobutadiene	---	---	---	---	---	---	---	<5.5
m/p-xylene	---	---	---	---	---	---	---	<3.5
Methyltert-butylether	---	---	---	---	---	---	---	<1.4
Naphthalene	---	---	---	---	---	---	---	<3.6
o-Xylene	---	---	---	---	---	---	---	<1.7
Styrene	---	---	---	---	---	---	---	<1.7
Tetrachloroethene	18	23	3.8	0.72	2	1.1	1.3	3
Toluene	---	---	---	---	---	---	---	1.1
trans-1,2-Dichloroethene	<55	<2.2	<3.4	<2.0	<1.1	0.67	<0.67	1.4
Trans-1,3-Dichloropropene	<62	<2.5	<3.9	<2.3	<1.3	<0.74	<0.76	<0.91
Trichloroethene	<7.5	8.2	4.4	<0.28	0.61	0.37	0.13	0.31
Trichlorofluoromethane	<77	<3.1	<4.8	<2.9	<1.6	1.6	1.4	---
Vinyl chloride	<7.5	<0.30	<0.46	<0.28	<0.15	<0.088	0.16	<0.11
Xylene (total)	---	---	---	---	---	---	---	<3.5

TABLE 11
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-2												
	Chemical Laboratory Bench Testing Room												
	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 (1)	8/5/2013	11/1/2013
1,1,1-Trichloroethane	<100	<4.5	<9.2	<6.1	<1.8	<1.0	<1.5	<3.4	<1.5	<18	<1.1	<3.6	<4.0
1,1,2,2-Tetrachloroethane	<25	<1.1	<2.3	<1.5	<0.46	<0.26	<0.38	<0.85	<0.37	<4.6	<0.28	<0.90	<1.0
1,1,2-Trichloroethane	<100	<4.5	<9.2	<6.1	<1.8	<1.0	<1.5	<3.4	<1.5	<18	<1.1	<3.6	<4.0
1,1-Dichloroethane	<75	<3.4	<6.9	<4.6	<1.4	<0.78	<1.1	<2.6	<1.1	<14	<0.83	<2.7	<3.0
1,1-Dichloroethene	<73	<3.3	<6.7	<4.5	<1.4	<0.77	<1.1	<2.5	<1.1	<13	<0.81	<2.6	<3.0
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---	<0.31	---	---
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---
1,2-Dichloroethane	<75	<3.4	<6.9	<4.6	<1.4	<0.78	<1.1	<2.6	<1.1	<14	<0.83	<2.7	<3.0
1,2-Dichloropropane	<85	<3.8	<7.8	<5.2	<1.6	<0.89	<1.3	<2.9	<1.2	<16	<0.94	<3.0	<3.4
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---
1,4-Dioxane	---	---	---	---	---	---	---	---	---	---	<9.2	---	---
2-Butanone	---	---	---	---	---	---	---	---	---	---	3.6	---	---
2-Hexanone	---	---	---	---	---	---	---	---	---	---	<0.83	---	---
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	<1.7	---	---
Acetone	---	---	---	---	---	---	---	1900	400	550	410D	2900D	1100D
Benzene	---	---	---	---	---	---	---	---	---	---	<0.64	---	---
Bromodichloromethane	<25	<1.1	<2.3	<1.5	<0.46	<0.26	<0.38	<0.85	<0.37	<4.6	<0.28	<0.90	<1.0
Bromoform	<190	<8.6	<17	<12	<3.5	<2.0	<2.9	<6.5	<2.8	<35	<2.1	<6.8	<7.6
Bromomethane	<72	<3.2	<6.6	<4.4	<1.3	<0.75	<1.1	<2.4	<1.0	<13	<0.79	<2.6	<2.9
Carbontetrachloride	<12	<0.53	<1.1	<0.71	0.4	0.63	0.54	0.53	0.62	<2.1	0.56	0.58	0.52
Chlorobenzene	<85	<3.8	<7.8	<5.2	<1.6	<0.89	<1.3	<2.9	<1.2	<16	<0.94	<3.0	<3.4
Chloroethane	<97	<4.4	<8.9	<5.9	<1.8	<1.0	<1.5	<3.3	<1.4	<18	---	<3.5	<3.9
Chloroform	<90	<4.1	<8.3	<5.5	<1.7	<0.94	<1.4	<3.1	<1.3	<17	<0.99	<3.2	<3.6
Chloromethane	<75	<3.4	<6.9	<4.6	<1.4	1.2	1.2	<2.6	<1.1	<14	---	<2.7	<3.0
cis-1,2-Dichloroethene	<73	<3.3	<6.7	<4.5	<1.4	<0.77	<1.1	<2.5	<1.1	<13	<0.81	<2.6	<3.0
cis-1,3-Dichloropropene	<170	<7.5	<15	<10	<3.1	<1.7	<2.5	<5.7	<2.4	<31	<1.8	<6.0	<6.7
Dibromochloromethane	<32	<1.4	<2.9	<1.9	<0.59	<0.33	<0.48	<1.1	<0.46	<5.8	<0.35	<1.1	<1.3
Dichloromethane	<63	<2.9	<5.8	<3.9	<1.2	0.82	<0.96	<2.2	<0.92	<12	<0.59	<2.3	<2.5
Ethylbenzene	---	---	---	---	---	---	---	<5.4	<2.3	<29	<1.7	---	---
Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	<5.5	---	---
m/p-xylene	---	---	---	---	---	---	---	<11	<4.6	<58	<3.5	---	---
Methyltert-butylether	---	---	---	---	---	---	---	---	---	---	<1.4	---	---
Naphthalene	---	---	---	---	---	---	---	---	---	---	<3.7	---	---
o-Xylene	---	---	---	---	---	---	---	<5.4	<2.3	<29	<1.7	---	---
Styrene	---	---	---	---	---	---	---	---	---	---	<1.7	---	---
Tetrachloroethene	46	6.4	3.7	2	2.3	3.1	1.3	1.2	1	<2.4	1.7	1.6	2.4
Toluene	---	---	---	---	---	---	---	---	---	---	1.4	---	---
trans-1,2-Dichloroethene	<73	<3.3	<6.7	<4.5	<1.4	<0.77	<1.1	<2.5	<1.1	<13	3	<2.6	<3.0
Trans-1,3-Dichloropropene	<83	<3.8	<7.7	<5.1	<1.5	<0.87	<1.3	<2.8	<1.2	<15	<0.92	<3.0	<3.4
Trichloroethene	19	3.2	5.3	0.79	0.6	1.6	0.42	0.93	1.3	<1.8	1.2	0.58	1
Trichlorofluoromethane	<100	<4.7	<9.5	<6.3	<1.9	1.6	<1.6	<3.5	1.7	<19	---	<3.7	<4.2
Vinyl chloride	<10	<0.45	<0.92	<0.61	<0.18	<0.10	<0.15	<0.34	<0.15	<1.8	<0.11	<0.36	<0.40
Xylene (total)	---	---	---	---	---	---	---	<11	<4.6	<58	<3.5	---	---

TABLE 11
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-3																
	MID Stockroom																
	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 (1)	11/7/2012	8/5/2013	11/1/2013
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	<1.8
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	<0.45
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	<1.8
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	<1.4
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	<1.3
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	<1.4
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	<1.5
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	400D
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	<0.45
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	<3.4
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	<1.3
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	0.58
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	<1.5
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	<1.7
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	<1.6
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	<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	<1.3
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	<3.0
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	<0.57
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	<1.1
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	0.84
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	<1.3
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	<1.5
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	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	<1.9
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	<0.18
Xylene (total)	---	---	---	---	---	---	---	---	---	---	<5.5	<5.0	<34	<13.6	<6.9	---	---

TABLE 11
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-4											
	Building 3 Machine Shop											
	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 (1)	11/7/2012	8/5/2013	11/1/2013
1,1,1-Trichloroethane	<110	21	12	<18	<3.5	<1.9	<5.4	<8.9	<1.1	<2.8	<2.6	<3.2
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	<0.81
1,1,2-Trichloroethane	<110	<4.6	<4.5	<18	<3.5	<1.9	<5.4	<8.9	<1.1	<2.8	<2.6	<3.2
1,1-Dichloroethane	<80	<3.5	<3.4	<14	<2.6	<1.4	<4.1	<6.7	<0.84	<2.1	<1.9	<2.4
1,1-Dichloroethene	<78	<3.4	<3.3	<14	<2.6	<1.4	<4.0	<6.6	<0.82	<2.1	<1.9	<2.4
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	<0.32	---	---	---
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---
1,2-Dichloroethane	<80	<3.5	<3.4	<14	<2.6	<1.4	<4.1	<6.7	<0.84	<2.1	<1.9	<2.4
1,2-Dichloropropane	<90	<3.9	<3.8	<16	<3.0	<1.6	<4.6	<7.6	<0.95	<2.4	<2.2	<2.7
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---
1,4-Dioxane	---	---	---	---	---	---	---	---	<9.3	---	---	---
2-Butanone	---	---	---	---	---	---	---	---	2.5	---	---	---
2-Hexanone	---	---	---	---	---	---	---	---	<0.84	---	---	---
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	<1.7	---	---	---
Acetone	---	---	---	---	---	---	---	---	870D	2100D	1000D	780D
Benzene	---	---	---	---	---	---	---	---	<0.65	---	---	---
Bromodichloromethane	<27	<1.2	<1.1	<4.6	<0.88	<0.48	<1.4	<2.2	<0.28	<0.70	<0.65	<0.81
Bromoform	<200	<8.8	<8.6	<35	<6.7	<3.7	<10	<17	<2.1	<5.3	<4.9	<6.1
Bromomethane	<76	<3.3	<3.2	<13	<2.5	<1.4	<3.9	<6.4	<0.80	<2.0	<1.8	<2.3
Carbontetrachloride	<12	<0.54	<0.53	<2.2	0.52	0.56	<0.63	<1.0	0.55	0.41	0.56	0.52
Chlorobenzene	<90	<3.9	<3.8	<16	<3.0	<1.6	<4.6	<7.6	<0.95	<2.4	<2.2	<2.7
Chloroethane	<100	<4.5	<4.4	<18	<3.4	<1.9	<5.3	<8.6	---	<2.7	<2.5	<3.1
Chloroform	<95	<4.2	<4.1	<17	<3.2	<1.7	<4.9	<8.0	<1.0	<2.5	<2.3	<2.9
Chloromethane	<80	<3.5	<3.4	<14	<2.6	<1.4	<4.1	<6.7	---	<2.1	<1.9	<2.4
cis-1,2-Dichloroethene	<78	<3.4	<3.3	<14	<2.6	<1.4	<4.0	<6.6	<0.82	<2.1	<1.9	<2.4
cis-1,3-Dichloropropene	<180	<7.7	<7.5	<31	<5.9	<3.2	<9.1	<15	<1.9	<4.7	<4.3	<5.4
Dibromochloromethane	<34	<1.5	<1.4	<5.9	<1.1	<0.61	<1.7	<2.8	<0.35	<0.89	<0.82	<1.0
Dichloromethane	<67	<2.9	<2.9	<12	<2.2	<1.2	<3.4	<5.7	<0.60	<1.8	<1.6	<2.0
Ethylbenzene	---	---	---	---	---	---	---	<14	<1.8	<4.5	---	---
Hexachlorobutadiene	---	---	---	---	---	---	---	---	<5.6	---	---	---
m/p-xylene	---	---	---	---	---	---	---	<28	<3.6	<8.9	---	---
Methyltert-butylether	---	---	---	---	---	---	---	---	<1.5	---	---	---
Naphthalene	---	---	---	---	---	---	---	---	<3.7	---	---	---
o-Xylene	---	---	---	---	---	---	---	<14	<1.8	<4.5	---	---
Styrene	---	---	---	---	---	---	---	---	<1.7	---	---	---
Tetrachloroethene	72	25	8.2	3	0.9	2.1	1.8	1.2	5.9	1.8	0.9	1.6
Toluene	---	---	---	---	---	---	---	---	1.4	---	---	---
trans-1,2-Dichloroethene	<78	<3.4	<3.3	<14	<2.6	<1.4	<4.0	<6.6	2.4	<2.1	<1.9	<2.4
Trans-1,3-Dichloropropene	<88	<3.9	<3.8	<15	<2.9	<1.6	<4.5	<7.5	<0.93	<2.3	<2.2	<2.7
Trichloroethene	30	10	5.4	2.1	0.4	0.25	0.7	<0.89	0.7	0.4	<0.26	0.55
Trichlorofluoromethane	<110	<4.8	<4.7	<19	<3.6	<2.0	<5.6	<9.2	---	<2.9	<2.7	<3.3
Vinyl chloride	<11	<0.46	<0.45	<1.8	<0.35	<0.19	<0.54	<0.89	<0.11	<0.28	<0.26	<0.32
Xylene (total)	---	---	---	---	---	---	---	<28	<3.6	<8.9	---	---

TABLE 11
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	BLDG3-5								BLDG3-6
	Boiler room, Building 3 Basement								Building 3 Storage Room
	6/1/2009	10/8/2009	2/9/2010	5/19/2010	8/5/2010	11/22/2010	2/22/2011	3/5/2012 (1)	6/27/2011
1,1,1-Trichloroethane	<0.91	<0.91	<0.88	<0.89	<1.8	<1.1	<0.88	<1.1	<1.8
1,1,2,2-Tetrachloroethane	<0.23	<0.23	<0.22	<0.22	<0.46	<0.26	<0.22	<0.26	<0.45
1,1,2-Trichloroethane	<0.91	<0.91	<0.88	<0.89	<1.8	<1.1	<0.88	<1.1	<1.8
1,1-Dichloroethane	<0.68	<0.68	<0.66	<0.67	<1.4	<0.79	<0.66	<0.79	<1.4
1,1-Dichloroethene	<0.66	<0.66	<0.65	<0.66	<1.3	<0.78	<0.65	<0.77	<1.3
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	<0.30	---
1,2-Dichlorobenzene	---	---	---	---	---	---	---	<2.3	---
1,2-Dichloroethane	<0.68	<0.68	<0.66	<0.67	<1.4	<0.79	<0.66	<0.79	<1.4
1,2-Dichloropropane	<0.77	<0.77	<0.75	<0.76	<1.6	<0.90	<0.75	<0.90	<1.5
1,3-Dichlorobenzene	---	---	---	---	---	---	---	<2.3	---
1,4-Dichlorobenzene	---	---	---	---	---	---	---	<2.3	---
1,4-Dioxane	---	---	---	---	---	---	---	<8.8	---
2-Butanone	---	---	---	---	---	---	---	<1.1	---
2-Hexanone	---	---	---	---	---	---	---	<0.79	---
4-Methyl-2-pentanone	---	---	---	---	---	---	---	<1.6	---
Acetone	---	---	---	---	---	---	---	200D	800
Benzene	---	---	---	---	---	---	---	<0.61	---
Bromodichloromethane	<0.23	<0.23	<0.22	<0.22	<0.46	<0.26	<0.22	<0.26	<0.45
Bromoform	<1.7	<1.7	<1.7	<1.7	<3.5	<2.0	<1.7	<2.0	<3.4
Bromomethane	<0.65	<0.65	<0.63	<0.64	<1.3	<0.76	<0.63	<0.75	<1.3
Carbontetrachloride	0.77	0.46	0.65	0.45	0.46	0.64	0.59	0.55	0.55
Chlorobenzene	<0.77	<0.77	<0.75	<0.76	<1.6	<0.90	<0.75	<0.90	<1.5
Chloroethane	<0.88	<0.88	<0.85	<0.86	<1.8	<1.0	<0.85	---	<1.8
Chloroform	<0.82	<0.82	<0.79	<0.80	<1.7	<0.95	<0.79	<0.95	<1.6
Chloromethane	0.95	1	1.1	0.86	<1.4	1.3	1.2	---	<1.4
cis-1,2-Dichloroethene	<0.66	<0.66	<0.65	<0.66	<1.3	<0.78	<0.65	<0.77	<1.3
cis-1,3-Dichloropropene	<1.5	<1.5	<1.5	<1.5	<3.1	<1.8	<1.5	<1.8	<3.0
Dibromochloromethane	<0.29	<0.29	<0.28	<0.28	<0.58	<0.33	<0.28	<0.33	<0.57
Dichloromethane	<0.57	<0.57	<0.56	<0.57	1.9	<0.67	<0.56	<0.60	<1.1
Ethylbenzene	---	---	---	---	---	---	---	<1.7	<2.9
Hexachlorobutadiene	---	---	---	---	---	---	---	<5.3	---
m/p-xylene	---	---	---	---	---	---	---	<3.4	<5.8
Methyltert-butylether	---	---	---	---	---	---	---	<1.4	---
Naphthalene	---	---	---	---	---	---	---	<3.5	---
o-Xylene	---	---	---	---	---	---	---	<1.7	<2.9
Styrene	---	---	---	---	---	---	---	<1.7	---
Tetrachloroethene	7	1.1	5.2	0.9	4.2	1.1	1.1	1.9	0.67
Toluene	---	---	---	---	---	---	---	0.88	---
trans-1,2-Dichloroethene	<0.66	<0.66	<0.65	<0.66	<1.3	<0.78	<0.65	0.98	<1.3
Trans-1,3-Dichloropropene	<0.76	<0.76	<0.74	<0.75	<1.5	<0.88	<0.74	<0.88	<1.5
Trichloroethene	2.5	0.38	5	<0.089	0.19	0.12	<0.088	0.22	0.4
Trichlorofluoromethane	1.7	1.2	1.7	1.6	<1.9	1.7	1.4	---	<1.9
Vinyl chloride	<0.091	<0.091	<0.088	<0.089	<0.18	<0.11	<0.088	<0.11	<0.18
Xylene (total)	---	---	---	---	---	---	---	<3.4	<5.8

Notes

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

Table 12
Soil Analytical Results, Building 5
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT (ug/kg)	BLDG5-SV4 12/30/2013	OB-44-S 12/30/2013	OB-44-S 12/30/2013
Starting Depth (ft.)	6	9	17
Ending Depth(ft.)	7.5	10	18
1,1,1-Trichloroethane	<52	<39	<38
1,1,2,2-Tetrachloroethane	<52	<39	<38
1,1,2-Trichloroethane	<52	<39	<38
1,1-Dichloroethane	<52	<39	<38
1,1-Dichloroethene	<52	<39	<38
1,2-Dichloroethane	<52	<39	<38
1,2-Dichloropropane	<52	<39	<38
Acetone	<260	<200	<190
Bromodichloromethane	<52	<39	<38
Bromoform	<52	<39	<38
Bromomethane	<78 U	<64 U	<39 U
Carbontetrachloride	<52	<39	<38
Chlorobenzene	<52	<39	<38
Chloroethane	<52	<39	<38
Chloroform	<52	<39	<38
Chloromethane	<52	<39	<38
cis-1,2-Dichloroethene	<52	<39	57
cis-1,3-Dichloropropene	<52	<39	<38
Dibromochloromethane	<52	<39	<38
Dichloromethane	<52	<39	<38
Tetrachloroethene	<52	10000D	14000D
trans-1,2-Dichloroethene	<52	<39	<38
Trans-1,3-Dichloropropene	<52	<39	<38
Trichloroethene	<52	230	6200
Trichlorofluoromethane	<52	<39	<38
Vinyl chloride	<52	<39	<38

Notes:

D = result from a diluted sample.

ug/kg - microgram per kilogram

ft. - feet

U = non detect due to blank contamination

**Table 13
Operation and Maintenance Data
Building 5 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts**

Location Date	Extraction Well BLDG5-SVE1		Extraction Well BLDG5-SVE2		Extraction Well BLDG5-SVE3		Bldg5-SV1		Bldg5-SV2		Bldg5-SV3		Bldg5-SV4		Bldg5-SV5		Bldg5-SV6		Carbon Influent	Carbon Midpoint	Carbon Effluent		VOC Off- gas Reduction (2)
	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	VOC (ppm)	VOC (ppm)	VOC (ppm)	Total Vapor Flow (cfm) ⁽¹⁾	
10/14/2013	8.7	20.58	0.3	20.52	0.4	19.9	0.978	8.7	0.668	0.3	0.013	0.4	---	---	0.186	0.1	0.18	2.1	1.3	ND	ND	179	>99%
10/25/2013	52.4	20.3	1.2	20.28	1.4	19.63	---	52.4	---	1.2	---	1.4	---	---	---	---	---	---	3.6	ND	ND	183	>99%
11/5/2013	40.7	20.3	1.4	20.22	1.7	19.61	0.93	40.7	0.65	1.4	---	1.7	---	---	0.17	6.4	0.18	35.8	2.7	ND	ND	191	>99%
11/18/2013	42.9	19.57	ND	19.5	0.2	18.89	0.959	42.9	0.647	0	---	0.2	---	---	0.177	0.9	0.189	3.1	1.5	ND	ND	187	>99%
12/18/2013	31.2	14.59	0.5	14.52	0.7	14.09	0.757	31.2	0.501	0.5	0.013	0.7	---	---	0.105	0.6	0.117	2.9	1.5	ND	ND	140	>99%
1/8/2014	7.8	9.5	0.4	9.4	0.6	9.1	0.45	7.8	0.325	0.4	---	0.6	0.117	100	0.052	0.5	0.051	2	1.5	ND	ND	106	>99%
1/27/2014	8	10.42	0.3	10.35	0.8	10.12	---	8	---	0.3	---	0.8	---	---	---	---	---	---	0.3	ND	ND	109	>99%
2/4/2014	0.9	10.32	1.2	10.29	1.1	10.02	0.531	0.9	0.387	1.2	---	1.1	---	---	0.058	1	0.078	3.1	0.3	ND	ND	106	>99%
2/20/2014	0.6	10.56	0.5	10.67	0.5	10.35	0.587	0.6	0.382	0.5	---	0.5	---	---	0.07	0.8	0.089	3.2	0.2	ND	ND	111	>99%
3/4/2014	5.3	9.256	0.6	9.317	1.1	9.058	0.448	5.3	0.322	0.6	0.003	1.1	0.089	2	0.039	3.7	0.066	10.2	1.6	ND	ND	101	>99%
3/20/2014	4.5	11.6	0.7	11.5	1	11.2	0.553	4.5	0.397	0.7	0.006	1	---	0.6	0.074	1.3	0.09	4.6	1.7	ND	ND	113	>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 14

VOC Mass Removal Estimate Summary
 Building 5 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 (lbs./day)	Total VOC Mass Removed (lbs.)
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
10/14/2013	1.3	168	217	0.22	48.9
10/25/2013	3.6	172	228	0.21	51.2
11/5/2013	2.7	178	239	0.28	54.4
11/18/2013	1.5	173	252	0.19	56.8
12/5/2013	1.5	173	269	0.13	59.0
12/18/2013	1.5	138	280	0.11	60.2
1/8/2014	1.5	103	301	0.08	61.8
1/27/2014	0.3	104	320	0.05	62.7
2/4/2014	0.3	103	328	0.02	62.9
2/20/2014	0.2	106	344	0.01	63.1
3/4/2014	1.6	97	356	0.04	63.6
3/20/2014	1.7	107	372	0.09	65.0

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)/
 $10E6 \times 1 \text{ lbmole}/379.4 \text{ cu ft.} \times (134\text{lbs}/\text{lbmole}) \times \text{flow (ft}^3/\text{min)} \times (1440 \text{ min}/\text{day})$
- 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

Table 15
Soil Vapor Analytical Results
Building 5 SVE System
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT (ug/m ³)	BLDG5-SVE1					BLDG5-SVE2					BLDG5-SVE3		
	9/8/2012 (1)	3/20/2013 (2)	6/20/2013 (3)	11/5/2013 (4)	1/27/2014 (5)	9/8/2012 (1)	3/20/2013 (2)	6/20/2013 (3)	11/5/2013 (4)	1/27/2014 (5)	6/20/2013 (3)	11/5/2013 (4)	1/27/2014 (5)
1,1,1-Trichloroethane	<3400	<1400	<920	<1800	<450	<71	<32	<10	<10	7.8	<30	<20	<12
1,1,2,2-Tetrachloroethane	<860	<360	<230	<450	<110	<18	<7.9	<2.5	<2.6	<1.2	<7.4	<5.1	<3.1
1,1,2-Trichloroethane	<3400	<1400	<920	<1800	<450	<71	<32	<10	<10	<5.0	<30	<20	<12
1,1-Dichloroethane	<2600	<1100	<690	<1400	<340	<53	<24	<7.6	<7.7	<3.7	<22	<15	<9.2
1,1-Dichloroethene	<2500	<1000	<670	<1300	<330	<52	<23	<7.5	<7.5	<3.7	<22	<15	<9.0
1,2-Dibromoethane (EDB)	---	---	---	---	<130	---	---	---	---	<1.4	---	---	<3.5
1,2-Dichlorobenzene	---	---	---	---	<1000	---	---	---	---	<11	---	---	<27
1,2-Dichloroethane	<2600	<1100	<690	<1400	<340	<53	<24	<7.6	<7.7	<3.7	<22	<15	<9.2
1,2-Dichloropropane	<2900	<1200	<780	<1500	<390	<60	<27	<8.7	<8.7	<4.2	<25	<17	<10
1,3-Dichlorobenzene	---	---	---	---	<1000	---	---	---	---	<11	---	---	<27
1,4-Dichlorobenzene	---	---	---	---	<1000	---	---	---	---	<11	---	---	<27
1,4-Dioxane	---	---	---	---	<3800	---	---	---	---	<42	---	---	<100
2-Butanone	---	---	---	---	<490	---	---	---	---	53	---	---	130
2-Hexanone	---	---	---	---	<340	---	---	---	---	<3.7	---	---	<9.2
4-Methyl-2-pentanone	---	---	---	---	<680	---	---	---	---	<7.5	---	---	18
Acetone	<29000	<12000	<7700	<15000	<3800	790	790	380	310	82	1000	750	330
Benzene	---	---	---	---	<260	---	---	---	---	<2.9	---	---	<7.2
Bromodichloromethane	<860	<360	<230	<450	<110	<18	<7.9	<2.5	<2.6	<1.2	<7.4	<5.1	<3.1
Bromoform	<6500	<2700	<1700	<3400	<860	<130	<60	<19	<19	<9.5	<57	<38	<23
Bromomethane	<2500	<1000	<660	<1300	<320	<51	<23	<7.3	<7.3	<3.6	<21	<15	<8.8
Carbontetrachloride	<400	<170	<110	<210	<53	<8.3	<3.7	<1.2	<1.2	<0.58	<3.5	<2.4	<1.4
Chlorobenzene	<2900	<1200	<780	<1500	<390	<60	<27	<8.7	<8.7	<4.2	<25	<17	<10
Chloroethane	<3300	<1400	<890	<1800	---	<68	<31	<9.8	<9.9	---	<29	<20	---
Chloroform	<3100	<1300	<830	<1600	<410	<64	<28	<9.2	<9.2	<4.5	<27	<18	<11
Chloromethane	<2600	<1100	<690	<1400	---	<53	<24	<7.6	<7.7	---	<22	<15	---
cis-1,2-Dichloroethene	<2500	<1000	970	<1300	430	<52	<23	47	120	68	<22	<15	<9.0
cis-1,3-Dichloropropene	<5700	<2400	<1500	<3000	<760	<120	<53	<17	<17	<8.3	<50	<34	<20
Dibromochloromethane	<1100	<450	<290	<570	<140	<22	<10	<3.2	<3.2	<1.6	<9.4	<6.4	<3.9
Dichloromethane	14000	<910	<580	<1100	<290	<45	<20	<6.4	<6.5	<3.2	<19	<13	<7.8
Ethylbenzene	<5400	<2300	<1500	---	<720	<110	<50	<16	---	<7.9	<47	---	<19
Hexachlorobutadiene	---	---	---	---	<2300	---	---	---	---	<25	---	---	<61
m/p-xylene	<11000	<4600	<2900	---	<1400	<230	<100	<32	---	<16	<95	---	<39
Methyltert-butylether	---	---	---	---	<600	---	---	---	---	<6.6	---	---	<16
Naphthalene	---	---	---	---	<1500	---	---	---	---	<17	---	---	<41
o-Xylene	<5400	<2300	<1500	---	<720	<110	<50	<16	---	<7.9	<47	---	<19
Styrene	---	---	---	---	<710	---	---	---	---	<7.8	---	---	<19
Tetrachloroethene	26000	8800	5800	18000	3900	1700	110	140	250	350	74	420	160
Toluene	---	---	---	---	<310	---	---	---	---	<3.4	---	---	<8.4
trans-1,2-Dichloroethene	<2500	<1000	<670	<1300	<330	<52	<23	<7.5	<7.5	<3.7	<22	<15	<9.0
Trans-1,3-Dichloropropene	<2900	<1200	<770	<1500	<380	<59	<26	<8.5	<8.5	<4.2	<25	<17	<10
Trichloroethene	240000	98000	70000	150000	35000	5800	330	190	270	310	220	1100	430
Trichlorofluoromethane	<3600	<1500	<950	<1900	---	<73	<33	<11	<11	---	<31	<21	---
Vinyl chloride	<340	<140	<92	<180	<45	<7.1	<3.2	<1.0	<1.0	1.7	<3.0	<2.0	<1.2
Xylene (total)	<11000	<4600	<2900	---	<1400	<230	<100	<32	---	<16	<47	---	<39

Notes:

ug/m³ = micrograms per cubic meter.

U = non-detect at indicated detection limit.

--- = constituent not sampled for.

(1) sample collected during pilot testing

(2) collected on day seven of system operation

(3) collected on day 101 of system operation

(4) collected on day 239 of system operation

(5) collected on day 320 of system operation

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	11/1/2013	1/27/2014	2/21/2011	6/4/2011	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	11/1/2013	1/27/2014		
1,1,1-Trichloroethane	<31	<350	<290	<66	<80	<43	<3.0	<19	<1.2	<44	<25	<5.0	<3.5	<16	<1.2	<1.9	<1.1			
1,1,2,2-Tetrachloroethane	<7.8	<88	<72	<16	<20	<11	<0.76	<4.8	<0.30	<11	<6.2	<1.2	<0.87	<4.0	<0.30	<0.27	<0.49			
1,1,2-Trichloroethane	<31	<350	<290	<66	<80	<43	<3.0	<19	<1.2	<44	<25	<5.0	<3.5	<16	<1.2	<1.1	<1.9			
1,1-Dichloroethane	<24	<260	<220	<49	<60	<33	<2.3	<14	<0.90	<33	<19	<3.7	<2.6	<12	<0.90	<0.81	<1.5			
1,1-Dichloroethene	<23	<260	<210	<48	<59	<32	<2.2	<14	<0.88	<32	<18	<3.6	<2.5	<12	<0.88	<0.79	<1.4			
1,2-Dibromoethane (EDB)	<8.9	---	---	---	<23	---	---	---	<0.34	<12	---	---	---	<4.5	---	---	<0.31			
1,2-Dichlorobenzene	<69	---	---	---	<180	---	---	---	<2.6	<97	---	---	---	<35	---	---	<2.4			
1,2-Dichloroethane	<24	<260	<220	<49	<60	<33	<2.3	<14	<0.90	<33	<19	<3.7	<2.6	<12	<0.90	<0.81	<1.5			
1,2-Dichloropropane	<27	<300	<250	<56	<68	<37	<2.6	<16	<1.0	<37	<21	<4.2	<2.9	<14	<1.0	<0.92	<1.7			
1,3-Dichlorobenzene	<69	---	---	---	<180	---	---	---	<2.6	<97	---	---	---	<35	---	---	<2.4			
1,4-Dichlorobenzene	<69	---	---	---	<180	---	---	---	<2.6	<97	---	---	---	<35	---	---	<2.4			
1,4-Dioxane	---	---	---	---	<670	---	---	---	<10	---	---	---	---	<130	---	---	<9.1			
2-Butanone	60	---	---	---	<86	---	---	---	22	<48	---	---	---	300	---	---	65D			
2-Hexanone	<24	---	---	---	<60	---	---	---	2.3	<33	---	---	---	110	---	---	6.8			
4-Methyl-2-pentanone	<47	---	---	---	<120	---	---	---	4.8	<66	---	---	---	24	---	---	63			
Acetone	<260	<2900	---	670	<670	1300	1500D	1500D	40	<370	<210	---	840	320	68D	45D	68			
Benzene	<18	---	---	---	<47	---	---	---	<0.70	<26	---	---	---	<9.3	---	---	<0.64			
Bromodichloromethane	<7.8	<88	<72	<16	<20	<11	<0.76	<4.8	<0.30	<11	<6.2	<1.2	<0.87	<4.0	<0.30	<0.27	<0.49			
Bromoform	<60	<670	<550	<120	<150	<82	<5.8	<37	<2.3	<84	<47	<9.4	<6.6	<30	<2.3	<2.1	<3.7			
Bromomethane	<22	<250	<210	<47	<57	<31	<2.2	<14	<0.86	<32	<18	<3.6	<2.5	<11	<0.86	<0.77	<1.4			
Carbonylsulfide	<18	---	---	---	---	---	---	---	---	<25	---	---	---	---	---	---	---			
Carbontetrachloride	<3.7	<41	<34	<7.7	<9.3	<5.1	0.57	<2.3	0.52	<5.1	<2.9	<0.58	0.64	<1.9	0.62	0.52	0.53			
Chlorobenzene	<27	<300	<250	<56	<68	<37	<2.6	<16	<1.0	<37	<21	<4.2	<2.9	<14	<1.0	<0.92	<1.7			
Chloroethane	<30	<340	<280	<64	---	<42	<2.9	<19	---	<43	<24	<4.8	<3.4	---	<1.2	<1.0	<1.9			
Chloroform	<28	<320	<260	<59	<72	<39	<2.7	<17	<1.1	<40	<22	<4.5	<3.1	<14	<1.1	<0.97	<1.7			
Chloromethane	<24	<260	<220	<49	---	<33	<2.3	<14	---	<33	<19	<3.7	<2.6	---	<0.90	<0.81	<1.5			
cis-1,2-Dichloroethene	47	420	400	130	96	<32	<2.2	<14	<0.88	<32	<18	6.6	5.1	<12	<0.88	<0.79	<1.4			
cis-1,3-Dichloropropene	<52	<580	<480	<110	<130	<72	<5.1	<32	<2.0	<74	<41	<8.3	<5.8	<27	<2.0	<1.8	<3.2			
Dibromochloromethane	<9.9	<110	<92	<21	<25	<14	<0.96	<6.1	<0.38	<14	<7.8	<1.6	<1.1	<5.1	<0.38	<0.34	<0.62			
Dichloromethane	<20	<220	<180	<42	<51	<27	<1.9	<12	<0.76	<28	<16	<3.1	<2.2	<10	<0.76	<0.68	8.5			
Ethylbenzene	<50	---	<460	<100	<130	<69	---	---	<1.9	<70	---	<7.9	8.1	<25	2.5	---	3.1			
Freon 113	<8.9	---	---	---	---	---	---	---	---	<12	---	---	---	---	---	---	---			
Hexachlorobutadiene	---	---	---	---	<400	---	---	---	<6.0	---	---	---	---	<80	---	---	<5.5			
m/p-xylene	<100	---	<920	<210	<250	<140	---	---	4.5	<140	---	17	28	<51	9.5	---	11			
Methyltert-butylether	<41	---	---	---	<110	---	---	---	<1.6	<58	---	---	---	<21	---	---	<1.4			
Naphthalene	---	---	---	---	<270	---	---	---	<4.0	---	---	---	---	<53	---	---	<3.7			
o-Xylene	<50	---	<460	<100	<130	<69	---	---	<1.9	<70	---	<7.9	11	<25	2.3	---	4.1			
Styrene	<49	---	---	---	<130	---	---	---	<1.9	<69	---	---	---	<25	---	---	<1.7			
Tetrachloroethene	390	9900	5200	790	2700	<5.8	2.9	7.6	2	150	230	47	25	140	22	6	5.1			
Toluene	44	---	---	---	<55	---	---	---	3.1	<30	---	---	---	24	---	---	9.4			
trans-1,2-Dichloroethene	<23	<260	<210	<48	<59	<32	<2.2	<14	<0.88	<32	<18	<3.6	<2.5	<12	<0.88	<0.79	<1.4			
Trans-1,3-Dichloropropene	<26	<290	<240	<55	<67	<36	<2.5	<16	<1.0	<37	<21	<4.1	<2.9	<13	<1.0	<0.90	<1.6			
Trichloroethene	2100	31000	26000	5100	5800	5.1	5.9	14	2.4	2300	2000	1200D	410D	1300D	80	17	17			
Trichlorofluoromethane	<32	<360	<300	<68	---	<45	4	<20	---	<46	<26	<5.1	<3.6	---	2.6	3.3	3.1			
Vinyl acetate	<260	---	---	---	---	---	---	---	---	<370	---	---	---	---	---	---	---			
Vinyl chloride	<3.1	<35	<29	<6.6	<8.0	<4.3	<0.30	<1.9	<0.12	<4.4	<2.5	0.51	1.2	<1.6	<0.12	<0.11	<0.19			
Xylene (total)	<100	---	<920	<210	<250	<140	---	---	4.5	<140	---	17	39	<51	12	---	15			

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-SV4	BLDG5-SV5				BLDG5-SV6			
	Sanding Room										Hall	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	11/1/2013	1/27/2014	1/27/2014	4/18/2013	8/5/2013	11/1/2013	1/27/2014	4/18/2013	8/5/2013	11/1/2013	1/27/2014	
1,1,1-Trichloroethane	<2600	<8400	<5700	<220	<330	<24	<2.9	<9.5	<5.8	<0.89	<1.2	<3.6	<1.9	<1.4	2000	1200	790	1900	
1,1,2,2-Tetrachloroethane	<640	<2100	<1400	<55	<84	<6.0	<0.74	<2.4	<1.5	<0.22	<0.31	<0.90	<0.47	<0.34	<25	<9.4	<6.7	<15	
1,1,2-Trichloroethane	<2600	<8400	<5700	<220	<330	<24	<2.9	<9.5	<5.8	<0.89	<1.2	<3.6	<1.9	<1.4	<100	<38	<27	<59	
1,1-Dichloroethane	<1900	<6300	<4300	<170	<250	<18	<2.2	<7.2	<4.4	1.3	<0.93	<2.7	<1.4	<1.0	2700	1500	1300	3100	
1,1-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	<7.0	<4.3	<0.66	<0.91	<2.6	<1.4	<1.0	480	340	270	690	
1,2-Dibromoethane (EDB)	<730	---	---	---	<95	---	---	---	<1.6	<0.25	---	---	---	<0.39	---	---	---	<17	
1,2-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	<13	<2.0	---	---	---	<3.0	---	---	---	<130	
1,2-Dichloroethane	<1900	<6300	<4300	<170	<250	<18	<2.2	<7.2	<4.4	<0.67	<0.93	<2.7	<1.4	<1.0	<76	<28	<20	<44	
1,2-Dichloropropane	<2200	<7100	<4900	<190	<280	<20	<2.5	<8.1	<4.9	<0.76	<1.1	<3.1	<1.6	<1.2	<86	<32	<23	<50	
1,3-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	<13	<2.0	---	---	---	<3.0	---	---	---	<130	
1,4-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	<13	<2.0	---	---	---	<3.0	---	---	---	<130	
1,4-Dioxane	---	---	---	---	<2800	---	---	---	<48	<7.5	---	---	---	<11	---	---	---	<490	
2-Butanone	<2800	---	---	---	<360	---	---	---	12	8	---	---	---	20	---	---	---	<64	
2-Hexanone	<1900	---	---	---	<250	---	---	---	<4.4	0.91	---	---	---	3.2	---	---	---	<44	
4-Methyl-2-pentanone	<3800	---	---	---	<500	---	---	---	<8.7	<1.3	---	---	---	6.8	---	---	---	<88	
Acetone	<21000	<70000	---	<1800	<2800	840	190D	280D	95	<7.5	44	56	73D	35	<850	<310	<220	<490	
Benzene	<1500	---	---	---	<190	---	---	---	<3.4	<0.52	---	---	---	2	---	---	---	<34	
Bromodichloromethane	<640	<2100	<1400	<55	<84	<6.0	<0.74	<2.4	<1.5	0.23	<0.31	<0.90	<0.47	<0.34	<25	<9.4	<6.7	<15	
Bromoform	<4900	<16000	<11000	<420	<630	<46	<5.6	<18	<11	<1.7	<2.4	<6.8	<3.5	<2.6	<190	<71	<51	<110	
Bromomethane	<1800	<6000	<4100	<160	<240	<17	<2.1	<6.8	<4.2	<0.64	<0.89	<2.6	<1.3	<0.99	<73	<27	<19	<42	
Carbonylsulfide	<1500	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Carbon tetrachloride	<300	<980	<670	<26	<39	<2.8	0.56	<1.1	<0.68	0.5	0.57	0.62	0.54	0.59	<12	<4.4	<3.1	<6.9	
Chlorobenzene	<2200	<7100	<4900	<190	<280	<20	<2.5	<8.1	<4.9	<0.76	<1.1	<3.1	<1.6	<1.2	<86	<32	<23	<50	
Chloroethane	<2500	<8100	<5500	<210	---	<23	<2.9	<9.2	---	---	<1.2	<3.5	<1.8	---	<98	<36	<26	---	
Chloroform	<2300	<7600	<5100	<200	<300	<22	<2.7	<8.6	<5.2	5.6	<1.1	<3.2	<1.7	<1.2	<92	<34	<24	<53	
Chloromethane	<1900	<6300	<4300	<170	---	<18	<2.2	<7.2	---	---	<0.93	<2.7	<1.4	---	<76	<28	<20	---	
cis-1,2-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	<7.0	<4.3	16	2.1	<2.6	<1.4	<1.0	3200	1800	1200	1900	
cis-1,3-Dichloropropene	<4300	<14000	<9500	<370	<560	<40	<4.9	<16	<9.7	<1.5	<2.1	<6.0	<3.1	<2.3	<170	<63	<45	<98	
Dibromochloromethane	<810	<2700	<1800	<70	<110	<7.6	<0.93	<3.0	<1.8	<0.28	<0.39	<1.1	<0.59	<0.44	<32	<12	<8.5	<19	
Dichloromethane	<1600	<5300	<3600	<140	<210	<15	<1.9	9.2	<3.7	<0.57	<0.78	<2.3	5.9	<0.87	<64	<24	<17	<37	
Ethylbenzene	<4100	---	<9100	<350	<530	<38	---	---	<9.2	<1.4	11	---	---	11	<160	---	---	<93	
Freon 113	<730	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Hexachlorobutadiene	---	---	---	---	<1700	---	---	---	<29	<4.5	---	---	---	<6.9	---	---	---	<290	
m/p-xylene	<8100	---	<18000	<700	<1100	<76	---	---	<19	4.3	35	---	---	34	<320	---	---	<190	
Methyltert-butylether	<3400	---	---	---	<440	---	---	---	<7.7	<1.2	---	---	---	<1.8	---	---	---	<77	
Naphthalene	---	---	---	---	<1100	---	---	---	<19	<3.0	---	---	---	<4.6	---	---	---	<200	
o-Xylene	<4100	---	<9100	<350	<530	<38	---	---	<9.2	1.9	15	---	---	14	<160	---	---	<93	
Styrene	<4000	---	---	---	<520	---	---	---	<9.1	<1.4	---	---	---	11	---	---	---	<92	
Tetrachloroethene	5300	33000	14000	1400	2100	160	200	31	170	18	3.1	270	120	89	570	1200	440	640	
Toluene	<1700	---	---	---	<230	---	---	---	16	3.1	---	---	---	26	---	---	---	<40	
trans-1,2-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	<7.0	<4.3	<0.66	<0.91	<2.6	<1.4	<1.0	<75	<28	<20	<43	
Trans-1,3-Dichloropropene	<2100	<7000	<4800	<180	<280	<20	<2.5	<7.9	<4.8	<0.75	<1.0	<3.0	<1.6	<1.1	<85	<31	<22	<49	
Trichloroethene	130000	470000	340000	20000	22000	1100	720D	190	850D	29	3.5	5.9	14	5.1	9000	3300	1300	1900	
Trichlorofluoromethane	<2600	<8700	<5900	<230	---	<25	<3.0	<9.9	---	---	2.7	<3.7	3.1	---	<110	<39	<28	---	
Vinyl acetate	<21000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Vinyl chloride	<260	<840	<570	<22	<33	<2.4	<0.29	<0.95	<0.58	<0.089	0.18	<0.36	<0.19	0.16	85	81	110	130	
Xylene (total)	<8100	---	<18000	<700	<1100	<76	---	---	<19	6	50	---	---	48	<320	---	---	<190	

Notes:
ug/m3 = Micrograms per cubic meter.
D = Result reported from a diluted sample.
--- = Not sampled for.
<31 = not detected above listed detection limit.

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

CONSTITUENT (ug/m3)	BLDG5-1							BLDG5-2						
	QA Area							Shipping Area						
	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	11/1/2013	1/27/2014	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	11/1/2013	1/27/2014
1,1,1-Trichloroethane	<3.1	<6.6	<9.3	<91	<41	<9.4	<4.7	<1.4	<1.6	<94	<45	<16	<28	<6.2
1,1,2,2-Tetrachloroethane	<0.78	<1.7	<2.3	<23	<10	<2.4	<1.2	<0.34	<0.40	<24	<11	<4.1	<6.9	<1.6
1,1,2-Trichloroethane	<3.1	<6.6	<9.3	<91	<41	<9.4	<4.7	<1.4	<1.6	<94	<45	<16	<28	<6.2
1,1-Dichloroethane	<2.3	<5.0	<7.0	<68	<31	<7.1	<3.5	<1.0	<1.2	<71	<34	<12	<21	<4.7
1,1-Dichloroethene	<2.3	<4.8	<6.8	<66	<30	<6.9	<3.5	<1.0	<1.2	<69	<33	<12	<20	<4.5
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	<1.3	---	---	---	---	---	---	<1.8
1,2-Dichlorobenzene	---	---	---	---	---	---	<10	---	---	---	---	---	---	<14
1,2-Dichloroethane	<2.3	<5.0	<7.0	<68	<31	<7.1	<3.5	<1.0	<1.2	<71	<34	<12	<21	<4.7
1,2-Dichloropropane	<2.7	<5.6	<7.9	<77	<35	<8.0	<4.0	<1.2	<1.4	<80	<38	<14	<23	<5.3
1,3-Dichlorobenzene	---	---	---	---	---	---	<10	---	---	---	---	---	---	<14
1,4-Dichlorobenzene	---	---	---	---	---	---	<10	---	---	---	---	---	---	<14
1,4-Dioxane	---	---	---	---	---	---	<39	---	---	---	---	---	---	<52
2-Butanone	---	---	---	---	---	---	76	---	---	---	---	---	---	92
2-Hexanone	---	---	0	---	---	---	<3.5	---	---	---	---	---	---	<4.7
4-Methyl-2-pentanone	---	---	---	---	---	---	14	---	---	---	---	---	---	16
Acetone	---	9700	10000D	3300	1000	3400D	270D	---	2000	3300	1400	640	870	180
Benzene	---	---	---	---	---	---	<2.7	---	---	---	---	---	---	<3.6
Bromodichloromethane	<0.78	<1.7	<2.3	<23	<10	<2.4	<1.2	<0.34	<0.40	<24	<11	<4.1	<6.9	<1.6
Bromoform	<5.9	<13	<18	<170	<78	<18	<8.9	<2.6	<3.1	<180	<85	<31	<52	<12
Bromomethane	<2.2	<4.7	<6.7	<65	<29	<6.8	<3.4	<0.97	<1.2	<68	<32	<12	<20	<4.4
Carbontetrachloride	0.61	<0.77	<1.1	<11	<4.8	<1.1	<0.55	0.59	0.63	<11	<5.2	<1.9	<3.2	<0.72
Chlorobenzene	<2.7	<5.6	<7.9	<77	<35	<8.0	<4.0	<1.2	<1.4	<80	<38	<14	<23	<5.3
Chloroethane	<3.0	<6.4	<9.0	<88	<39	<9.1	---	<1.3	<1.6	<91	<43	<16	<27	---
Chloroform	<2.8	<5.9	<8.4	<81	<37	<8.5	<4.2	<1.2	<1.5	<85	<40	<15	<25	<5.6
Chloromethane	<2.3	<5.0	<7.0	<68	<31	<7.1	---	<1.0	<1.2	<71	<34	<12	<21	---
cis-1,2-Dichloroethene	<2.3	<4.8	<6.8	<66	<30	<6.9	<3.5	2.4	1.3	<69	<33	<12	<20	<4.5
cis-1,3-Dichloropropene	<5.2	<11	<16	<150	<68	<16	<7.9	<2.3	<2.7	<160	<75	<27	<46	<10
Dibromochloromethane	<0.99	<2.1	<2.9	<29	<13	<3.0	<1.5	<0.43	<0.51	<30	<14	<5.2	<8.7	<2.0
Dichloromethane	<2.0	<4.2	<5.9	6.5J	<26	<6.0	<3.0	<0.86	<1.0	<60	3.6J	<10	<17	<3.9
Ethylbenzene	<4.9	<10	<15	<140	---	---	<7.5	<2.1	<2.6	<150	1.9J	---	---	<9.8
Hexachlorobutadiene	---	---	---	---	---	---	<24	---	---	---	---	---	---	<31
m/p-xylene	<9.9	<21	<30	4.9J	---	---	<15	5.6	8	<300	7.7J	---	---	<20
Methyltert-butylether	---	---	---	---	---	---	<6.2	---	---	---	---	---	---	<8.2
Naphthalene	---	---	---	---	---	---	<16	---	---	---	---	---	---	<21
o-Xylene	<4.9	<10	<15	<140	---	---	<7.5	<2.1	<2.6	<150	2.3J	---	---	<9.8
Styrene	---	---	---	---	---	---	<7.4	---	---	---	---	---	---	<9.7
Tetrachloroethene	3.1	3.7	7.4	<12	6.3	7.3	1.2	12	7.5	14	2.9J	8.2	9.2	2.7
Toluene	---	---	---	---	---	---	<3.2	---	---	---	---	---	---	<4.2
trans-1,2-Dichloroethene	<2.3	<4.8	<6.8	<66	<30	<6.9	<3.5	<1.0	<1.2	<69	<33	<12	<20	<4.5
Trans-1,3-Dichloropropene	<2.6	<5.5	<7.8	<75	<34	<7.9	<3.9	<1.1	<1.3	<79	<37	<14	<23	<5.2
Trichloroethene	5.6	5.1	8.9	4.1J	11	12	2.2	14	8.4	17	4.4J	12	12	4
Trichlorofluoromethane	<3.2	<6.8	<9.6	<94	<42	<9.7	---	8.2	4	<97	4.1J	<17	<28	---
Vinyl chloride	<0.31	<0.66	<0.93	<9.1	<4.1	<0.94	<0.47	<0.14	<0.16	<9.4	<4.5	<1.6	<2.8	<0.62
Xylene (total)	<9.9	<21	<15	4.9J	---	---	<15	5.6	8	<300	10J	---	---	<20

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

CONSTITUENT (ug/m3)	BLDG5-3							BLDG5-4		
	Sanding Room							Production Area		
	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	11/1/2013	1/27/2014	8/22/2011	10/7/2011	1/9/2012
1,1,1-Trichloroethane	<1.7	<1.6	<3.6	<29	<1.2	<8.2	<3.2	<1.1	<1.8	<26
1,1,2,2-Tetrachloroethane	<0.44	<0.41	<0.91	<7.2	<0.30	<2.0	<0.80	<0.28	<0.44	<6.6
1,1,2-Trichloroethane	<1.7	<1.6	<3.6	<29	<1.2	<8.2	<3.2	<1.1	<1.8	<26
1,1-Dichloroethane	<1.3	<1.2	<2.7	<22	<0.91	<6.1	<2.4	<0.83	<1.3	<20
1,1-Dichloroethene	<1.3	<1.2	<2.7	<21	<0.89	<6.0	<2.3	<0.81	<1.3	<19
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	<0.91	---	---	---
1,2-Dichlorobenzene	---	---	---	---	---	---	<7.0	---	---	---
1,2-Dichloroethane	<1.3	<1.2	<2.7	<22	<0.91	<6.1	<2.4	<0.83	<1.3	<20
1,2-Dichloropropane	<1.5	<1.4	<3.1	<25	<1.0	<6.9	<2.7	<0.94	<1.5	<22
1,3-Dichlorobenzene	---	---	---	---	---	---	<7.0	---	---	---
1,4-Dichlorobenzene	---	---	---	---	---	---	<7.0	---	---	---
1,4-Dioxane	---	---	---	---	---	---	<27	---	---	---
2-Butanone	---	---	---	---	---	---	97	---	---	---
2-Hexanone	---	---	---	---	---	---	<2.4	---	---	---
4-Methyl-2-pentanone	---	---	---	---	---	---	25	---	---	---
Acetone	---	1200	3400D	1000	400D	2100D	330D	---	1000	670
Benzene	---	---	---	---	---	---	<1.9	---	---	---
Bromodichloromethane	<0.44	<0.41	<0.91	<7.2	<0.30	<2.0	<0.80	<0.28	<0.44	<6.6
Bromoform	<3.3	<3.1	<6.9	<55	<2.3	<15	<6.1	<2.1	<3.3	<50
Bromomethane	<1.3	<1.2	<2.6	<21	<0.87	<5.8	<2.3	<0.79	<1.3	<19
Carbontetrachloride	0.55	0.58	0.58	<3.4	0.53	<0.95	0.54	0.59	0.63	<3.1
Chlorobenzene	<1.5	<1.4	<3.1	<25	<1.0	<6.9	<2.7	<0.94	<1.5	<22
Chloroethane	<1.7	<1.6	<3.5	<28	<1.2	<7.9	---	<1.1	<1.7	<25
Chloroform	<1.6	<1.5	<3.3	<26	<1.1	<7.3	<2.9	<1.0	<1.6	<24
Chloromethane	<1.3	<1.2	<2.7	1.7J	<0.91	<6.1	---	1	<1.3	<20
cis-1,2-Dichloroethene	1.5	<1.2	<2.7	<21	<0.89	<6.0	<2.3	<0.81	<1.3	<19
cis-1,3-Dichloropropene	<2.9	<2.7	<6.0	<48	<2.0	<14	<5.3	<1.8	<2.9	<44
Dibromochloromethane	<0.55	<0.52	<1.1	<9.2	<0.39	<2.6	<1.0	<0.35	<0.56	<8.3
Dichloromethane	<1.1	<1.0	<2.3	5.6J	<0.77	6.4	<2.0	<0.70	<1.1	<17
Ethylbenzene	<2.8	<2.6	<5.7	1.5J	---	---	<5.1	<1.8	<2.8	<42
Hexachlorobutadiene	---	---	---	---	---	---	<16	---	---	---
m/p-xylene	7.1	<5.2	<12	5.9J	---	---	<10	<3.5	<5.6	<83
Methyltert-butylether	---	---	---	---	---	---	<4.2	---	---	---
Naphthalene	---	---	---	---	---	---	<11	---	---	---
o-Xylene	<2.8	<2.6	<5.7	2.1J	---	---	<5.1	<1.8	<2.8	<42
Styrene	---	---	---	---	---	---	<5.0	---	---	---
Tetrachloroethene	3.8	3.1	4.2	<3.9	1.8	3.8	0.9	0.78	1	<3.5
Toluene	---	---	---	---	---	---	<2.2	---	---	---
trans-1,2-Dichloroethene	<1.3	<1.2	<2.7	<21	<0.89	<6.0	<2.3	<0.81	<1.3	<19
Trans-1,3-Dichloropropene	<1.5	<1.4	<3.0	<24	<1.0	<6.8	<2.7	<0.92	<1.5	<22
Trichloroethene	12	17	18	1.7J	8.5	10	2.1	2.9	2.1	<2.6
Trichlorofluoromethane	2.9	2.1	<3.7	2.2J	2.5	<8.4	---	1.7	<1.8	<27
Vinyl chloride	<0.17	<0.16	<0.36	<2.9	<0.12	<0.82	<0.32	<0.11	<0.18	<2.6
Xylene (total)	7.1	<5.2	<5.7	8.0J	---	---	<10	<3.5	<5.6	<83

Notes:
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 Site
150 Sohler Road
Beverly, Massachusetts

CONSTITUENT (ug/m3)	32 TOZER-1			32 TOZER-2			32 TOZER-3			MassDEP Commercial/ Industrial Indoor Air Threshold Value (1)
	5/28/2013 Indoor Air	10/24/2013 Indoor Air	2/6/2014 Indoor Air	5/28/2013 Indoor Air	10/24/2013 Indoor Air	2/6/2014 Indoor Air	5/28/2013 Indoor Air	10/24/2013 Indoor Air	2/6/2014 Indoor Air	
1,1,1-Trichloroethane	<0.94	<1.2	<0.95	<1.0	<0.99	<0.99	<0.98	<1.0	<0.92	4,600
1,1-Dichloroethane	<0.71	<0.92	<0.71	<0.76	<0.74	<0.74	<0.74	<0.77	<0.69	440
1,1-Dichloroethene	<0.69	<0.90	<0.70	<0.74	<0.73	<0.73	<0.72	<0.76	<0.67	180
cis-1,2-Dichloroethene	1.5	3.3	1.3	1.8	2.2	1.1	<0.72	<0.76	<0.67	31
Tetrachloroethene	6.5	11	6.6	12	3.9	1.3	<0.13	0.33	0.25	4.1
trans-1,2-Dichloroethene	<0.69	<0.90	<0.70	<0.74	<0.73	<0.73	<0.72	<0.76	<0.67	62
Trichloroethene	0.96	1.5	0.81	1.3	0.67	0.29	<0.098	<0.10	0.092	1.8
Vinyl chloride	<0.094	<0.12	<0.095	<0.10	<0.099	<0.099	<0.098	<0.10	<0.092	1.3

CONSTITUENT (ug/m3)	32 TOZER-SV3			32 TOZER-SV4			32 TOZER-SV5			MassDEP Commercial/ Industrial Sub-Slab Soil Gas Screening
	5/28/2013 Soil Vapor	10/24/2013 Soil Vapor	2/6/2014 Soil Vapor	5/28/2013 Soil Vapor	10/24/2013 Soil Vapor	2/6/2014 Soil Vapor	5/28/2013 Soil Vapor	10/24/2013 Soil Vapor	2/6/2014 Soil Vapor	
1,1,1-Trichloroethane	<270	<110	<110	<20	<5.0	<7.2	<20	<1.3	<1.2	320,000
1,1-Dichloroethane	<210	<79	<80	<15	<3.7	<5.4	<15	<0.95	<0.87	31,000
1,1-Dichloroethene	<200	<77	<79	<15	<3.7	<5.3	<15	<0.93	<0.85	13,000
cis-1,2-Dichloroethene	8,900	3,100	4,300	130	80	83	38	7.9	<0.85	2,200
Tetrachloroethene	8,600	8,100	7,600	300	610	460	32	24	1.3	290
trans-1,2-Dichloroethene	<200	<77	<79	<15	<3.7	<5.3	<15	<0.93	<0.85	4,300
Trichloroethene	6,100	1,500	1,900	150	68	70	15	4.8	0.45	130
Vinyl chloride	<27	<11	<11	<2.0	1.7	2.2	<2.0	<0.13	<0.12	91

Notes:

(1) Massachusetts DEP December 2011 Interim Final Vapor Intrusion Guidance (WSC-11-435) Table I.2 Commercial/Industrial Indoor Air Treshold 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 20
Risk Evaluation - Indoor Air Exposures - Site Workers - Building 5 Shipping Room
(April 2013 - January 2014 Indoor Air Data)

Former Varian Facility Site
150 Sohier 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	Cumulative ELCR = 4E-06 Cumulative HI = 0.8	MADEP Limit = 1E-05 MADEP Limit = 1
	ELCR	=	LADE * UR		

Parameter	Description	Units	Value	Reference
ADE	= Average daily exposure	m ³ /mg	See below	Calculated
LADE	= Lifetime average daily exposure	µg/m ³	See below	Calculated
HI	= Hazard Index	unitless	See below	Calculated
ELCR	= Excess lifetime cancer risk	unitless	See below	Calculated
RfC	= Inhalation reference concentration	mg/m ³	See below	EPA, 2014, MassDEP 2014
UR	= Inhalation Unit Risk	m ³ /µg	See below	EPA, 2014, MassDEP 2014
OHM _{air}	= Concentration in air	µg/m ³	See below	Measured
EF	= Exposure frequency	days/year	250	5 days/week, 2 weeks vacation
ET	= Exposure time	days/day	0.290	7 hours per day (site specific)
ED	= Exposure duration	years	27.0	MassDEP 2008
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} *	RfC <i>Chronic</i>	UR	ADE	HI	LADE	ELCR
Volatile Organic Compounds							
Tetrachloroethene	5.70E+00	4.00E-02	3.00E-06	1.13E-03	2.83E-02	4.37E-01	1.31E-06
Trichloroethene	8.10E+00	2.00E-03	4.00E-06	1.61E-03	8.04E-01	6.21E-01	2.48E-06
TOTAL RISK					8.33E-01		3.79E-06

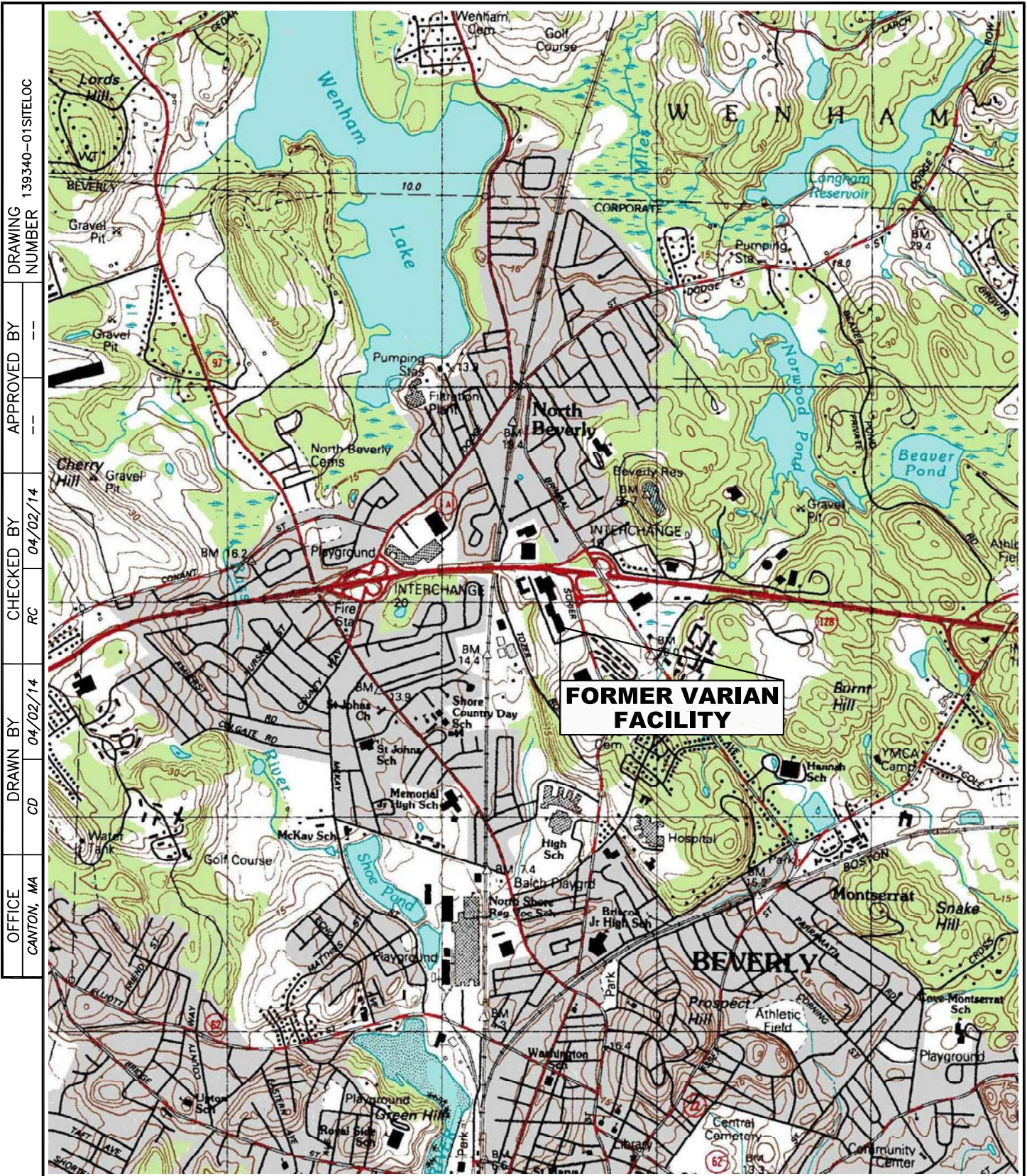
Notes:

*OHM_{air} is average concentration concentration from 4/2013, 8/2013, 11/2013 and 1/2014 indoor air sampling for location BLD5-2 (shipping room)

-- = not applicable/not available

NC = compound not classified as a carcinogen

FIGURES



DRAWING NUMBER
139340-01SITELOC

APPROVED BY
--

CHECKED BY
RC 04/02/14

DRAWN BY
CD 04/02/14

OFFICE
CANTON, MA



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)



CB&I ENVIRONMENTAL &
INFRASTRUCTURE, INC.
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	03/23/14	DRAWING NAME
	03/23/14	APPROVED BY	RC	03/23/14	SITE_PLAN22b

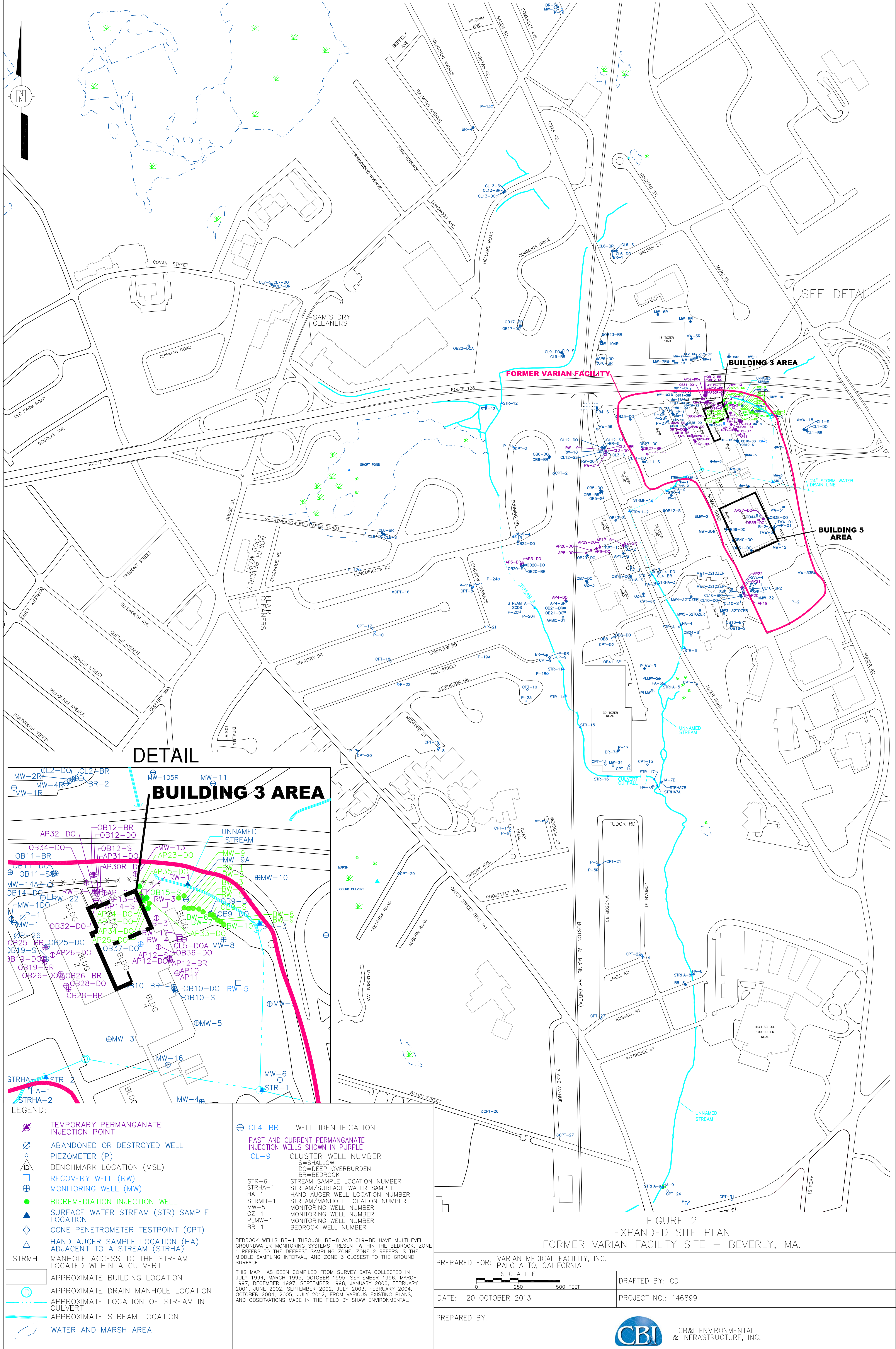


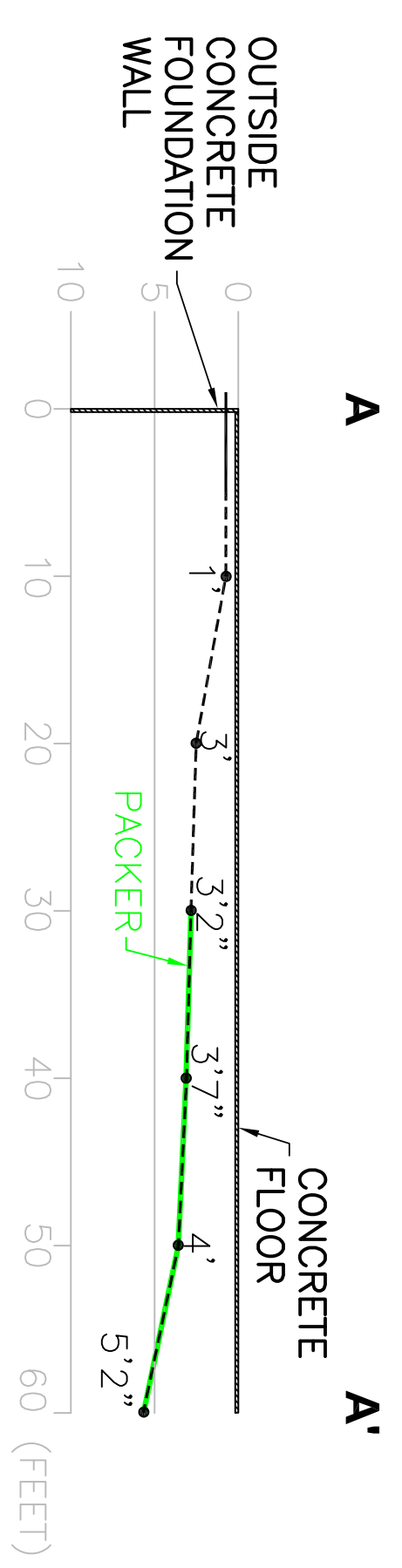
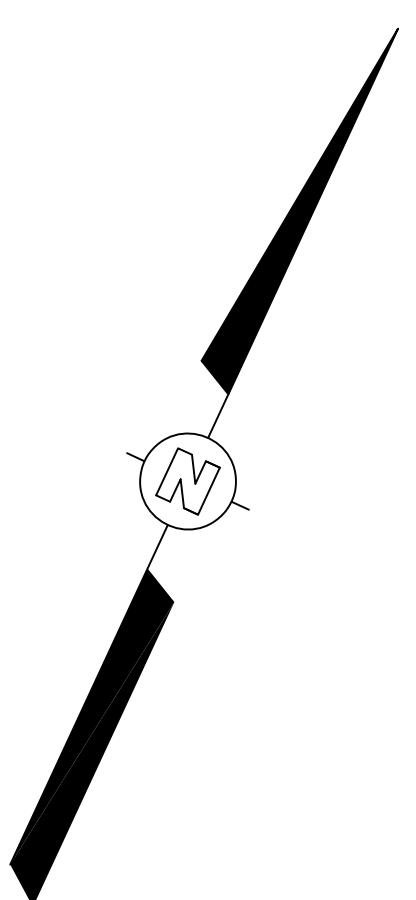
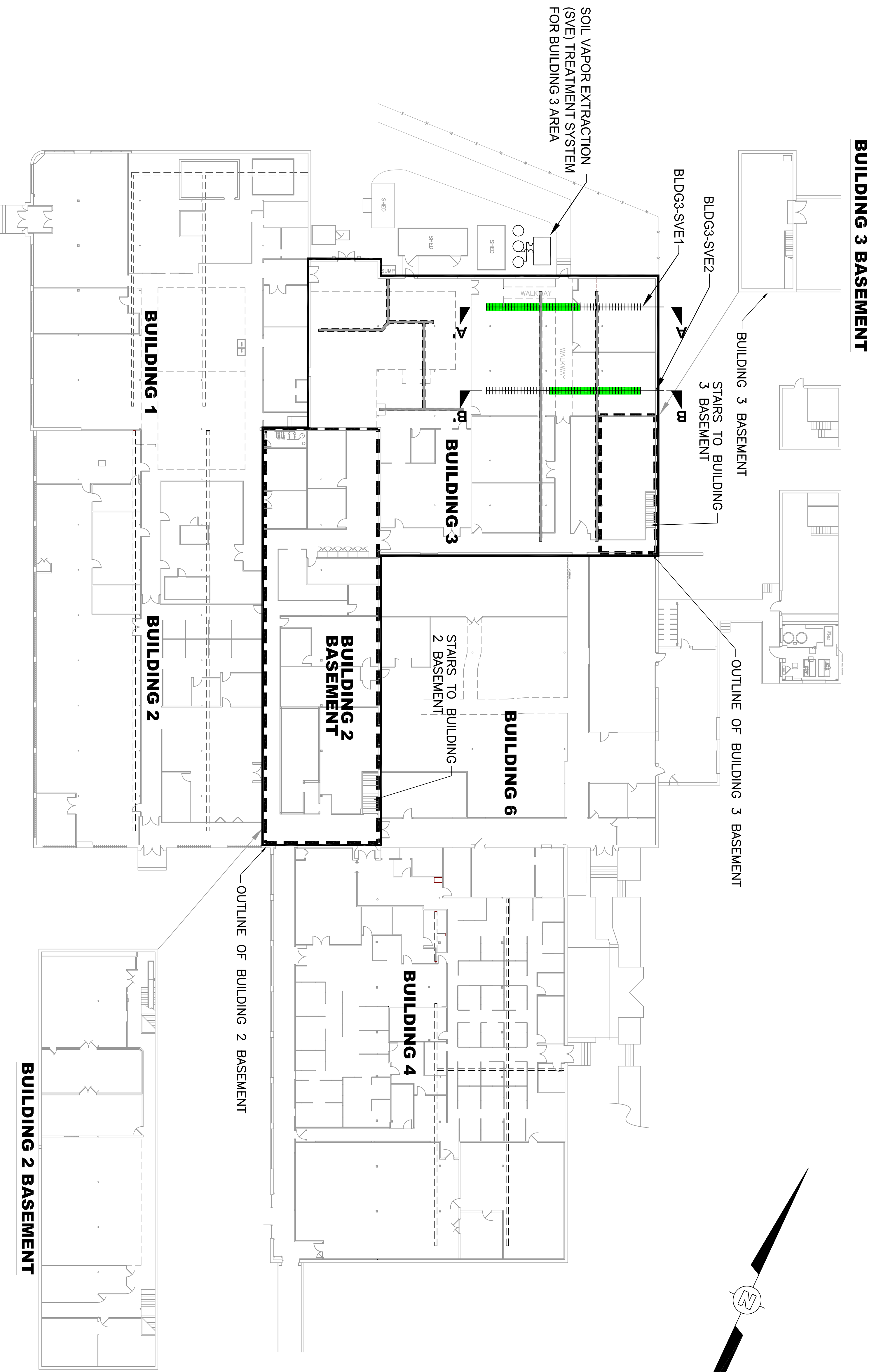
FIGURE 2
 EXPANDED SITE PLAN
 FORMER VARIAN FACILITY SITE - BEVERLY, MA.

PREPARED FOR:	VARIAN MEDICAL FACILITY, INC. PALO ALTO, CALIFORNIA
DATE:	20 OCTOBER 2013
PREPARED BY:	
DRAFTED BY:	CD
PROJECT NO.:	146899

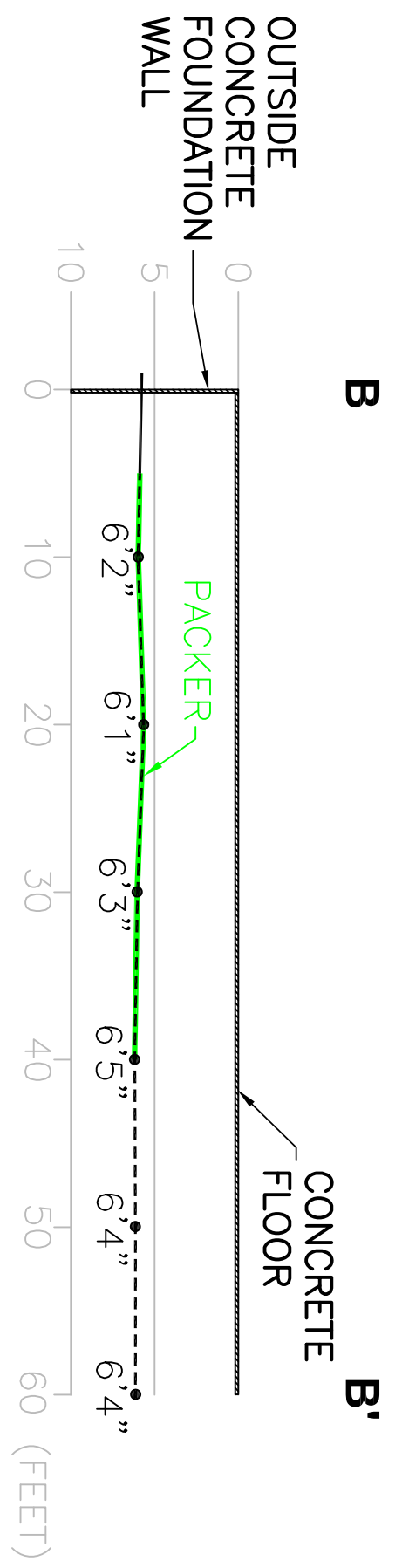


<ul style="list-style-type: none"> TEMPORARY PERMANGANATE INJECTION POINT ABANDONED OR DESTROYED WELL PIEZOMETER (P) BENCHMARK LOCATION (MSL) RECOVERY WELL (RW) MONITORING WELL (MW) BIOREMEDIATION INJECTION WELL SURFACE WATER STREAM (STR) SAMPLE LOCATION CONE PENETROMETER TESTPOINT (CPT) HAND AUGER SAMPLE LOCATION (HA) ADJACENT TO A STREAM (STRHA) 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 	<ul style="list-style-type: none"> CL4-BR - WELL IDENTIFICATION PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE CL-9 CLUSTER WELL NUMBER S=SHALLOW DO=DEEP OVERBURDEN BR=BEDROCK STREAM SAMPLE LOCATION NUMBER STREAM/SURFACE WATER SAMPLE LOCATION NUMBER STREAM/MANHOLE LOCATION NUMBER MONITORING WELL NUMBER MONITORING WELL NUMBER MONITORING WELL NUMBER BEDROCK WELL NUMBER <p>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.</p> <p>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, 2005, JULY 2012, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY SHAW ENVIRONMENTAL.</p>
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OFFICE CANTON	DRAWN BY CD	CHECKED BY RC	APPROVED BY -	DRAWING NUMBER 150148-D1
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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

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--FILED WITH CONCRETE
- BUILDING WALLS
- x-x- FENCE LINE
- PSL POTENTIAL SOURCE AREA AS DESCRIBED IN PHASE II CSA FOR RTN 3-0485

SCALE

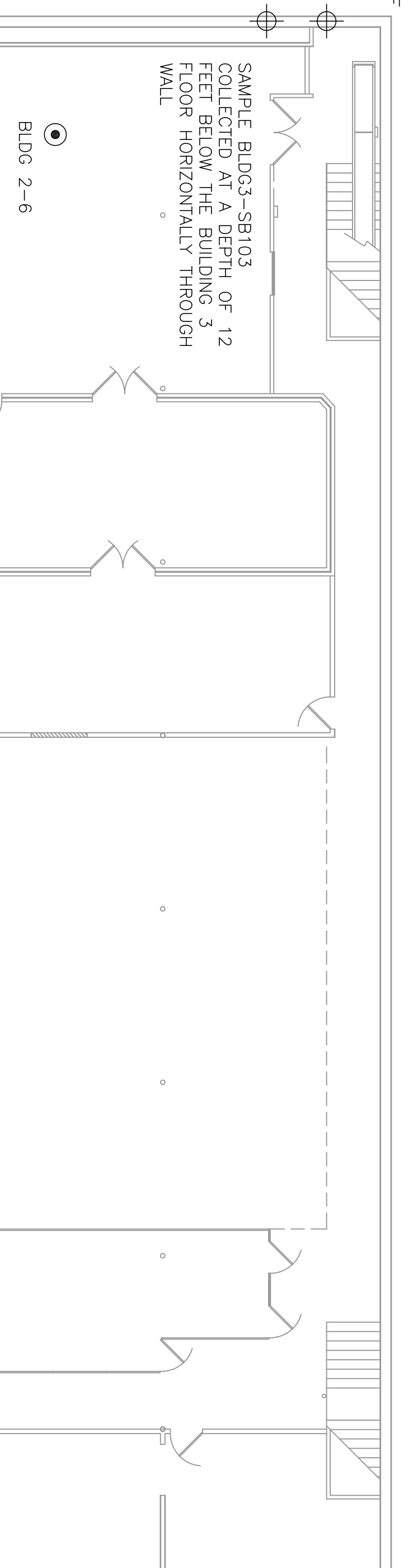
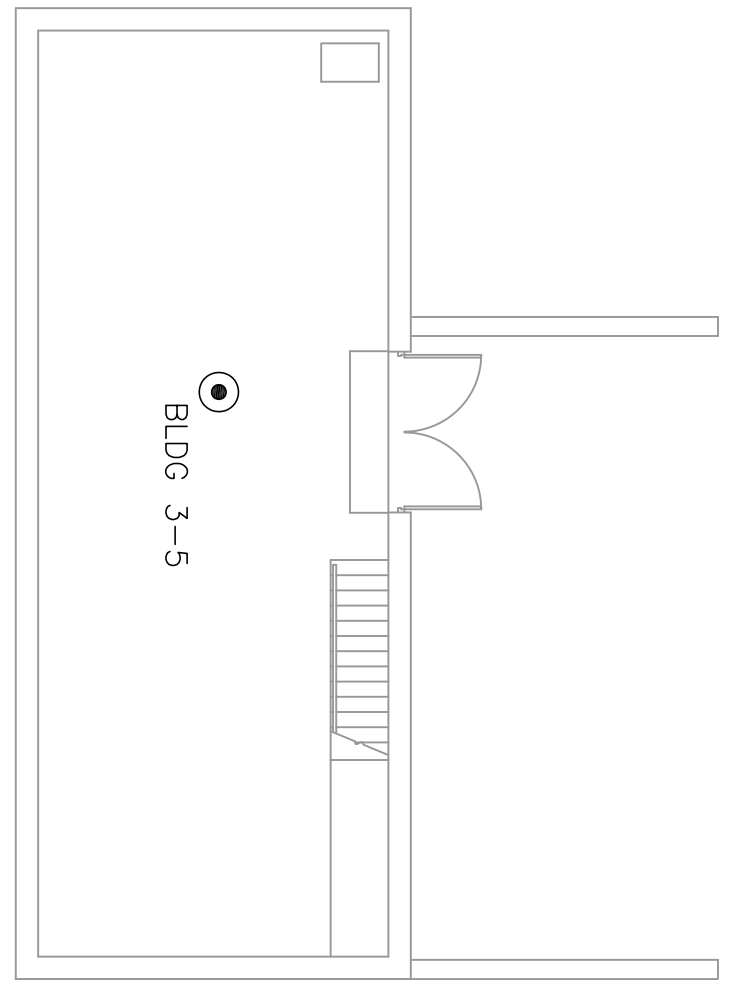
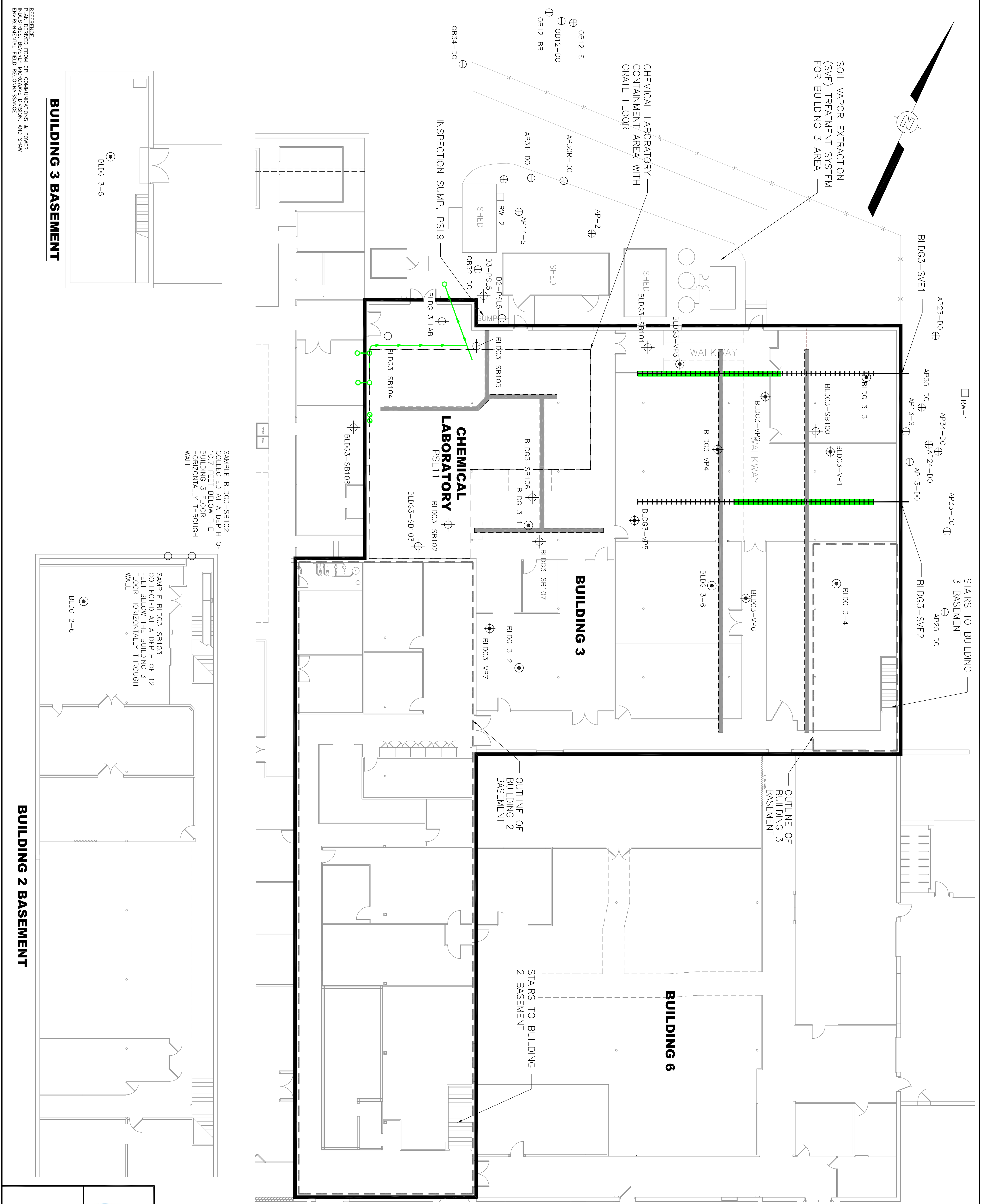


CBI ENVIRONMENTAL & INFRASTRUCTURE, INC.
 150 ROYAL STREET
 CANTON, MASSACHUSETTS
 (617) 589-5111

FIGURE 4
BUILDING 3 REMEDIAL TREATMENT AREA AND BUILDING 3 SVE SYSTEM
 FORMER VARIAN FACILITY SITE
 150 SOHIER ROAD
 BEVERLY, MASSACHUSETTS

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

OFFICE CANTON	DRAWN BY CD	CHECKED BY RC	APPROVED BY -	DRAWING NUMBER 150148-D2
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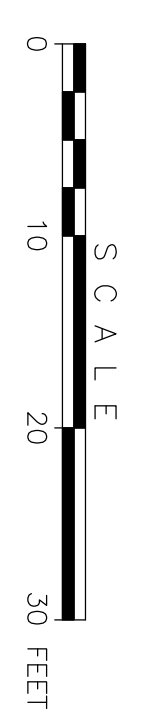


SAMPLE BLDG3-SB102 COLLECTED AT A DEPTH OF 10.7 FEET BELOW THE BUILDING 3 FLOOR HORIZONTALLY THROUGH WALL

SAMPLE BLDG3-SB103 COLLECTED AT A DEPTH OF 12 FEET BELOW THE BUILDING 3 FLOOR HORIZONTALLY THROUGH WALL

LEGEND

- BUILDING 3 TREATMENT AREA
 - HORIZONTAL SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - ▨ PORTION (SHADED) OF HORIZONTAL SOIL VAPOR EXTRACTION (SVE) WELL SEAL WITH PACKER INSTALLED
 - ⊙ SUB-SLAB SOIL VAPOR MONITORING POINT
 - ⊕ INDOOR AIR SAMPLE LOCATION
 - ⊕ SOIL BORING LOCATION
 - ⊕ MONITORING WELL
 - RECOVERY WELL
 - * BUILDING COLUMNS
 - ==== UTILITY TRENCH
 - FORMER UTILITY TRENCH— FILLED WITH CONCRETE
 - DRAIN LINES
 - ACTIVE ROOF DRAINS
 - ⊕ FORMER SUCTION VENTS
 - BUILDING WALLS
 - × × FENCE LINE
 - INDOOR AIR SAMPLE ID
 - ROOM
 - BLDG 2-6 ENVIRONMENTAL TESTING ROOM
 - BLDG 3-1 MAIN CHEMICAL LABORATORY
 - BLDG 3-2 CHEMISTRY LABORATORY BENCH TESTING ROOM
 - BLDG 3-3 MID STOCK ROOM
 - BLDG 3-4 BUILDING 3 MACHINE SHOP
 - BLDG 3-5 BOILER ROOM BUILDING 3 BASEMENT
 - BLDG 3-6 BUILDING 3 STORAGE ROOM
- NOTES:**
- UTILITY TRENCH LOCATION BASED ON BOMAC LABORATORIES FLOOR PLAN, BUILDING 1, 2, 3, 4 AND 6 REVISED FEBRUARY 25, 1964.
 - DRAIN LINES BASED ON 7/17/13 VIDEO DRAIN INSPECTION.

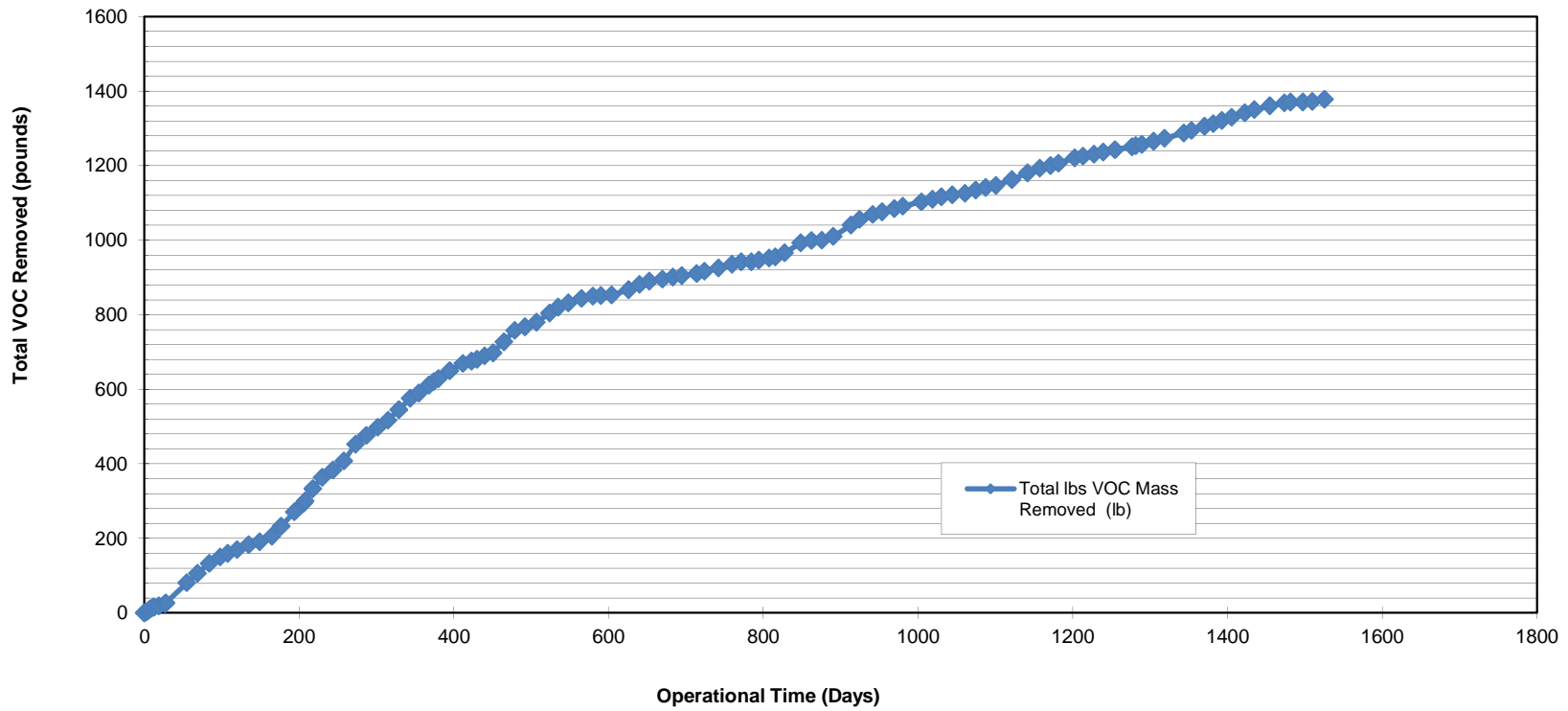


CBI ENVIRONMENTAL & INFRASTRUCTURE, INC.
 150 ROYAL STREET
 CANTON, MASSACHUSETTS
 (617) 589-5111

FIGURE 5
BUILDING 3 REMEDIAL TREATMENT AREA
SAMPLE LOCATIONS
 FORMER VARIAN FACILITY SITE
 150 SOHIER ROAD
 BEVERLY, MASSACHUSETTS

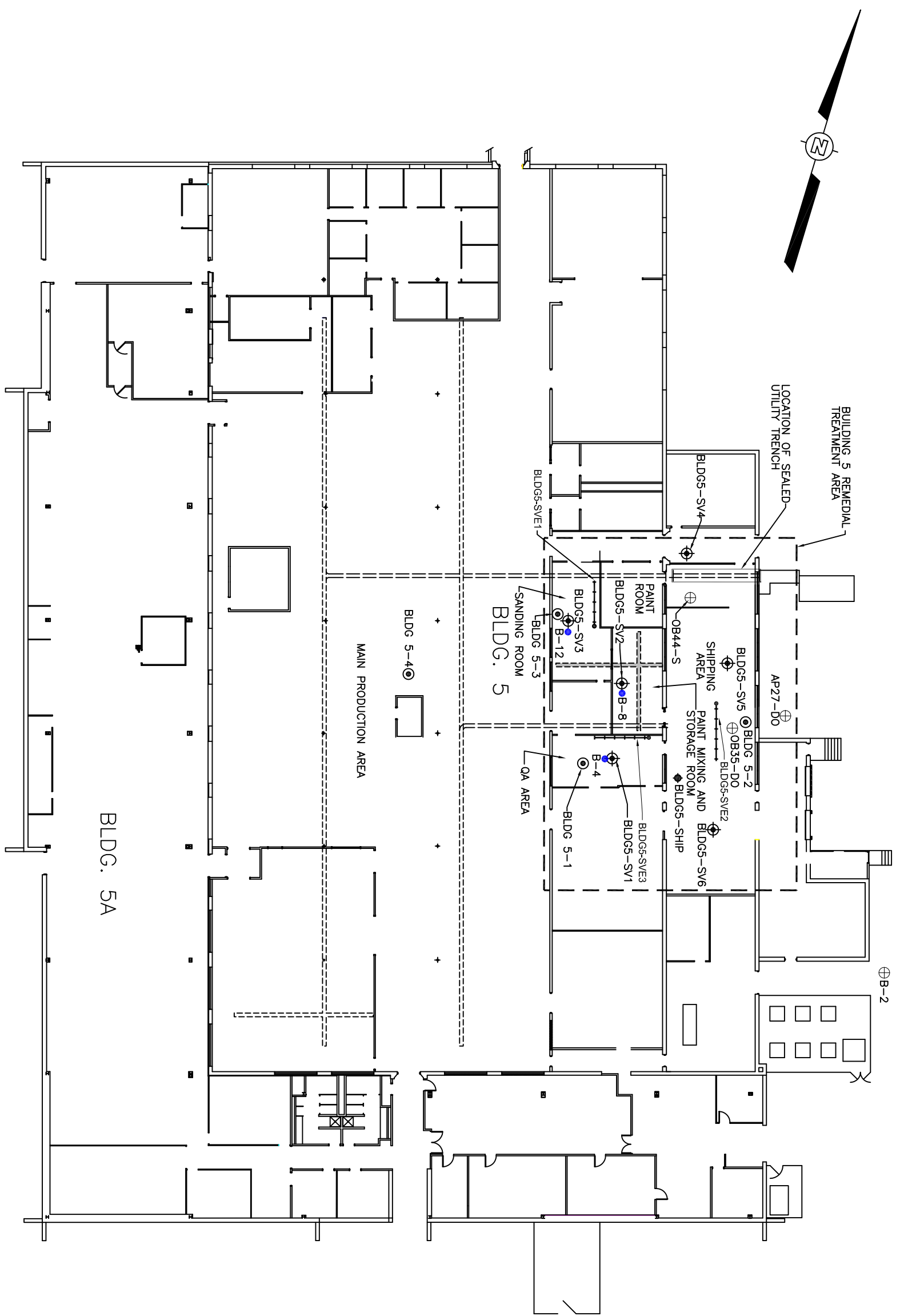
REFERENCE:
 PLAN DERIVED FROM CPI COMMUNICATIONS & POWER INDUSTRIES, BEVERLY MICROWAVE DIVISION, AND SHAW ENVIRONMENTAL FIELD RECONNAISSANCE.

Figure 6
VOC Mass Removal Estimate
Building 3 Sub-Slab SVE System
Former Varian Facility Site
150 Sohler Road
Beverly, MA




OFFICE CANTON, MA	DRAWN BY CD	CHECKED BY RC	APPROVED BY --	DRAWING NUMBER 146898-SITE PLAN
----------------------	----------------	------------------	-------------------	------------------------------------

REFERENCE:
 PLAN DERIVED FROM COMMUNICATIONS & POWER INDUSTRIES MAP,
 DATED 07/11/03, CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
 MAP TITLED "1962-BUILDING 5", AND SHAW ENVIRONMENTAL FIELD
 RECONNAISSANCE, JULY 2012 AND MAY 2013.



LEGEND

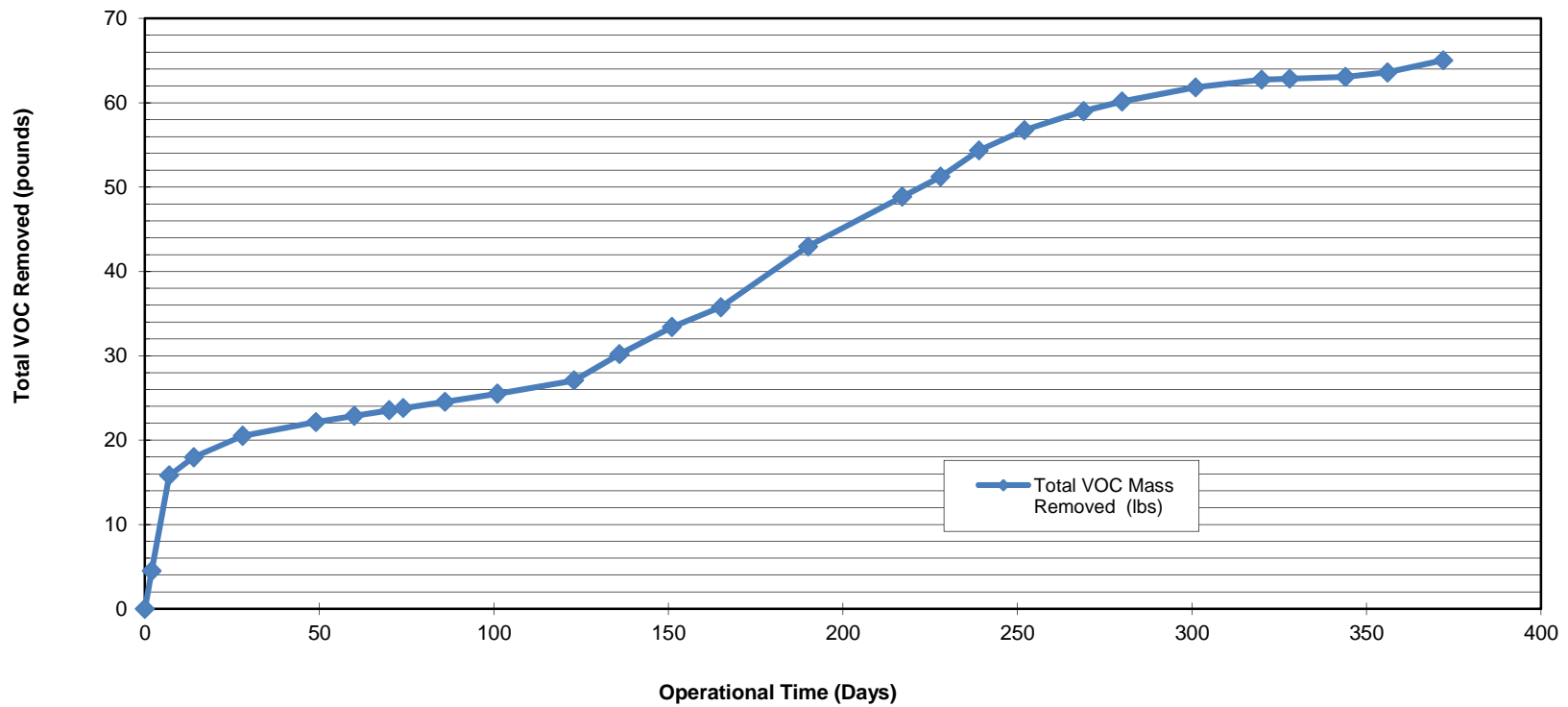
⊕	SUB-SLAB SOIL VAPOR SAMPLE LOCATION (2011-2013)
⊙	INDOOR AIR SAMPLE LOCATION (2011-2013)
●	SUB-SLAB SOIL VAPOR SAMPLE LOCATION (1995)
⊕	MONITORING WELL
◆	SOIL BORING
=====	FORMER UTILITY TRENCH FILLED WITH CONCRETE
- - - - -	UTILITY TRENCH
⊕	SYE TRENCH WELL INSTALLED JULY/AUGUST 2012
INDOOR AIR SAMPLE ID	ROOM
RIN_3-0485	BLDG 5-1
	BLDG 5-2
	BLDG 5-3
	BLDG 5-4
	QA AREA
	SHIPPING AREA
	SANDING ROOM
	PRODUCTION AREA



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

FIGURE 7
BUILDING 5 REMEDIAL TREATMENT AREA
 FORMER VARIAN FACILITY
 150 SCHIER ROAD
 BEVERLY, MASSACHUSETTS

Figure 8
VOC Mass Removal Estimate
Building 5 Sub-Slab SVE System
Former Varian Facility Site
150 Sohler Road
Beverly, Massachusetts



APPENDIX A

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



Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username: **TIMKEMPER**

Transaction ID: **642158**

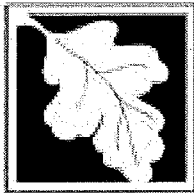
Document: **BWSC108 Comp. Res. Action Transmittal Form & Phase I**

Size of File: **935.34K**

Status of Transaction: **Submitted**

Date and Time Created: **4/30/2014:1:19:46 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to "Download a Copy" from the Current Submittals page.



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

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

Release Tracking Number

3 - 485

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 the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

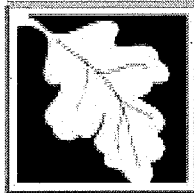
a. Tier I b. Tier ID c. Tier II

B. THIS FORM IS BEING USED TO: (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 Permanent or Temporary Solution.
- b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.
- c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT

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

BWSC 108

Release Tracking Number

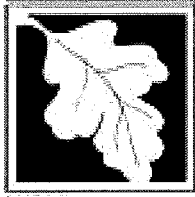
3 - 485

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 every six months, concurrent with a Status Report.
- iv. A Remedial Monitoring Report(s) submitted annually, concurrent with a Status Report.
- c. Status of Site: (check one) i. Phase IV ii. Phase V iii. Remedy Operation Status iv. Temporary Solution
- 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 Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.
- b. The requirements for a Temporary Solution have been met. A completed Temporary Solution 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 **Temporary Solution Status Report**, pursuant to 310 CMR 40.0898.
24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).
- a. Status of Site: (check one)
- i. Phase IV ii. Phase V iii. Remedy Operation Status iv. Temporary Solution



**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)

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 Temporary Solution 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

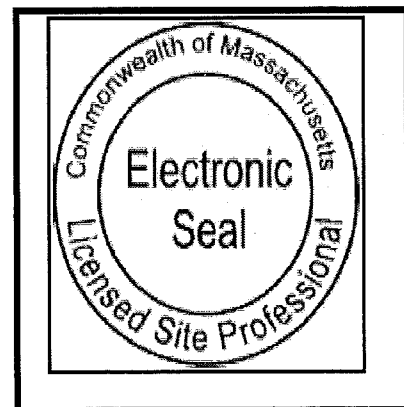
2. First Name: TIMOTHY W 3. Last Name: KEMPER

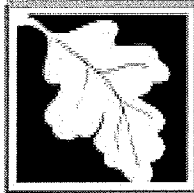
4. Telephone: 6175153004 5. Ext.: 6. Email:

7. Signature: TIMOTHY WKEMPER

8. Date: 4/30/2014 9. LSP Stamp:

(mm/dd/yyyy)





**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)

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: JOHNR

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. Email: john.buchanan@varian.com

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

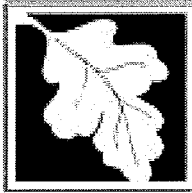
2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

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. Release Address/Location Aid. 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.



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

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

Release Tracking Number

3 - 485

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

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 3. Title: ENVIRONMENTAL AFFAIRS MANAGER
Signature

4. For: VARIAN MEDICAL SYSTEMS INC 5. Date: 4/30/2014
(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.

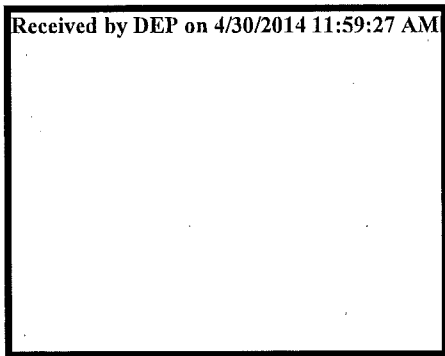
7. Street: _____

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

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

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:)





Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

Remedial System or Monitoring Program: 1 of 3

3 - 485

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

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

b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): i. Indoor Air ii. Drinking Water

c. Application of Remedial Additives: (check all that apply)
i. To the Subsurface
ii. To Groundwater (Injection)
iii. To the Surface

d. 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 G5)

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: NA

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 10/1/2013 To: 3/29/2014
(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:
b. Post-system Startup (after first month) or Monitoring Program:
i. Monthly
ii. Quarterly
iii. Annually
iv. Other Describe: BI-WEEKLY

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

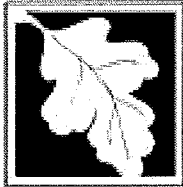
C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

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:



Massachusetts Department of Environmental Protection

Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Remedial System or Monitoring Program: 1 of: 3

BWSC108 -A

Release Tracking Number

3 - 485

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:

Table with 4 columns: Name of Additive, Date, Quantity, Units. Contains 3 empty rows.

ii. Peroxides:

Table with 4 columns: Name of Additive, Date, Quantity, Units. Contains 3 empty rows.

iii. Microorganisms:

Table with 4 columns: Name of Additive, Date, Quantity, Units. Contains 3 empty rows.

iv. Other:

Table with 4 columns: Name of Additive, Date, Quantity, Units. Row 1: LACTATE SOLUTION, 10/30/2013, 2132, GALL. Contains 2 empty rows.

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

i. Permanganates:

Table with 4 columns: Name of Additive, Date, Quantity, Units. Row 1: SODIUM PERMANAG, 12/11/2013, 785, GALL. Contains 2 empty rows.

ii. Peroxides:

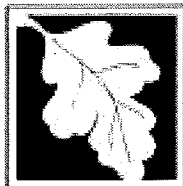
Table with 4 columns: Name of Additive, Date, Quantity, Units. Contains 3 empty rows.

iii. Persulfates:

Table with 4 columns: Name of Additive, Date, Quantity, Units. Contains 3 empty rows.

iv. Other:

Table with 4 columns: Name of Additive, Date, Quantity, Units. Contains 3 empty rows.



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

Other additives applied: (total quantity applied at the site for the current reporting period)

Table with 4 columns: Name of Additive, Date, Quantity, Units

Table with 4 columns: Name of Additive, Date, Quantity, Units

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:

Empty box for Operational Problems or Notes

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



Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

Remedial System or Monitoring Program: 2 of 3

3 - 485

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

[x] a. Active Remedial System: (check all that apply)

[] i. NAPL Recovery

[x] ii. Soil Vapor Extraction/Bioventing

[x] iii. Vapor-phase Carbon Adsorption

[] iv. Groundwater Recovery

[] v. Dual/Multi-phase Extraction

[] vi. Aqueous-phase Carbon Adsorption

[] vii. Air Stripping

[] viii. Sparging/Biosparging

[] ix. Cat/Thermal Oxidation

[x] x. Other Describe: BLDG 3 SUB-SLAB SVE SYSTEM

[] b. Active Exposure Pathway Elimination Measure

Active Exposure Pathway Mitigation System to address (check one): [] i. Indoor Air [] ii. Drinking Water

[] c. Application of Remedial Additives: (check all that apply)

[] i. To the Subsurface

[] ii. To Groundwater (Injection)

[] iii. To the Surface

[] d. 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 G5)

[] i. Reactive Wall

[] ii. Natural Attenuation

[] iii. Other Describe:

2. Mode of Operation: (check one)

[x] 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

[x] c. Vapor-phase Discharge to Ambient Air: (check one)

[x] 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: 10/1/2013

To: 3/31/2014

(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:

[x] b. Post-system Startup (after first month) or Monitoring Program:

[] i. Monthly

[] ii. Quarterly

[] iii. Annually

[x] iv. 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)

[x] 2. MCP Performance Standard

MCP Citations(s):

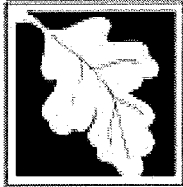
MADEP POLICY #WSC94-150

[] 3. DEP Approval Letter

Date of Letter:

(mm/dd/yyyy)

[] 4. Other Describe:



Massachusetts Department of Environmental Protection

Bureau of Waste Site Cleanup

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Remedial System or Monitoring Program: 2 of: 3

BWSC108 -A

Release Tracking Number

3 - 485

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: 179 b. GW Recovered (gals): c. NAPL Recovered (gals): d. GW Discharged (gals): e. Avg. Soil Gas Recovery Rate (scfm): 157 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:

Table with 4 columns: Name of Additive, Date, Quantity, Units

ii. Peroxides:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iii. Microorganisms:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iv. Other:

Table with 4 columns: 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:

Table with 4 columns: Name of Additive, Date, Quantity, Units

ii. Peroxides:

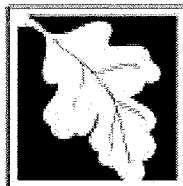
Table with 4 columns: Name of Additive, Date, Quantity, Units

iii. Persulfates:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iv. Other:

Table with 4 columns: Name of Additive, Date, Quantity, Units



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CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Remedial System or Monitoring Program: 2 of: 3

BWSC108 -A

Release Tracking Number

3 - 485

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

Other additives applied: (total quantity applied at the site for the current reporting period)

Table with 4 columns: Name of Additive, Date, Quantity, Units

Table with 4 columns: Name of Additive, Date, Quantity, Units

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: 3 b. Total Number of Days of Unscheduled Shutdowns: 3

c. Reason(s) for Unscheduled Shutdowns: SHUTDOWN DUE TO ICEWATER BUILDUP

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:

Empty box for Operational Problems or Notes.

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



Bureau of Waste Site Cleanup

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

Remedial System or Monitoring Program: 3 of 3

3 - 485

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

[x] a. Active Remedial System: (check all that apply)

- [] i. NAPL Recovery [x] ii. Soil Vapor Extraction/Bioventing [] iii. Vapor-phase Carbon Adsorption
[] iv. Groundwater Recovery [] v. Dual/Multi-phase Extraction [] vi. Aqueous-phase Carbon Adsorption
[] vii. Air Stripping [] viii. Sparging/Biosparging [] ix. Cat/Thermal Oxidation
[x] x. Other Describe: BLDG 5 SUB-SLAB SVE SYSTEM

[] b. Active Exposure Pathway Elimination Measure

Active Exposure Pathway Mitigation System to address (check one): [] i. Indoor Air [] ii. Drinking Water

[] c. Application of Remedial Additives: (check all that apply)

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

[] d. 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 G5)

- [] i. Reactive Wall [] ii. Natural Attenuation [] iii. Other Describe:

2. Mode of Operation: (check one)

- [x] 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
[x] c. Vapor-phase Discharge to Ambient Air: (check one) [x] 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: 10/1/2013 To: 3/31/2014
(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:
[x] b. Post-system Startup (after first month) or Monitoring Program:
[] i. Monthly
[] ii. Quarterly
[] iii. Annually
[x] iv. Other Describe: BI-WEEKLY

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

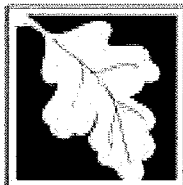
C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

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

[x] 2. MCP Performance Standard MCP Citations(s): MADEP POLICY #WSC94-150

[] 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)

[] 4. Other Describe:



Massachusetts Department of Environmental Protection

Bureau of Waste Site Cleanup

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Remedial System or Monitoring Program: 3 of: 3

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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: 176 b. GW Recovered (gals):
c. NAPL Recovered (gals): d. GW Discharged (gals):
e. Avg. Soil Gas Recovery Rate (scfm): 139 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:

Table with 4 columns: Name of Additive, Date, Quantity, Units

ii. Peroxides:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iii. Microorganisms:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iv. Other:

Table with 4 columns: 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:

Table with 4 columns: Name of Additive, Date, Quantity, Units

ii. Peroxides:

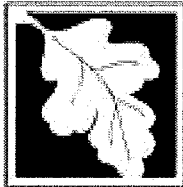
Table with 4 columns: Name of Additive, Date, Quantity, Units

iii. Persulfates:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iv. Other:

Table with 4 columns: Name of Additive, Date, Quantity, Units



Massachusetts Department of Environmental Protection

Bureau of Waste Site Cleanup

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Remedial System or Monitoring Program: 3 of: 3

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Release Tracking Number

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

Other additives applied: (total quantity applied at the site for the current reporting period)

Table with 4 columns: Name of Additive, Date, Quantity, Units

Table with 4 columns: Name of Additive, Date, Quantity, Units

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: 2 b. Total Number of Days of Unscheduled Shutdowns: 6

c. Reason(s) for Unscheduled Shutdowns: SHUT DOWN DUE TO WATER AND GRIT BUILD UP

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:

SHUT DOWN DUE TO WATER AND GRIT BUILD UP

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

**Attachment to BWSC 108
150 Sohier Road, Beverly, MA
RTN 3-0485**

Approvals from the Massachusetts Department of Environmental that this submittal is subject to include:

- "Approval to Apply Remedial Additive; MGL.c.21E & 310 CMR 40.0000" issued on August 18, 2004 (for permanganate addition activities)
- "Approval to Apply Remedial Additive; MGL.c.21E & 310 CMR 40.0000" issued on November 20, 2006 (for bioremediation activities)

APPENDIX B

GROUNDWATER GAUGING RESULTS, PHYSICAL PARAMETER DATA

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	10/05/13	Dark Purple	--	--	--	--
AP-12-BR	11/01/13	Dark Purple	--	--	--	--
AP-12-BR	11/14/13	Dark Purple	--	--	--	--
AP-12-BR	11/25/13	Dark Purple	--	--	--	--
AP-12-BR	12/10/13	Clear	83	10.32	0.422	46
AP-12-BR	01/07/14	Light Purple	--	--	--	--
AP-12-DO	10/05/13	Dark Purple	--	--	--	--
AP-12-DO	11/01/13	Dark Purple	--	--	--	--
AP-12-DO	11/14/13	Light Purple	546.4	7.21	1.454	50.81
AP-12-DO	11/25/13	Light Purple	--	--	--	--
AP-12-DO	12/10/13	Clear	170	8.51	0.598	3.05
AP-12-DO	01/07/14	Dark Purple	--	--	--	--
AP-13-DO	10/05/13	Clear	109.0	7.50	0.003	6.30
AP-13-DO	10/15/13	Clear	--	--	--	--
AP-13-DO	10/17/13	Clear	--	--	--	--
AP-13-DO	10/21/13	Clear	--	--	--	--
AP-13-DO	10/28/13	Clear	-93.1	6.96	7.904	1.10
AP-13-DO	11/14/13	Clear	--	--	--	--
AP-13-DO	01/07/14	Clear	-7.0	6.52	0.071	3.86
AP-23-DO	10/05/13	Clear	138.4	9.59	12.114	0.72
AP-23-DO	10/15/13	Clear	-256.2	8.92	7.262	1.50
AP-23-DO	10/17/13	Clear	-295.3	9.47	8.305	0.47
AP-23-DO	10/21/13	Clear	-218.2	7.10	5.726	3.25
AP-23-DO	10/23/13	Clear	-239.6	6.56	1.735	1.71
AP-23-DO	10/28/13	Clear	-199.1	9.38	7.971	0.58
AP-23-DO	11/01/13	Clear	-269.3	6.39	3.728	0.60
AP-23-DO	01/07/14	Clear	-238.2	6.52	3.162	0.87
AP-24-DO	10/05/13	Clear	64.0	7.18	0.137	3.17
AP-24-DO	10/15/13	Clear	96.1	6.97	1.534	0.74
AP-24-DO	10/17/13	Clear	71.8	6.78	1.019	0.78
AP-24-DO	10/21/13	Clear	-222.2	6.97	1.393	2.82
AP-24-DO	10/23/13	Clear	-231.0	6.58	0.418	1.29
AP-24-DO	10/28/13	Clear	-160.0	6.74	2.457	1.12
AP-24-DO	11/01/13	Clear	-84.8	-85.2	0.187	0.66
AP-24-DO	01/07/14	Clear	--	--	--	--
AP-25-DO	10/05/13	Clear	11.4	7.55	0.143	3.61
AP-25-DO	10/15/13	Clear	-173.0	7.71	0.165	0.76
AP-25-DO	10/17/13	Clear	498.3	7.70	0.108	3.57
AP-25-DO	10/21/13	Clear	-180.5	7.19	0.228	0.92
AP-25-DO	10/23/13	Clear	111.1	8.02	0.106	2.05
AP-25-DO	10/28/13	Clear	-41.1	7.33	0.128	1.42
AP-25-DO	11/01/13	Clear	252.1	7.15	0.498	0.25

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 Sohier Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
AP-25-DO	01/07/14	Clear	-73.9	7.13	3.503	0.52
AP-26-DO	10/05/13	Dark Purple	--	--	--	--
AP-26-DO	11/01/13	Dark Purple	--	--	--	--
AP-26-DO	11/14/13	Dark Purple	--	--	--	--
AP-26-DO	11/25/13	Light Purple	--	--	--	--
AP-26-DO	12/10/13	Dark Purple	--	--	--	--
AP-26-DO	01/07/14	Dark Purple	--	--	--	--
AP-27-DO	10/05/13	Clear	255.2	7.81	0.866	1.12
AP-27-DO	11/01/13	Clear	260.5	7.83	0.871	1.40
AP-27-DO	11/14/13	Clear	359.6	8.70	0.471	2.27
AP-27-DO	11/25/13	Clear	-216.4	8.92	0.500	1.58
AP-27-DO	12/10/13	Clear	206	8.88	4.331	49
AP-27-DO	01/07/14	Clear	-44.0	8.65	3.258	12.42
AP-30R-DO	10/05/13	Light Purple	--	--	--	--
AP-30R-DO	11/01/13	Light Purple	--	--	--	--
AP-30R-DO	12/10/13	Light Purple	--	--	--	--
AP-30R-DO	01/07/14	Dark Purple	--	--	--	--
AP-31-DO	10/05/13	Dark Purple	--	--	--	--
AP-31-DO	11/01/13	Dark Purple	--	--	--	--
AP-31-DO	11/14/13	Dark Purple	--	--	--	--
AP-31-DO	12/10/13	Dark Purple	--	--	--	--
AP-31-DO	01/07/14	Dark Purple	--	--	--	--
AP-31-DO	03/25/14	Brown	--	--	--	--
AP-32-DO	10/05/13	Dark Purple	--	--	--	--
AP-32-DO	11/01/13	Dark Purple	--	--	--	--
AP-32-DO	11/14/13	Dark Purple	--	--	--	--
AP-32-DO	12/10/13	Dark Purple	--	--	--	--
AP-32-DO	01/07/14	Dark Purple	--	--	--	--
AP-32-DO	03/25/14	Purple	--	--	--	--
AP-33-DO	10/05/13	Clear	-72.1	7.23	3.288	3.16
AP-33-DO	10/15/13	Clear	-90.6	6.56	4.173	1.10
AP-33-DO	10/17/13	Clear	-449.3	6.72	5.787	0.39
AP-33-DO	10/21/13	Dark Brown	-296.3	6.96	14.11	0.76
AP-33-DO	10/23/13	Dark Brown	-239.2	7.03	11.90	1.13
AP-33-DO	11/01/13	Brown	-481.3	6.47	18.951	0.20
AP-33-DO	01/07/14	Clear	-205.7	6.57	9.869	0.49
AP-34-DO	10/05/13	Clear	-196.6	7.45	2.486	1.07
AP-34-DO	10/15/13	Clear	-115.0	6.57	4.700	1.04
AP-34-DO	10/17/13	Clear	-456.0	6.70	7.082	0.39
AP-34-DO	10/21/13	Dark Brown	-285.1	6.96	14.36	0.85
AP-34-DO	10/23/13	Dark Brown	-379.9	6.78	10.43	0.90
AP-34-DO	11/01/13	Light Brown	-455.7	6.50	18.851	0.17
AP-34-DO	01/07/14	Clear	-153.7	6.59	5.261	0.48

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 Sohier Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
AP-35-DO	10/05/13	Clear	-101.4	6.95	1.759	0.81
AP-35-DO	10/15/13	Clear	-128.4	6.52	4.843	1.08
AP-35-DO	10/17/13	Clear	-484.0	6.63	8.529	0.38
AP-35-DO	10/21/13	Dark Brown	-305.5	6.96	13.53	0.75
AP-35-DO	10/23/13	Dark Brown	-387.4	6.74	6.638	2.04
AP-35-DO	11/01/13	Light Brown	-469.2	6.55	23.628	0.15
AP-35-DO	01/07/14	Clear	-56.0	7.49	0.061	10.51
BR-6_ZONE1	10/24/13	Clear	-18.2	6.75	0.102	3.41
BR-6_ZONE2	10/24/13	Clear	-52.0	6.33	0.023	1.86
BR-6_ZONE3	10/24/13	Clear	-37.7	6.06	-0.0179	0.77
BW-04	10/05/13	Clear	-20.0	6.42	0.873	0.26
BW-04	01/07/14	Clear	-49.8	6.66	0.472	0.62
BW-08	10/05/13	Clear	-49.4	6.32	1.051	0.66
BW-08	01/07/14	Clear	-85.8	6.43	0.835	0.81
BW-09	10/05/13	Clear	-77.4	6.49	1.948	0.52
BW-09	01/07/14	Clear	-88.3	6.52	1.552	1.57
CL03-BR	10/05/13	Clear	-179.3	10.11	0.206	0.46
CL03-BR	11/01/13	Clear	-169.5	10.05	0.211	0.40
CL03-BR	11/14/13	Clear	-6.5	10.21	0.231	0.91
CL03-BR	11/25/13	Clear	-170.2	9.83	0.247	0.53
CL03-BR	12/10/13	Clear	64.5	10.4	0.366	64.6
CL03-BR	01/07/14	Clear	160.2	0.99	0.252	1.00
CL03-DO	10/05/13	Dark Purple	--	--	--	--
CL03-DO	11/01/13	Dark Purple	--	--	--	--
CL03-DO	11/14/13	Dark Purple	--	--	--	--
CL03-DO	11/25/13	Dark Purple	--	--	--	--
CL03-DO	12/10/13	Dark Purple	--	--	--	--
CL03-DO	01/07/14	Dark Purple	--	--	--	--
MW-002	10/05/13	Clear	65.8	6.55	0.305	1.62
MW-002	11/01/13	Clear	60.3	6.62	0.325	1.49
MW-002	11/14/13	Clear	265.9	6.47	0.338	0.79
MW-002	11/25/13	Clear	-218.6	6.89	0.358	0.60
MW-002	12/10/13	Clear	201	6.9	0.587	17.5
MW-008	10/05/13	Clear	15.6	6.86	1.220	0.85
MW-009	10/05/13	Clear	41.3	6.06	5.052	0.89
MW-009	01/07/14	Clear	-89.2	6.26	4.527	0.78
MW-013	10/05/13	Light Purple	--	--	--	--
MW-013	10/15/13	Clear	646.8	6.71	1.739	37.27
MW-013	10/17/13	Clear	685.4	6.85	2.427	44.46
MW-013	10/21/13	Clear	671.3	6.73	2.110	36.31
MW-013	11/01/13	Light Purple	--	--	--	--
MW-013	01/07/14	Dark Purple	--	--	--	--
MW-030	10/05/13	Clear	277.4	5.88	5.526	6.44

NOTES: -- = Not Analyzed
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Deg.C= Degrees Celcius

GROUNDWATER PHYSICAL PARAMETER DATA

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
MW-030	11/01/13	Clear	257.3	5.92	5.507	6.05
MW-030	11/14/13	Clear	513.0	5.84	6.410	7.64
MW-030	11/25/13	Clear	-145.6	6.82	6.918	7.75
MW-030	12/10/13	Clear	254	6.6	8.937	17.9
MW-036	10/05/13	Clear	70.5	6.67	0.831	0.35
MW-036	11/01/13	Clear	93.7	6.58	0.870	0.57
MW-036	11/14/13	Clear	224.3	6.54	0.875	0.97
MW-036	11/25/13	Clear	-118.8	6.49	0.921	1.80
MW-036	12/10/13	Clear	217	8.1	0.261	8.7
OB-05-DO	10/05/13	Clear	-48.7	6.92	0.143	0.41
OB-05-DO	11/01/13	Clear	-60.2	6.58	0.162	0.72
OB-05-DO	11/14/13	Clear	138.8	6.79	0.154	0.87
OB-05-DO	11/25/13	Clear	-78.5	7.17	0.164	1.25
OB-05-DO	12/10/13	Clear	71	7.1	0.221	6.1
OB-05-DO	01/07/14	Clear	-72.1	7.03	0.164	0.88
OB-09-S	10/05/13	Clear	-34.8	6.52	2.151	3.11
OB-09-S	01/07/14	Clear	-90.8	6.65	1.880	0.93
OB-12-BR	10/05/13	Clear	-71.8	10.61	0.088	0.21
OB-12-BR	11/01/13	Clear	-81.3	10.54	0.075	0.19
OB-12-BR	11/14/13	Clear	84.7	10.33	0.094	1.58
OB-12-BR	11/25/13	Clear	-103.1	9.90	0.099	3.31
OB-12-BR	12/10/13	Clear	68.4	10.4	0.126	5.41
OB-12-BR	01/07/14	Clear	-95.0	10.46	0.100	1.56
OB-12-DO	10/05/13	Light Purple	--	--	--	--
OB-12-DO	11/01/13	Light Purple	--	--	--	--
OB-12-DO	11/14/13	Clear	397.7	7.37	0.400	42.60
OB-12-DO	11/25/13	Clear	6.7	7.38	0.441	47.48
OB-12-DO	12/10/13	Clear	310	7.9	0.562	46.5
OB-12-DO	01/07/14	Dark Purple	--	--	--	--
OB-15-S	10/05/13	Clear	-105.2	6.65	2.505	0.20
OB-15-S	01/07/14	Clear	-40.3	6.61	1.046	2.09
OB-19-DO	10/05/13	Clear	-60.1	7.15	0.543	0.82
OB-19-DO	11/01/13	Clear	-55.2	7.26	0.511	1.05
OB-19-DO	11/14/13	Clear	250.3	7.33	0.450	0.65
OB-19-DO	11/25/13	Clear	--	7.16	0.483	1.99
OB-19-DO	12/10/13	Clear	205	7.3	0.603	9.77
OB-19-DO	01/07/14	Clear	14.20	7.31	0.490	0.76
OB-25-DO	10/05/13	Clear	142.1	7.57	0.693	6.35
OB-25-DO	10/15/13	Clear	319.0	7.73	0.579	21.44
OB-25-DO	10/17/13	Clear	292.2	7.52	0.575	21.85
OB-25-DO	10/21/13	Clear	109.1	7.59	0.576	31.83
OB-25-DO	11/01/13	Clear	125.6	7.43	0.708	6.27
OB-25-DO	01/07/14	Clear	57.1	7.65	0.582	40.05

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GROUNDWATER PHYSICAL PARAMETER DATA

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
OB-26-DO	10/05/13	Clear	-31.8	7.78	0.403	0.61
OB-26-DO	11/01/13	Clear	-25.7	7.69	0.449	0.73
OB-26-DO	11/14/13	Clear	293.0	7.16	0.285	1.66
OB-26-DO	11/25/13	Clear	-263.3	7.60	0.303	1.12
OB-26-DO	12/10/13	Clear	220	7.4	0.363	10.00
OB-26-DO	01/07/14	Clear	-24.4	7.52	0.446	0.76
OB-27-BR	10/05/13	Dark Purple	--	--	--	--
OB-27-BR	11/01/13	Dark Purple	--	--	--	--
OB-27-BR	11/14/13	Dark Purple	--	--	--	--
OB-27-BR	12/10/13	Light Purple	--	--	--	--
OB-27-DO	10/05/13	Clear	161.3	6.48	1.288	1.21
OB-27-DO	11/01/13	Clear	162.9	6.41	1.243	1.36
OB-27-DO	11/14/13	Clear	322.1	6.31	1.398	1.55
OB-27-DO	12/10/13	Clear	208	6.6	0.568	28.24
OB-28-BR	10/05/13	Clear	-144.6	11.76	0.934	0.28
OB-28-BR	11/01/13	Clear	-137.8	11.82	0.902	0.35
OB-28-BR	11/14/13	Clear	156.1	11.78	0.928	0.73
OB-28-BR	11/25/13	Clear	-291.7	11.78	1.004	1.13
OB-28-BR	12/10/13	Clear	126	11.8	1.276	7.81
OB-28-BR	01/07/14	Clear	-158.4	11.68	1.122	0.86
OB-28-DO	10/05/13	Clear	-33.5	8.60	0.533	0.43
OB-28-DO	11/01/13	Clear	-36.4	8.39	0.603	0.60
OB-28-DO	11/14/13	Clear	266.2	8.82	0.501	0.80
OB-28-DO	11/25/13	Clear	-277.0	8.63	0.523	0.88
OB-28-DO	12/10/13	Clear	183	8.4	0.641	9.29
OB-28-DO	01/07/14	Clear	-45.4	8.47	0.546	0.53
OB-32-DO	10/05/13	Dark Purple	--	--	--	--
OB-32-DO	11/01/13	Dark Purple	--	--	--	--
OB-32-DO	11/14/13	Light Purple	--	--	--	--
OB-32-DO	11/25/13	Light Purple	--	--	--	--
OB-32-DO	12/10/13	Dark Purple	--	--	--	--
OB-32-DO	01/07/14	Dark Purple	--	--	--	--
OB-32-DO	03/25/14	Purple	--	--	--	--
OB-34-DO	10/05/13	Light Purple	--	--	--	--
OB-34-DO	11/01/13	Light Purple	--	--	--	--
OB-34-DO	11/14/13	Clear	381.9	9.44	0.309	7.95
OB-34-DO	11/25/13	Light Purple	--	9.29	0.334	8.36
OB-34-DO	12/10/13	Clear	390	8.5	0.529	7.55
OB-34-DO	01/07/14	Dark Purple	--	--	--	--
OB-35-DO	10/05/13	Dark Purple	--	--	--	--
OB-35-DO	11/01/13	Dark Purple	--	--	--	--
OB-35-DO	11/14/13	Dark Purple	--	--	--	--
OB-35-DO	12/10/13	Dark Purple	--	--	--	--

NOTES: -- = Not Analyzed
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ORP= Oxidation reduction potential
S/m= Siemens per meter

Deg.C= Degrees Celcius

GROUNDWATER PHYSICAL PARAMETER DATA

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
OB-35-DO	01/07/14	Dark Purple	--	--	--	--
OB-36-DO	10/05/13	Dark Purple	--	--	--	--
OB-36-DO	11/01/13	Dark Purple	--	--	--	--
OB-36-DO	11/14/13	Dark Purple	--	--	--	--
OB-36-DO	12/10/13	Dark Purple	--	--	--	--
OB-36-DO	01/07/14	Dark Purple	--	--	--	--
OB-37-DO	10/05/13	Light Pink	--	--	--	--
OB-37-DO	11/01/13	Light Purple	--	--	--	--
OB-37-DO	11/14/13	Clear	--	--	--	--
OB-37-DO	11/25/13	Light Purple	--	--	--	--
OB-37-DO	12/10/13	Light Purple	--	--	--	--
OB-37-DO	01/07/14	Clear	--	--	--	--
OB-38-DO	10/05/13	Clear	-163.8	8.40	0.233	0.63
OB-38-DO	11/01/13	Clear	-152.7	5.78	0.228	0.55
OB-38-DO	11/14/13	Clear	292.8	8.87	0.237	0.65
OB-38-DO	11/25/13	Clear	-214.4	9.42	0.503	1.36
OB-38-DO	12/10/13	Clear	127	9.5	6.991	26.5
OB-39-DO	10/05/13	Clear	-41.2	7.71	0.288	0.71
OB-39-DO	11/01/13	Clear	-35.2	7.80	0.290	0.62
OB-39-DO	11/14/13	Clear	225.2	10.78	0.317	3.06
OB-39-DO	11/25/13	Clear	-210.2	10.57	0.339	4.06
OB-39-DO	12/10/13	Clear	52	10.4	0.170	6.9
OB-39-DO	01/07/14	Clear	-90.7	10.58	0.326	3.04
RW-01_MW-18	10/05/13	Clear	121.4	9.62	4.341	0.18
RW-01_MW-18	10/15/13	Clear	-80.9	7.75	1.589	0.52
RW-01_MW-18	10/17/13	Clear	-215.5	9.45	3.333	1.03
RW-01_MW-18	10/21/13	Clear	-97.6	7.59	1.471	0.63
RW-01_MW-18	10/28/13	Clear	-170.3	9.23	2.606	1.86
RW-01_MW-18	11/01/13	Light Brown	-91.0	7.93	8.757	0.31
RW-01_MW-18	01/07/14	Clear	-170.2	7.34	8.825	0.16
RW-20	10/05/13	Clear	-405.7	9.12	0.956	0.31
RW-20	11/01/13	Clear	-401.8	9.05	0.925	0.25
RW-20	11/14/13	Clear	-221.3	8.83	0.984	0.59
RW-20	11/25/13	Clear	-177.4	8.54	1.098	0.48
RW-20	12/10/13	Clear	130	9.3	0.588	6.6
RW-20	01/07/14	Dark Purple	-375.9	8.80	1.131	0.28
RW-21	10/05/13	Clear	-331.9	10.03	107.4	0.77
RW-21	11/01/13	Clear	-341.6	10.10	1.168	0.67
RW-21	11/14/13	Clear	-66.1	10.08	0.114	0.25
RW-21	11/25/13	Clear	-152.7	9.51	0.121	1.20
RW-21	12/10/13	Clear	31	10.2	0.168	4.9
UNNAMED_STREAM	10/05/13	Clear	--	--	--	--
UNNAMED_STREAM	12/10/13	Clear	--	--	--	24.8

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 Sohier Road
Beverly, Massachusetts

Site ID	Date	Color	ORP (mV)	pH	Specific Conductance (mS/cm)	Dissolved Oxygen (mg/L)
UNNAMED_STREAM	01/07/14	Clear	--	--	--	--

NOTES: -- = Not Analyzed
mV=millivolts

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

Deg.C= Degrees Celcius

WATER LEVEL MONITORING DATA

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
AP-12-BR	10/05/13	71.32	19.17	52.15	
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-BR	11/01/13	71.32	19.35	51.97	
AP-12-BR	11/14/13	71.32	19.85	51.47	
AP-12-BR	11/25/13	71.32	19.85	51.47	
AP-12-BR	12/10/13	71.32	19.04	52.28	
AP-12-BR	01/07/14	71.32	18.34	52.98	
AP-12-BR	03/25/14	71.32	17.20	54.12	DTB = 74.20'
AP-12-DO	10/05/13	71.30	12.70	58.60	
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-DO	11/01/13	71.30	12.82	58.48	
AP-12-DO	11/14/13	71.30	14.15	57.15	
AP-12-DO	11/25/13	71.30	14.12	57.18	
AP-12-DO	12/10/13	71.30	13.73	57.57	
AP-12-DO	01/07/14	71.30	11.02	60.28	
AP-12-DO	03/26/14	71.30	10.75	60.55	DTB = 49.10'
AP-12-S	03/26/14	71.44	8.60	62.84	DTB = 27.45'
AP-13-DO	10/05/13	68.86	16.35	52.51	
AP-13-DO	10/15/13	68.86	16.49	52.37	
AP-13-DO	10/17/13	68.86	16.43	52.43	
AP-13-DO	10/21/13	68.86	16.45	52.41	
AP-13-DO	10/23/13	68.86	16.98	51.88	
AP-13-DO	10/28/13	68.86	16.62	52.24	
AP-13-DO	11/01/13	68.86	16.61	52.25	
AP-13-DO	11/14/13	68.86	16.81	52.05	
AP-13-DO	01/06/14	68.86	7.93	60.93	Well clogged at 17.10'.
AP-13-DO	01/07/14	68.86	7.93	60.93	
AP-13-DO	01/20/14	68.86	14.24	54.62	DTB = 52.30'
AP-13-DO	03/25/14	68.86	14.05	54.81	DTB = 52.15'
AP-13-S	01/21/14	68.98	9.10	59.88	DTB = 17.15'
AP-13-S	03/25/14	68.98	8.55	60.43	DTB = 17.11'
AP-14-S	03/25/14	74.97	11.13	63.84	DTB = 30.20'
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-15-S	03/24/14	45.88	4.70	41.18	DTB = 13.24'
AP-19	10/08/13	81.30	14.38	66.92	
AP-19	10/24/13	81.30	14.76	66.54	
AP-19	03/25/14	81.30	11.17	70.13	DTB = 25.20'
AP-20	10/08/13	81.43	14.78	66.65	
AP-20	10/24/13	81.43	15.08	66.35	
AP-20	03/25/14	81.43	9.41	72.02	DTB = 16.05'

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
AP-21	10/08/13	81.50	16.02	65.48	
AP-21	10/24/13	81.50	16.41	65.09	
AP-21	03/25/14	81.50	9.71	71.79	DTB = 23.33'
AP-22	10/08/13	81.96	19.02	62.94	
AP-22	10/24/13	81.96	19.48	62.48	
AP-22	03/25/14	81.96	11.37	70.59	DTB = 21.82'
AP-23-DO	10/05/13	69.46	13.65	55.81	
AP-23-DO	10/15/13	69.46	13.96	55.50	
AP-23-DO	10/17/13	69.46	13.92	55.54	
AP-23-DO	10/21/13	69.46	13.94	55.52	
AP-23-DO	10/23/13	69.46	14.15	55.31	
AP-23-DO	10/28/13	69.46	14.14	55.32	
AP-23-DO	11/01/13	69.46	14.26	55.20	
AP-23-DO	01/06/14	69.46	11.35	58.11	DTB = 48.62'
AP-23-DO	01/07/14	69.46	11.35	58.11	
AP-23-DO	01/20/14	69.46	10.59	58.87	
AP-23-DO	03/25/14	69.46	10.17	59.29	DTB = 48.90'
AP-24-DO	10/05/13	69.56	11.70	57.86	
AP-24-DO	10/15/13	69.56	13.56	56.00	
AP-24-DO	10/17/13	69.56	12.86	56.70	
AP-24-DO	10/21/13	69.56	13.57	55.99	
AP-24-DO	10/23/13	69.56	12.99	56.57	
AP-24-DO	10/28/13	69.56	12.74	56.82	
AP-24-DO	11/01/13	69.56	12.22	57.34	
AP-24-DO	01/06/14	69.56	14.99	54.57	DTB = 52.15'
AP-24-DO	01/07/14	69.56	14.99	54.57	
AP-24-DO	01/20/14	69.56	9.68	59.88	DTB = 48.50'
AP-24-DO	03/25/14	69.56	9.32	60.24	DTB = 48.50'
AP-25-DO	10/05/13	65.58	8.11	57.47	
AP-25-DO	10/08/13	65.58	7.85	57.73	DTB = 47.75'
AP-25-DO	10/15/13	65.58	8.44	57.14	
AP-25-DO	10/17/13	65.58	8.49	57.09	
AP-25-DO	10/21/13	65.58	8.47	57.11	
AP-25-DO	10/22/13	65.58	8.67	56.91	
AP-25-DO	10/23/13	65.58	8.64	56.94	
AP-25-DO	10/28/13	65.58	8.99	56.59	
AP-25-DO	11/01/13	65.58	8.80	56.78	
AP-25-DO	01/06/14	65.58	4.29	61.29	DTB = 47.83'
AP-25-DO	01/07/14	65.58	4.29	61.29	
AP-25-DO	01/20/14	65.58	5.13	60.45	DTB = 48.85'
AP-25-DO	03/25/14	65.58	4.92	60.66	DTB = 47.85'
AP-26-DO	10/05/13	73.99	15.77	58.22	
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-26-DO	11/01/13	73.99	15.97	58.02	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
AP-26-DO	11/14/13	73.99	16.72	57.27	
AP-26-DO	11/25/13	73.99	16.88	57.11	
AP-26-DO	12/10/13	73.99	16.40	57.59	
AP-26-DO	01/07/14	73.99	14.71	59.28	
AP-26-DO	03/25/14	73.99	12.84	61.15	DTB = 61.10'
AP-27-DO	10/05/13	77.34	18.36	58.98	
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-27-DO	11/01/13	77.34	18.45	58.89	
AP-27-DO	11/14/13	77.34	19.60	57.74	
AP-27-DO	11/25/13	77.34	19.70	57.64	
AP-27-DO	12/10/13	77.34	19.03	58.31	
AP-27-DO	01/07/14	77.34	11.77	65.57	
AP-27-DO	03/26/14	77.34	14.27	63.07	DTB = 57.90'
AP-30R-DO	10/15/13	NA	NM	NA	Well inaccessible.
AP-30R-DO	10/17/13	NA	NM	NA	Well inaccessible.
AP-30R-DO	10/21/13	NA	NM	NA	Well inaccessible.
AP-30R-DO	10/23/13	NA	NM	NA	Well inaccessible.
AP-30R-DO	10/24/13	NA	23.42	NA	
AP-30R-DO	11/25/13	NA	NM	NA	
AP-30R-DO	12/10/13	NA	10.88	NA	
AP-30R-DO	01/06/14	NA	NM	NA	
AP-30R-DO	01/07/14	NA	NM	NA	
AP-30R-DO	01/21/14	NA	NM	NA	
AP-30R-DO	03/25/14	NA	19.26	NA	
AP-31-DO	10/05/13	NA	21.96	NA	
AP-31-DO	10/24/13	NA	23.52	NA	
AP-31-DO	11/01/13	NA	22.05	NA	
AP-31-DO	11/14/13	NA	NM	NA	
AP-31-DO	11/25/13	NA	NM	NA	
AP-31-DO	12/10/13	NA	NM	NA	
AP-31-DO	01/07/14	NA	NM	NA	
AP-31-DO	03/25/14	NA	17.54	NA	
AP-32-DO	10/05/13	NA	22.89	NA	
AP-32-DO	10/24/13	NA	22.71	NA	
AP-32-DO	11/01/13	NA	24.05	NA	
AP-32-DO	11/14/13	NA	NM	NA	
AP-32-DO	11/25/13	NA	NM	NA	
AP-32-DO	12/10/13	NA	NM	NA	
AP-32-DO	01/07/14	NA	NM	NA	
AP-32-DO	03/25/14	NA	16.99	NA	
AP-33-DO	10/05/13	NA	11.82	NA	DTB = 37.60'
AP-33-DO	10/15/13	NA	10.25	NA	
AP-33-DO	10/17/13	NA	10.44	NA	
AP-33-DO	10/21/13	NA	10.44	NA	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
AP-33-DO	10/23/13	NA	10.20	NA	
AP-33-DO	11/01/13	NA	10.03	NA	
AP-33-DO	01/06/14	NA	5.30	NA	DTB = 38.50'
AP-33-DO	01/07/14	NA	5.30	NA	
AP-33-DO	01/20/14	NA	6.56	NA	DTB = 37.80'
AP-33-DO	03/25/14	NA	6.24	NA	DTB = 37.65'
AP-34-DO	10/05/13	NA	11.21	NA	DTB = 38.03'
AP-34-DO	10/15/13	NA	11.46	NA	
AP-34-DO	10/17/13	NA	11.44	NA	
AP-34-DO	10/21/13	NA	11.53	NA	
AP-34-DO	10/23/13	NA	11.75	NA	
AP-34-DO	11/01/13	NA	11.77	NA	
AP-34-DO	01/06/14	NA	9.07	NA	DTB = 37.00'
AP-34-DO	01/07/14	NA	9.07	NA	
AP-34-DO	01/20/14	NA	8.45	NA	DTB = 36.95'
AP-34-DO	03/25/14	NA	8.08	NA	DTB = 36.90'
AP-35-DO	10/05/13	NA	9.36	NA	DTB = 38.57'
AP-35-DO	10/15/13	NA	12.13	NA	
AP-35-DO	10/17/13	NA	12.22	NA	
AP-35-DO	10/21/13	NA	12.31	NA	
AP-35-DO	10/23/13	NA	12.31	NA	
AP-35-DO	11/01/13	NA	12.50	NA	
AP-35-DO	01/06/14	NA	6.56	NA	DTB = 36.78'
AP-35-DO	01/07/14	NA	6.56	NA	
AP-35-DO	01/20/14	NA	6.95	NA	DTB = 36.85'
AP-35-DO	03/25/14	NA	8.67	NA	DTB = 36.80'
APBIO-01	03/24/14	42.19	1.09	41.10	DTB = 78.00'
B-2	10/08/13	80.40	2.96	77.44	
B-2	10/23/13	80.40	3.54	76.86	
B-2	03/26/14	80.40	2.19	78.21	DTB = 12.95'
B-3	03/25/14	66.23	5.97	60.26	DTB = 13.48'
BR-6_ZONE1	10/24/13	38.33	1.22	37.11	
BR-6_ZONE2	10/24/13	38.33	2.35	35.98	
BR-6_ZONE3	10/24/13	38.33	2.88	35.45	
BW-04	10/05/13	65.01	7.61	57.40	
BW-04	01/07/14	65.01	4.43	60.58	
BW-05	10/08/13	65.17	7.86	57.31	
BW-05	10/22/13	65.17	8.53	56.64	
BW-05	03/25/14	65.17	4.70	60.47	DTB = 10.40'
BW-06	10/08/13	65.44	8.18	57.26	
BW-06	10/22/13	65.44	8.69	56.75	
BW-06	03/25/14	65.44	4.96	60.48	DTB = 14.17'

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
BW-08	10/05/13	65.44	8.06	57.38	
BW-08	10/08/13	65.44	8.22	57.22	
BW-08	10/22/13	65.44	8.68	56.76	
BW-08	01/07/14	65.44	5.19	60.25	
BW-08	03/25/14	65.44	4.98	60.46	DTB = 14.77'
BW-09	10/05/13	65.30	8.02	57.28	
BW-09	10/08/13	65.30	8.17	57.13	
BW-09	10/22/13	65.30	8.62	56.68	
BW-09	01/07/14	65.30	5.00	60.30	
BW-09	03/25/14	65.30	5.01	60.29	DTB = 13.14'
CL02-BR	10/08/13	62.79	8.38	54.41	
CL02-BR	10/24/13	62.79	8.82	53.97	
CL03-BR	10/05/13	50.39	9.92	40.47	
CL03-BR	11/01/13	50.39	10.05	40.34	
CL03-BR	11/14/13	50.39	10.40	39.99	
CL03-BR	11/25/13	50.39	10.45	39.94	
CL03-BR	12/10/13	50.39	10.29	40.10	
CL03-BR	01/07/14	50.39	9.65	40.74	
CL03-DO	10/05/13	50.40	14.02	36.38	
CL03-DO	10/08/13	50.40	11.18	39.22	
CL03-DO	10/23/13	50.40	11.02	39.38	
CL03-DO	11/01/13	50.40	16.07	34.33	
CL03-DO	11/14/13	50.40	11.85	38.55	
CL03-DO	11/25/13	50.40	11.52	38.88	
CL03-DO	12/10/13	50.40	NM	NA	
CL03-DO	01/07/14	50.40	10.19	40.21	
CL03-DO	03/24/14	50.40	9.10	41.30	DTB = 76.45'
CL03-S	03/24/14	50.21	8.70	41.51	DTB = 19.15'
CL04-BR	03/25/14	47.78	5.95	41.83	DTB = 55.65'
CL04-DO	03/25/14	47.42	5.51	41.91	DTB = 28.45'
CL06-BR	03/24/14	58.41	9.20	49.21	DTB = 69.50'
CL06-DO	03/24/14	58.75	9.34	49.41	DTB = 42.15'
CL08-DO	03/24/14	47.85	5.82	42.03	DTB = 52.65'
CL09-DO	03/24/14	47.43	4.57	42.86	DTB = 33.80'
CL10-BR	10/08/13	72.28	7.80	64.48	
CL10-BR	10/23/13	72.28	7.40	64.88	
CL10-BR	03/25/14	72.28	4.18	68.10	DTB = 45.90'
CL10-DO	10/08/13	72.54	7.26	65.28	
CL10-DO	10/23/13	72.54	7.73	64.81	
CL10-DO	03/25/14	72.54	3.68	68.86	DTB = 31.50'

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
CL10-S	10/08/13	72.54	6.05	66.49	
CL10-S	10/23/13	72.54	6.45	66.09	
CL10-S	03/25/14	72.54	3.95	68.59	DTB = 13.20'
CL11-DO	03/25/14	68.72	19.36	49.36	DTB = 50.65'
CL11-S	03/25/14	68.46	16.35	52.11	DTB = 24.50'
GZ-1	03/24/14	48.28	7.07	41.21	DTB = 13.45'
GZ-4	10/08/13	45.13	6.53	38.60	
GZ-4	10/23/13	45.13	6.88	38.25	
GZ-4	03/24/14	45.13	5.55	39.58	DTB = 13.30'
MW-002	10/05/13	80.08	23.66	56.42	
MW-002	11/01/13	80.08	23.71	56.37	
MW-002	11/14/13	80.08	26.43	53.65	
MW-002	11/25/13	80.08	26.77	53.31	
MW-002	12/10/13	80.08	26.92	53.16	
MW-002	01/07/14	80.08	NM	NA	Well inaccessible.
MW-003R	03/24/14	61.28	1.59	59.69	DTB = 31.27'
MW-004R	03/26/14	62.63	11.11	51.52	DTB = 26.82'
MW-005	10/08/13	69.64	16.52	53.12	
MW-005	10/23/13	69.64	16.72	52.92	
MW-005	03/26/14	69.64	14.17	55.47	DTB = 22.03'
MW-005R	03/24/14	62.96	3.38	59.58	DTB = 18.10'
MW-008	10/05/13	68.96	11.92	57.04	
MW-008	01/07/14	68.96	NM	NA	Well inaccessible.
MW-008	03/26/14	68.96	8.92	60.04	DTB = 18.85'
MW-009	10/05/13	63.48	6.45	57.03	
MW-009	10/08/13	63.48	6.15	57.33	DTB = 21.21'
MW-009	10/22/13	63.48	6.67	56.81	
MW-009	01/06/14	63.48	4.93	58.55	DTB = 21.21'
MW-009	01/07/14	63.48	4.93	58.55	
MW-009	01/20/14	63.48	3.73	59.75	DTB = 21.30'
MW-009	03/25/14	63.48	3.04	60.44	DTB = 21.21'
MW-009A	10/08/13	63.86	6.49	57.37	
MW-009A	10/23/13	63.86	7.06	56.80	
MW-009A	03/25/14	63.86	3.30	60.56	DTB = 14.33'
MW-010	10/08/13	66.16	15.46	50.70	
MW-013	10/05/13	69.11	11.93	57.18	
MW-013	10/08/13	69.11	11.85	57.26	
MW-013	10/15/13	69.11	12.55	56.56	
MW-013	10/17/13	69.11	12.19	56.92	
MW-013	10/21/13	69.11	12.37	56.74	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
MW-013	10/23/13	69.11	12.75	56.36	
MW-013	10/23/13	69.11	12.37	56.74	
MW-013	11/01/13	69.11	12.02	57.09	
MW-013	01/07/14	69.11	9.49	59.62	
MW-013	03/25/14	69.11	8.81	60.30	DTB = 42.80'
MW-014A	03/25/14	75.59	14.00	61.59	DTB = 59.90'
MW-016	10/23/13	66.82	15.66	51.16	
MW-016	03/26/14	66.82	13.66	53.16	DTB = 36.30'
MW-030	10/05/13	79.87	15.27	64.60	
MW-030	11/01/13	79.87	15.33	64.54	
MW-030	11/14/13	79.87	18.33	61.54	
MW-030	11/25/13	79.87	18.72	61.15	
MW-030	12/10/13	79.87	18.83	61.04	
MW-030	01/07/14	79.87	NM	NA	
MW-033B	03/25/14	91.16	2.24	88.92	DTB = 25.91'
MW-036	10/05/13	52.64	12.52	40.12	
MW-036	11/01/13	52.64	12.72	39.92	
MW-036	11/14/13	52.64	13.25	39.39	
MW-036	11/25/13	52.64	13.30	39.34	
MW-036	12/10/13	52.64	12.52	40.12	
MW-036	01/07/14	52.64	NM	NA	Well frozen.
MW-036	03/24/14	52.64	11.20	41.44	DTB = 52.90'
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-2_32-TOZER	03/25/14	70.83	4.53	66.30	DTB = 18.33'
OB-04-DO	03/24/14	54.35	12.28	42.07	DTB = 68.25'
OB-05-BR	03/24/14	49.01	7.51	41.50	DTB = 105.50'
OB-05-DO	10/05/13	49.06	8.95	40.11	
OB-05-DO	11/01/13	49.06	9.33	39.73	
OB-05-DO	11/14/13	49.06	9.69	39.37	
OB-05-DO	11/25/13	49.06	9.70	39.36	
OB-05-DO	12/10/13	49.06	8.95	40.11	
OB-05-DO	01/07/14	49.06	9.05	40.01	
OB-05-DO	03/24/14	49.06	7.70	41.36	DTB = 82.40'
OB-06-BR	03/24/14	48.70	7.06	41.64	DTB = 100.85'
OB-06-DO	03/24/14	49.21	7.61	41.60	DTB = 66.45'
OB-08-DO	03/24/14	38.29	-0.10	38.39	DTB = 79.20'
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-BR	03/25/14	65.25	8.23	57.02	DTB = 118.35'

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-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-DO	03/25/14	65.11	8.10	57.01	DTB = 93.10'
OB-09-S	10/05/13	65.22	7.80	57.42	
OB-09-S	10/08/13	65.22	7.81	57.41	DTB = 29.00'
OB-09-S	10/22/13	65.22	8.43	56.79	
OB-09-S	01/06/14	65.22	7.57	57.65	DTB = 24.15'
OB-09-S	01/07/14	65.22	7.57	57.65	
OB-09-S	01/21/14	65.22	6.10	59.12	DTB = 24.10'
OB-09-S	03/25/14	65.22	4.76	60.46	DTB = 24.10'
OB-10-BR	03/26/14	71.04	16.97	54.07	DTB = 73.90'
OB-10-S	03/26/14	70.91	9.26	61.65	DTB = 30.16'
OB-11-BR	03/25/14	75.37	20.60	54.77	DTB = 87.00'
OB-11-DO	03/25/14	75.50	18.42	57.08	DTB = 61.00'
OB-12-BR	10/05/13	73.67	21.12	52.55	
OB-12-BR	11/01/13	73.67	21.30	52.37	
OB-12-BR	11/14/13	73.67	21.94	51.73	
OB-12-BR	11/25/13	73.67	21.95	51.72	
OB-12-BR	12/10/13	73.67	21.23	52.44	
OB-12-BR	01/07/14	73.67	26.13	47.54	
OB-12-DO	10/05/13	73.54	16.73	56.81	
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-DO	11/01/13	73.54	16.88	56.66	
OB-12-DO	11/14/13	73.54	17.76	55.78	
OB-12-DO	11/25/13	73.54	17.85	55.69	
OB-12-DO	12/10/13	73.54	16.90	56.64	
OB-12-DO	01/07/14	73.54	15.31	58.23	
OB-12-DO	03/25/14	73.54	14.11	59.43	DTB = 48.90'
OB-12-S	03/25/14	73.46	11.82	61.64	DTB = 28.86'
OB-14-DO	03/25/14	75.05	12.30	62.75	DTB = 56.55'
OB-15-S	10/05/13	63.26	5.93	57.33	
OB-15-S	10/08/13	63.26	5.95	57.31	DTB = 19.47'
OB-15-S	10/22/13	63.26	6.45	56.81	
OB-15-S	01/06/14	63.26	NA	NA	DTB = 20.10'; Well full of water.
OB-15-S	01/07/14	63.26	NA	NA	Well full of water.
OB-15-S	01/21/14	63.26	3.75	59.51	DTB = 19.70'
OB-15-S	03/25/14	63.26	2.84	60.42	DTB = 19.65'
OB-16-BR	12/10/13	67.61	8.25	59.36	DTB = 33.00'
OB-16-BR	03/25/14	67.61	1.20	66.41	DTB = 33.20'

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
OB-16-S	12/10/13	67.69	5.98	61.71	DTB = 16.45'
OB-16-S	03/25/14	67.69	7.14	60.55	DTB = 16.46'
OB-17-BR	03/24/14	49.19	4.34	44.85	DTB = 96.65'
OB-17-DO	03/24/14	48.86	5.48	43.38	DTB = 42.30'
OB-18-DO	03/24/14	45.10	3.63	41.47	DTB = 24.85'
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-18-S	03/24/14	44.98	3.87	41.11	DTB = 12.25'
OB-19-DO	10/05/13	74.28	18.11	56.17	
OB-19-DO	10/08/13	74.28	18.30	55.98	
OB-19-DO	10/23/13	74.28	18.45	55.83	
OB-19-DO	11/01/13	74.28	18.28	56.00	
OB-19-DO	11/14/13	74.28	18.82	55.46	
OB-19-DO	11/25/13	74.28	19.00	55.28	
OB-19-DO	12/10/13	74.28	18.35	55.93	
OB-19-DO	01/07/14	74.28	16.45	57.83	
OB-19-DO	03/25/14	74.28	15.08	59.20	DTB = 57.85'
OB-19-S	03/25/14	73.96	7.06	66.90	DTB = 33.71'
OB-20-BR	03/24/14	43.85	2.58	41.27	DTB = 95.60'
OB-20-DO	03/24/14	43.98	2.66	41.32	DTB = 75.55'
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-20-S	03/24/14	43.79	2.38	41.41	DTB = 11.85'
OB-21-BR	03/24/14	43.88	2.70	41.18	DTB = 98.99'
OB-21-DO	03/24/14	43.28	2.09	41.19	DTB = 79.60'
OB-23-BR	03/24/14	56.48	8.57	47.91	DTB = 85.96'
OB-24-S	03/25/14	44.24	1.03	43.21	DTB = 2.60'
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-BR	03/25/14	74.26	21.97	52.29	DTB = 87.85'
OB-25-DO	10/05/13	74.52	25.31	49.21	
OB-25-DO	10/15/13	74.52	23.40	51.12	
OB-25-DO	10/17/13	74.52	23.39	51.13	
OB-25-DO	10/21/13	74.52	23.39	51.13	
OB-25-DO	10/23/13	74.52	24.01	50.51	
OB-25-DO	11/01/13	74.52	25.66	48.86	
OB-25-DO	01/06/14	74.52	22.43	52.09	DTB = 51.50'
OB-25-DO	01/21/14	74.52	23.74	50.78	DTB = 68.75'
OB-25-DO	03/25/14	74.52	21.46	53.06	DTB = 68.66'

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
OB-26-BR	03/25/14	74.44	20.62	53.82	DTB = 94.00'
OB-26-DO	10/05/13	74.48	16.55	57.93	
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-26-DO	11/01/13	74.48	16.70	57.78	
OB-26-DO	11/14/13	74.48	17.46	57.02	
OB-26-DO	11/25/13	74.48	17.65	56.83	
OB-26-DO	12/10/13	74.48	17.10	57.38	
OB-26-DO	01/07/14	74.48	15.06	59.42	
OB-26-DO	03/25/14	74.48	13.50	60.98	DTB = 60.20'
OB-27-BR	10/05/13	71.68	28.02	43.66	
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-BR	11/01/13	71.68	28.19	43.49	
OB-27-BR	11/14/13	71.68	28.75	42.93	
OB-27-BR	11/25/13	71.68	NM	NA	
OB-27-BR	12/10/13	71.68	28.05	43.63	
OB-27-BR	01/07/14	71.68	NM	NA	Well inaccessible.
OB-27-BR	03/25/14	71.68	26.03	45.65	DTB = 76.60'
OB-27-DO	10/05/13	72.06	25.32	46.74	
OB-27-DO	11/01/13	72.06	28.16	43.90	
OB-27-DO	11/14/13	72.06	26.61	45.45	
OB-27-DO	11/25/13	72.06	NM	NA	
OB-27-DO	12/10/13	72.06	25.80	46.26	
OB-27-DO	01/07/14	72.06	NM	NA	Well innaccessible.
OB-28-BR	10/05/13	74.35	22.23	52.12	
OB-28-BR	11/01/13	74.35	22.36	51.99	
OB-28-BR	11/14/13	74.35	22.95	51.40	
OB-28-BR	11/25/13	74.35	23.00	51.35	
OB-28-BR	12/10/13	74.35	22.30	52.05	
OB-28-BR	01/07/14	74.35	21.36	52.99	
OB-28-BR	03/25/14	74.35	20.40	53.95	DTB = 91.00'
OB-28-DO	10/05/13	74.69	17.05	57.64	
OB-28-DO	11/01/13	74.69	17.22	57.47	
OB-28-DO	11/14/13	74.69	17.75	56.94	
OB-28-DO	11/25/13	74.69	17.90	56.79	
OB-28-DO	12/10/13	74.69	17.33	57.36	
OB-28-DO	01/07/14	74.69	15.10	59.59	
OB-32-DO	10/05/13	75.70	13.80	61.90	
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-32-DO	11/01/13	75.70	13.91	61.79	
OB-32-DO	11/14/13	75.70	15.41	60.29	
OB-32-DO	11/25/13	75.70	15.60	60.10	
OB-32-DO	12/10/13	75.70	14.65	61.05	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
OB-32-DO	01/07/14	75.70	16.52	59.18	
OB-32-DO	03/25/14	75.70	11.32	64.38	
OB-34-DO	10/05/13	75.10	18.01	57.09	
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-34-DO	11/01/13	75.10	18.25	56.85	
OB-34-DO	11/14/13	75.10	19.00	56.10	
OB-34-DO	11/25/13	75.10	18.90	56.20	
OB-34-DO	12/10/13	75.10	18.11	56.99	
OB-34-DO	01/07/14	75.10	16.33	58.77	
OB-35-DO	10/05/13	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-35-DO	11/01/13	81.41	22.13	59.28	
OB-35-DO	11/14/13	81.41	NM	NA	
OB-35-DO	11/25/13	81.41	NM	NA	
OB-35-DO	12/10/13	81.41	NM	NA	
OB-35-DO	01/07/14	81.41	11.83	69.58	
OB-35-DO	03/26/14	81.41	10.07	71.34	DTB = 48.87'
OB-36-DO	10/05/13	75.92	24.93	50.99	
OB-36-DO	10/08/13	75.92	22.35	53.57	
OB-36-DO	10/24/13	75.92	21.77	54.15	
OB-36-DO	11/01/13	75.92	25.15	50.77	
OB-36-DO	11/14/13	75.92	NM	NA	
OB-36-DO	11/25/13	75.92	NM	NA	
OB-36-DO	12/10/13	75.92	NM	NA	
OB-36-DO	01/07/14	75.92	NM	NA	
OB-36-DO	03/26/14	75.92	16.90	59.02	DTB = 52.43'
OB-37-DO	10/05/13	75.86	19.60	56.26	
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-37-DO	11/01/13	75.86	19.75	56.11	
OB-37-DO	11/14/13	75.86	20.72	55.14	
OB-37-DO	11/25/13	75.86	20.72	55.14	
OB-37-DO	12/10/13	75.86	19.70	56.16	
OB-37-DO	01/07/14	75.86	18.46	57.40	
OB-37-DO	03/26/14	75.86	17.51	58.35	DTB = 47.10'
OB-38-DO	10/05/13	77.45	9.29	68.16	
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-38-DO	11/01/13	77.45	9.42	68.03	
OB-38-DO	11/14/13	77.45	10.41	67.04	
OB-38-DO	11/25/13	77.45	10.41	67.04	
OB-38-DO	12/10/13	77.45	9.60	67.85	
OB-38-DO	01/07/14	77.45	NM	NA	Well frozen.

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-38-DO	03/26/14	77.45	6.82	70.63	DTB = 45.68'
OB-39-DO	10/05/13	79.01	20.25	58.76	
OB-39-DO	11/01/13	79.01	20.34	58.67	
OB-39-DO	11/14/13	79.01	22.29	56.72	
OB-39-DO	11/25/13	79.01	22.40	56.61	
OB-39-DO	12/10/13	79.01	20.85	58.16	
OB-39-DO	01/07/14	79.01	19.42	59.59	
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-41-S	03/24/14	33.26	4.22	29.04	DTB = 14.45'
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-42-S	03/24/14	51.40	5.38	46.02	DTB = 14.67'
OB-43-S	10/08/13	52.58	12.78	39.80	
OB-43-S	10/23/13	52.58	13.01	39.57	
OB-43-S	03/24/14	52.58	11.30	41.28	DTB = 17.00'
OB-44-S	03/26/14	NA	6.48	NA	DTB = 18.75'
P-09R	10/08/13	37.86	3.52	34.34	
P-09R	10/23/13	37.86	4.51	33.35	
P-11R	03/24/14	47.92	6.28	41.64	DTB = 9.58'
P-19A	10/08/13	47.51	9.51	38.00	
P-19A	10/23/13	47.51	9.72	37.79	
P-19A	03/24/14	47.51	7.65	39.86	DTB = 10.41'
P-20R	03/24/14	42.56	1.42	41.14	DTB = 11.15'
RW-01_MW-18	10/05/13	63.32	10.36	52.96	
RW-01_MW-18	10/15/13	63.32	10.75	52.57	
RW-01_MW-18	10/17/13	63.32	10.69	52.63	
RW-01_MW-18	10/21/13	63.32	10.72	52.60	
RW-01_MW-18	10/23/13	63.32	11.13	52.19	
RW-01_MW-18	10/28/13	63.32	11.14	52.18	
RW-01_MW-18	11/01/13	63.32	11.03	52.29	
RW-01_MW-18	01/06/14	63.32	8.36	54.96	DTB = 38.11'
RW-01_MW-18	01/07/14	63.32	8.30	55.02	
RW-01_MW-18	01/20/14	63.32	7.63	55.69	DTB = 38.70'
RW-01_MW-18	03/25/14	63.32	7.40	55.92	DTB = 38.80'
RW-20	10/05/13	48.54	8.63	39.91	
RW-20	11/01/13	48.54	8.75	39.79	
RW-20	11/14/13	48.54	9.25	39.29	
RW-20	11/25/13	48.54	9.30	39.24	
RW-20	12/10/13	48.54	8.50	40.04	
RW-20	01/07/14	48.54	7.08	41.46	

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

WATER LEVEL MONITORING DATA (Continued)

Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Notes
RW-21	10/05/13	48.47	7.95	40.52	
RW-21	11/01/13	48.47	8.12	40.35	
RW-21	11/14/13	48.47	8.40	40.07	
RW-21	11/25/13	48.47	8.45	40.02	
RW-21	12/10/13	48.47	7.70	40.77	
RW-21	01/07/14	48.47	NM	NA	Well inaccessible.
RW-22	03/25/14	75.15	21.15	54.00	DTB = 105.00'
UNNAMED_STREAM	10/23/13	NA	Dry	NA	
W-1	03/24/14	51.37	4.42	46.95	DTB = 11.80'

Feet = Measured below surface grade

NM = Not Measured

NA = Not Applicable

APPENDIX C

LABORATORY ANALYTICAL REPORTS

Sample Information		
Lab ID	9061-01	Date Sampled 01/20/2014
Sample ID	AP13-DO(41')	Time Sampled 11:00
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 130.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	92.0	U	cells/ml	92	12	7.69	EISTLAW-ATL068
crossing threshold= >31.0									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

(1) Not listed as a Certified parameters under the NJDEP lab certification program.

(2) Not available as a certified parameter under the NJDEP lab certification program.

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

(J) Estimated value above MDL and less than PQL

(E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-02	Date Sampled 01/20/2014
Sample ID	AP23-DO(47.6')	Time Sampled 10:30
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 80.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	3,160	D	cells/ml	150	20	12.5	EISTLAW-ATL068
crossing threshold= 23.5									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

(1) Not listed as a Certified parameters under the NJDEP lab certification program.

(2) Not available as a certified parameter under the NJDEP lab certification program.

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

(J) Estimated value above MDL and less than PQL

(E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-03	Date Sampled 01/20/2014
Sample ID	AP23-DO(51.1')	Time Sampled 11:40
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 101.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	73,200	D	cells/ml	119	16	9.90	EISTLAW-ATL068
crossing threshold= 18.7									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

(1) Not listed as a Certified parameters under the NJDEP lab certification program.

(2) Not available as a certified parameter under the NJDEP lab certification program.

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

(J) Estimated value above MDL and less than PQL

(E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-04	Date Sampled 01/20/2014
Sample ID	AP33-DO(37.5')	Time Sampled 12:15
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 179.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	11.9	JD	cells/ml	67	9	5.59	EISTLAW-ATL068
crossing threshold= 30.3									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

- (1) Not listed as a Certified parameters under the NJDEP lab certification program.
- (2) Not available as a certified parameter under the NJDEP lab certification program.
- () no qualification - sample run undiluted
- (U) Compound not detected above method practical quantitation limit.
- (D) Sample analyzed at indicated dilution
- (J) Estimated value above MDL and less than PQL
- (E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-05	Date Sampled 01/20/2014
Sample ID	AP34-DO(36.0')	Time Sampled 12:40
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 78.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	23.7	JD	cells/ml	154	21	12.8	EISTLAW-ATL068
crossing threshold= 30.5									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

(1) Not listed as a Certified parameters under the NJDEP lab certification program.

(2) Not available as a certified parameter under the NJDEP lab certification program.

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

(J) Estimated value above MDL and less than PQL

(E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-06	Date Sampled 01/20/2014
Sample ID	AP35-DO(35.8')	Time Sampled 13:10
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 42.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	3,680	D	cells/ml	286	38	23.8	EISTLAW-ATL068
crossing threshold= 24.2									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

(1) Not listed as a Certified parameter under the NJDEP lab certification program.

(2) Not available as a certified parameter under the NJDEP lab certification program.

() no qualification - sample run undiluted

(U) Compound not detected above method practical quantitation limit.

(D) Sample analyzed at indicated dilution

(J) Estimated value above MDL and less than PQL

(E) Estimated value beyond linear range



17 Princess Road
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Reduced Deliverable Package

Prepared for
Varian, Beverly MA

Lab ID
9061

Project Number: 77150151 03000000

Samples Received
21-Jan-14

Report
11-Feb-14

NJDEP Certified Lab 11001

Randi K Rothmel 2-11-14

Randi K Rothmel, PhD Date
Laboratory Director

1.0 General Information

Chain of custody

Internal chains of custody

Methodology Review

Data Reporting Qualifiers

2.0 Sample Summary Results

3.0 QA/QC Report

1.0 General Information

Sample ID Table

Lab ID	Location ID
9061- 1	AP13-DO(41')
9061- 2	AP23-DO(47.6')
9061- 3	AP24-DO(51.1')
9061- 4	AP33-DO(37.5')
9061- 5	AP34-DO(36.0')
9061- 6	AP35-DO(35.8')

Chain of Custody (s)

Methodology Review

Dehalococcoides sp in groundwater

The microbial communities from the groundwater samples are screened for the presence of *Dehalococcoides* sp in groundwater by PCR-DNA methodology using a Roche Real-Time LightCycler PCR instrumentation according to internal SOP. Results are reported in units of cells/ml

Samples are filtered within 7 days of receipt using Sterivex filter cassette (mMILLIPORE SVGV010RS,0.22uM). Filters are then stored at -80°C until processed (cells lysed and DNA extracted) for performing qPCR to quantify *Dehalococcoides* sp DNA. The filter paper is placed in a bead beating tube and is extracted using the ZR Soil Microbe DNA MicroPrep (ZymoResearch) following the instructions provided by the Manufacture, and eluted in 100ul buffer. The number of *Dehalococcoides* sp in the samples is determined based on the number of chromosomes detected in 2 ul of the eluted DNA via qPCR using a RAPID Real-Time LightCycler PCR instrument. A negative control and standard curve is generated using known quantities of dehalococcoides DNA.

The standard curve is used to calculate the cells/ml in the test samples. Raw data is reported as a crossing threshold. Higher bacteria counts are associated with lower crossing thresholds

Reporting Qualifiers

- U- The compound was not detected at the indicated PQL concentration.

 - J- Approximate concentration of the compound. Detection of compound above calculated MDL but below the PQL of the analytical method. 99% confidence that the compound is present.

 - D- Diluted sample

 - B- The analyte was observed in laboratory blank as well as the sample - for EPA SW856 8260b and EPA 624 analysis

 - E- Compound detected above the linear range of the curve. Value given is an estimated value.
-

2.0 Sample Results

Sample Information		
Lab ID	9061-01	Date Sampled 01/20/2014
Sample ID	AP13-DO(41')	Time Sampled 11:00
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 130.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	92.0	U	cells/ml	92	12	7.69	EISTLAW-ATL068
crossing threshold= >31.0									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

- (1) Not listed as a Certified parameters under the NJDEP lab certification program.
- (2) Not available as a certified parameter under the NJDEP lab certification program.
- () no qualification - sample run undiluted
- (U) Compound not detected above method practical quantitation limit.
- (D) Sample analyzed at indicated dilution
- (J) Estimated value above MDL and less than PQL
- (E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-02	Date Sampled 01/20/2014
Sample ID	AP23-DO(47.6')	Time Sampled 10:30
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 80.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	3,160	D	cells/ml	150	20	12.5	EISTLAW-ATL068
crossing threshold= 23.5									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

- (1) Not listed as a Certified parameters under the NJDEP lab certification program.
- (2) Not available as a certified parameter under the NJDEP lab certification program.
- () no qualification - sample run undiluted
- (U) Compound not detected above method practical quantitation limit.
- (D) Sample analyzed at indicated dilution
- (J) Estimated value above MDL and less than PQL
- (E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-03	Date Sampled 01/20/2014
Sample ID	AP23-DO(51.1')	Time Sampled 11:40
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 101.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	73,200	D	cells/ml	119	16	9.90	EISTLAW-ATL068
crossing threshold= 18.7									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

- (1) Not listed as a Certified parameters under the NJDEP lab certification program.
- (2) Not available as a certified parameter under the NJDEP lab certification program.
- () no qualification - sample run undiluted
- (U) Compound not detected above method practical quantitation limit.
- (D) Sample analyzed at indicated dilution
- (J) Estimated value above MDL and less than PQL
- (E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-04	Date Sampled 01/20/2014
Sample ID	AP33-DO(37.5')	Time Sampled 12:15
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 179.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	11.9	JD	cells/ml	67	9	5.59	EISTLAW-ATL068
crossing threshold= 30.3									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

- (1) Not listed as a Certified parameters under the NJDEP lab certification program.
- (2) Not available as a certified parameter under the NJDEP lab certification program.
- () no qualification - sample run undiluted
- (U) Compound not detected above method practical quantitation limit.
- (D) Sample analyzed at indicated dilution
- (J) Estimated value above MDL and less than PQL
- (E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-05	Date Sampled 01/20/2014
Sample ID	AP34-DO(36.0')	Time Sampled 12:40
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 78.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	23.7	JD	cells/ml	154	21	12.8	EISTLAW-ATL068
crossing threshold= 30.5									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

- (1) Not listed as a Certified parameters under the NJDEP lab certification program.
- (2) Not available as a certified parameter under the NJDEP lab certification program.
- () no qualification - sample run undiluted
- (U) Compound not detected above method practical quantitation limit.
- (D) Sample analyzed at indicated dilution
- (J) Estimated value above MDL and less than PQL
- (E) Estimated value beyond linear range

Sample Information		
Lab ID	9061-06	Date Sampled 01/20/2014
Sample ID	AP35-DO(35.8')	Time Sampled 13:10
		Date Received 01/21/2014
		Date Filtered 01/22/2014
Matrix	Aqueous	Amount Filtered (ml) 42.0

Analysis									
Parameter	Date Analyzed	Time analyze	Concentration	Qual (see below)	Units	PQL	MDL	Dilution Factor*	Method Code
DHE (1)	02/03/2014	11:00	3,680	D	cells/ml	286	38	23.8	EISTLAW-ATL068
crossing threshold= 24.2									

* Dilution factor is based on volume actually filtered compared to maximum volume of 1,000 ml

NJDEP certified Lab ID 11001.

- (1) Not listed as a Certified parameters under the NJDEP lab certification program.
- (2) Not available as a certified parameter under the NJDEP lab certification program.
- () no qualification - sample run undiluted
- (U) Compound not detected above method practical quantitation limit.
- (D) Sample analyzed at indicated dilution
- (J) Estimated value above MDL and less than PQL
- (E) Estimated value beyond linear range

3.0 QC Summary

Sample Batch:DHE

<u>Lab ID</u>	<u>Analysis dates</u>	<u>QC batch</u>
9061- 1	2/3/2014	020314-PCR
9061- 2	2/3/2014	020314-PCR
9061- 3	2/3/2014	020314-PCR
9061- 4	2/3/2014	020314-PCR
9061- 5	2/3/2014	020314-PCR
9061- 6	2/3/2014	020314-PCR

Calibration Summary: DHE

Calibration Standard : _____

Sample:	expected copy number	Crossing Threshold	cells/ml
std 1	167	27.8	12.0
std 2	16700	19.9	3,180
std 3	1.67E+05	17.8	13,900
std 4	1.67E+06	14.5	142,000
std 5	1.67E+07	10.8	1,910,000
std6	1.67E+08	7.89	14,800,000

curve = $y=31.647-3.275\log(x)$

$r^2=0.99758$

QC Method Blank Summary: DHE

QC Batch	Date	Time	Parameter	Result	Qualifier	Units	MDL
PCR_020314	2/3/2014	11:00	DHE	12	U	cells/ml	1.6

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc. **Job Number :** 150148
Prepared By: Dale Dailey **Date :** 11/19/2013
Matrix: Groundwater
Analyte Group : Volatile Organics **Analytical Method :** SW-846 8260C
Metals 6010 C
Chloride SM 4500-CL-E
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1308023
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
10/22-10/24/13	SW-846 8260C	14 days	10 days	11/4-11/7/13
10/22/10/24/13	6010 C	180 Days	180 Days	11/5/2013
10/22-10/24/13	SM 4500-CL-E	28 Days	28 Days	11/7/13

Sample temperature within QC limits: Yes, 3.6 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: RQ1314273-02

Equipment Field Blank ID : NA

Trip Blank ID : NA

Method Blank: SW-846 8260C 11/4, 11/6, 11/7/13

6010 C 11/5/2013

SM 4500-CL-E 11/7/2013

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:

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples GZ-4(12), AP-19(19.3), AP-20, and AP-21 were re-analyzed at larger dilutions to bring the target analytes within the calibration range of the method. Both dilutions were reported with analytes over the range flagged with an "E" and the diluted analytes flagged with a "D"

The % Recovery was outside the recovery limit in the LCS and/or LCSD RQ1314273-02 for Bromomethane in batch 366741 (STRM-A-SCDS, CL3-DO(79), GZ-4(12), OB18-S(11), AP15-S(12.2), MW2-32 TOZER(17), CL10-S(12), CL10-10(36), AP-19(24.3), AP20, AP-21(22), AP-22(20.8) CL2-BR(79), BR6 ZONE #1, BR6 ZONE #3, Method Blank). The data was not impacted since the analytical data was non-detect associated with this analyte in this batch.

The %D for Continued Calibration Verification were not compliant for Bromoform, Trichlorofluoromethane, and Dibromochloromethane in Batch 366741 (STRM-A-SCDS, CL3-DO(79), GZ-4(12), OB18-S(11), AP15-S(12.2), MW2-32 TOZER(17), CL10-S(12), CL10-10(36), AP-19(24.3), AP20, AP-21(22), AP-22(20.8) CL2-BR(79), BR6 ZONE #1, BR6 ZONE #3, Method Blank). Data for these samples were non-detect, therefore analytical associated with this batch were given an UJ qualifier.

The %D for Continued Calibration Verification were not compliant for Bromoform and Trichlorofluoromethane in batch 366564 (OB20-S(12), P-9R(4.5), P19A(10), OB43-S(16), OB42-S(12.2), STRHA-87A, STRHA-7B, TB-1, OB41-S(13.3), GZ-4(12), EB-1, EB-2, TB-3, TB-2, EB-3) data from these samples were non-detect, therefore analytical associated with this batch were given an UJ qualifier.

Reviewed By: Pernilla Haley 12/18/13



November 15, 2013

Service Request No: R1308023

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

Laboratory Results for: Varian Beverly/150148-04000000

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on October 25, 2013. For your reference, these analyses have been assigned our service request number **R1308023**.

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 72

CASE NARRATIVE

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1308023
Project Number: 150148-04000000
Date Received: 10/25/13

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 10/22/13, 10/23/13, and 10/24/13 and received at ALS in good condition at cooler temperatures of 3.6 – 5.3 °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

Thirty-one 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 GZ-4 (12), AP-19 (19.3), AP-20, and AP-21 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 the following were > 20%:

- CCV from 11/04/13: Bromoform and Trichlorofluoromethane
- CCV from 11/06/13: Bromoform, Dibromochloromethane and Trichlorofluoromethane

As noted on the attached CCV summary forms, these CCV's 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 except the LCSD from 11/06/13 for Bromomethane. This recovery was flagged with an "**".

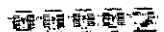
All samples were analyzed within the required holding time of 14 days.

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. Metals were field filtered.

The initial and continuing calibration criteria were met for all analytes.

All Blank Spike (LCS) recoveries were within QC limits.



MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 150148-04000000

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
 R1308023 - 001 - 031

 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?	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
<p>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.</p>		
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 <small>list</small>)	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: 11/15/13

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1308023

<u>Lab ID</u>	<u>Client ID</u>
R1308023-001	OB20-S (12)
R1308023-002	STRM-A-SCDS
R1308023-003	P-9R (4.5)
R1308023-004	P-19A (10)
R1308023-005	CL3-DO (79)
R1308023-006	OB43-S (16)
R1308023-007	OB42-S (12.2)
R1308023-008	STRHA-7A
R1308023-009	STRHA-7B
R1308023-010	TB-1
R1308023-011	OB41-S (13.3)
R1308023-012	GZ-4 (12)
R1308023-013	OB18-S (11)
R1308023-014	AP15-S (12.2)
R1308023-015	MW2-32 TOZIER (17)
R1308023-016	CL10-S (12)
R1308023-017	CL10-DO (36)
R1308023-018	CL10-BR (46)
R1308023-019	EB-1
R1308023-020	EB-2
R1308023-021	TB-3
R1308023-022	TB-2
R1308023-023	EB-3
R1308023-024	AP-19 (24.3)
R1308023-025	AP-20
R1308023-026	AP-21 (22)
R1308023-027	AP-22 (20.8)
R1308023-028	CL2-BR (79)
R1308023-029	BR6 ZONE #1
R1308023-030	BR6 ZONE #2
R1308023-031	BR6 ZONE #3

00004



REPORT QUALIFIERS AND DEFINITIONS

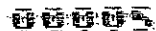
- U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL 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 (>=100% Difference between two GC columns).
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.



Rochester Lab ID # for State Certifications¹

Table with 3 columns: State/ID, Maine ID #NY0032, and New Hampshire ID #. Rows include Connecticut ID # PH0556, Delaware Accredited, DoD ELAP #65817, Florida ID # E87674, Illinois ID #200047, Nebraska Accredited, Nevada ID # NY-00032, New Jersey ID # NY004, New York ID # 10145, North Carolina #676, Pennsylvania ID# 68-786, Rhode Island ID # 158, and Virginia #460167.

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 0800
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 02:57

Sample Name: OB20-S (12)
 Lab Code: R1308023-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3624.D\

Analysis Lot: 366564
 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)	3.0		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	2.9		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	93	70-130	11/5/13 02:57	
Dibromofluoromethane	114	70-130	11/5/13 02:57	
Toluene-d8	96	70-130	11/5/13 02:57	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 0830
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 01:40

Sample Name: STRM-A-SCDS
 Lab Code: R1308023-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3667.D\

Analysis Lot: 366741
 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)	5.7		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	9.2		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	11/6/13 01:40	
Dibromofluoromethane	116	70-130	11/6/13 01:40	
Toluene-d8	87	70-130	11/6/13 01:40	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 0900
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 04:00

Sample Name: P-9R (4.5)
 Lab Code: R1308023-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoal0\data\110413\F3626.D\

Analysis Lot: 366564
 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	11/5/13 04:00	
Dibromofluoromethane	113	70-130	11/5/13 04:00	
Toluene-d8	95	70-130	11/5/13 04:00	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 0930
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 04:32

Sample Name: P-19A (10)
 Lab Code: R1308023-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3627.D\

Analysis Lot: 366564
 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	6.3		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	94	70-130	11/5/13 04:32	
Dibromofluoromethane	117	70-130	11/5/13 04:32	
Toluene-d8	95	70-130	11/5/13 04:32	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: CL3-DO (79)
 Lab Code: R1308023-005

Service Request: R1308023
 Date Collected: 10/23/13 1000
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	302		mg/L	20	20	NA	11/7/13 10:12	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: CL3-DO (79)
 Lab Code: R1308023-005

Service Request: R1308023
 Date Collected: 10/23/13 1000
 Date Received: 10/25/13

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	10/31/13	11/5/13 01:15	
Manganese, Dissolved	6010C	296000	µg/L	2500	50	10/31/13	11/5/13 23:23	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1000
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 02:10

Sample Name: CL3-DO (79)
 Lab Code: R1308023-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3668.D\

Analysis Lot: 366741
 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)	14		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	8.2		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	11/6/13 02:10	
Dibromofluoromethane	117	70-130	11/6/13 02:10	
Toluene-d8	96	70-130	11/6/13 02:10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1030
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 05:35

Sample Name: OB43-S (16)
 Lab Code: R1308023-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3629.D\

Analysis Lot: 366564
 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	11/5/13 05:35	
Dibromofluoromethane	110	70-130	11/5/13 05:35	
Toluene-d8	93	70-130	11/5/13 05:35	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1100
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 06:06

Sample Name: OB42-S (12.2)
 Lab Code: R1308023-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3630.D\

Analysis Lot: 366564
 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)	81		40	
79-01-6	Trichloroethene (TCE)	2200		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	600		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	92	70-130	11/5/13 06:06	
Dibromofluoromethane	114	70-130	11/5/13 06:06	
Toluene-d8	95	70-130	11/5/13 06:06	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1130
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 06:38

Sample Name: STRHA-7A
 Lab Code: R1308023-008

Units: µg/L
 Basis: NA

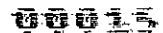
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3631.D\

Analysis Lot: 366564
 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)	6.0		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	37		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	11/5/13 06:38	
Dibromofluoromethane	113	70-130	11/5/13 06:38	
Toluene-d8	93	70-130	11/5/13 06:38	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1200
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 07:09

Sample Name: STRHA-7B
 Lab Code: R1308023-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110413\F3632.D\

Analysis Lot: 366564
 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	2.5		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	91	70-130	11/5/13 07:09	
Dibromofluoromethane	112	70-130	11/5/13 07:09	
Toluene-d8	93	70-130	11/5/13 07:09	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/22/13 0922
 Date Received: 10/25/13
 Date Analyzed: 11/4/13 23:48

Sample Name: TB-1
 Lab Code: R1308023-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110413\F3618.D\

Analysis Lot: 366564
 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	11/4/13 23:48	
Dibromofluoromethane	112	70-130	11/4/13 23:48	
Toluene-d8	93	70-130	11/4/13 23:48	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1230
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 07:41

Sample Name: OB41-S (13.3)
 Lab Code: R1308023-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3633.D\

Analysis Lot: 366564
 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)	21		2.0	
79-01-6	Trichloroethene (TCE)	89		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	35		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	93	70-130	11/5/13 07:41	
Dibromofluoromethane	115	70-130	11/5/13 07:41	
Toluene-d8	95	70-130	11/5/13 07:41	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1300
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 08:12

Sample Name: GZ-4 (12)
 Lab Code: R1308023-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3634.D\

Analysis Lot: 366564
 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)	4.0		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	6.8		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	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	42		2.0	
156-59-2	cis-1,2-Dichloroethene	790	E	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	4.4		2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	11/5/13 08:12	
Dibromofluoromethane	116	70-130	11/5/13 08:12	
Toluene-d8	96	70-130	11/5/13 08:12	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1300
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 02:40

Sample Name: GZ-4 (12)
 Lab Code: R1308023-012
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3669.D\

Analysis Lot: 366741
 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	37	D	20	
156-59-2	cis-1,2-Dichloroethene	750	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	93	70-130	11/6/13 02:40	
Dibromofluoromethane	112	70-130	11/6/13 02:40	
Toluene-d8	95	70-130	11/6/13 02:40	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1330
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 03:09

Sample Name: OB18-S (11)
 Lab Code: R1308023-013

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3670.D\

Analysis Lot: 366741
 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)	13		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	8.7		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	3.1		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	11/6/13 03:09	
Dibromofluoromethane	116	70-130	11/6/13 03:09	
Toluene-d8	95	70-130	11/6/13 03:09	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1400
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 03:39

Sample Name: AP15-S (12.2)
 Lab Code: R1308023-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3671.D\

Analysis Lot: 366741
 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	13		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	93	70-130	11/6/13 03:39	
Dibromofluoromethane	117	70-130	11/6/13 03:39	
Toluene-d8	96	70-130	11/6/13 03:39	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1430
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 04:09

Sample Name: MW2-32 TOZIER (17)
 Lab Code: R1308023-015

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3672.D\

Analysis Lot: 366741
 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)	8100		100	
79-01-6	Trichloroethene (TCE)	1200		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	2200		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	91	70-130	11/6/13 04:09	
Dibromofluoromethane	115	70-130	11/6/13 04:09	
Toluene-d8	96	70-130	11/6/13 04:09	



Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1500
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 04:39

Sample Name: CL10-S (12)
 Lab Code: R1308023-016

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3673.D\

Analysis Lot: 366741
 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)	11		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	93	70-130	11/6/13 04:39	
Dibromofluoromethane	109	70-130	11/6/13 04:39	
Toluene-d8	96	70-130	11/6/13 04:39	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

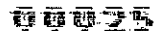
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: CL10-DO (36)
 Lab Code: R1308023-017

Service Request: R1308023
 Date Collected: 10/23/13 1530
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	25.1	mg/L	5.0	5	NA	11/7/13 10:13	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: CL10-DO (36)
 Lab Code: R1308023-017

Service Request: R1308023
 Date Collected: 10/23/13 1530
 Date Received: 10/25/13

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	10/31/13	11/5/13 01:25	
Manganese, Dissolved	6010C	513000		µg/L	1000	100	10/31/13	11/5/13 23:29	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1530
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 05:09

Sample Name: CL10-DO (36)
 Lab Code: R1308023-017

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3674.D\

Analysis Lot: 366741
 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	95	70-130	11/6/13 05:09	
Dibromofluoromethane	112	70-130	11/6/13 05:09	
Toluene-d8	95	70-130	11/6/13 05:09	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1600
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 05:39

Sample Name: CL10-BR (46)
 Lab Code: R1308023-018

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3675.D\

Analysis Lot: 366741
 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)	3.1		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	3.3		2.0	
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	11/6/13 05:39	
Dibromofluoromethane	115	70-130	11/6/13 05:39	
Toluene-d8	96	70-130	11/6/13 05:39	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/22/13 0922
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 00:20

Sample Name: EB-1
 Lab Code: R1308023-019

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3619.D\

Analysis Lot: 366564
 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	95	70-130	11/5/13 00:20	
Dibromofluoromethane	113	70-130	11/5/13 00:20	
Toluene-d8	95	70-130	11/5/13 00:20	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 1610
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 00:51

Sample Name: EB-2
 Lab Code: R1308023-020

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110413\F3620.D\

Analysis Lot: 366564
 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	94	70-130	11/5/13 00:51	
Dibromofluoromethane	113	70-130	11/5/13 00:51	
Toluene-d8	96	70-130	11/5/13 00:51	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 0800
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 01:23

Sample Name: TB-3
 Lab Code: R1308023-021

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110413\F3621.D\

Analysis Lot: 366564
 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	11/5/13 01:23	
Dibromofluoromethane	110	70-130	11/5/13 01:23	
Toluene-d8	93	70-130	11/5/13 01:23	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/23/13 0800
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 01:54

Sample Name: TB-2
 Lab Code: R1308023-022

Units: µg/L
 Basis: NA

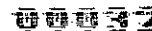
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3622.D\

Analysis Lot: 366564
 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	95	70-130	11/5/13 01:54	
Dibromofluoromethane	115	70-130	11/5/13 01:54	
Toluene-d8	93	70-130	11/5/13 01:54	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 07:25
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 02:26

Sample Name: EB-3
 Lab Code: R1308023-023

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110413\F3623.D\

Analysis Lot: 366564
 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	11/5/13 02:26	
Dibromofluoromethane	112	70-130	11/5/13 02:26	
Toluene-d8	94	70-130	11/5/13 02:26	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: AP-19 (24.3)
Lab Code: R1308023-024

Service Request: R1308023
Date Collected: 10/24/13 0800
Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	26.3	mg/L	1.0	1	NA	11/7/13 10:14	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP-19 (24.3)
 Lab Code: R1308023-024

Service Request: R1308023
 Date Collected: 10/24/13 0800
 Date Received: 10/25/13

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Iron, Dissolved	6010C	120	µg/L	100	1	10/31/13	11/5/13 01:34	
Manganese, Dissolved	6010C	1040	µg/L	10	1	10/31/13	11/5/13 23:35	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 0800
 Date Received: 10/25/13
 Date Analyzed: 11/7/13 16:02

Sample Name: AP-19 (24.3)
 Lab Code: R1308023-024

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110713\11247.D\

Analysis Lot: 367213
 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)	220	E	2.0	
79-01-6	Trichloroethene (TCE)	26		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	11/7/13 16:02	
Dibromofluoromethane	99	70-130	11/7/13 16:02	
Toluene-d8	94	70-130	11/7/13 16:02	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 0800
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 06:09

Sample Name: AP-19 (24.3)
 Lab Code: R1308023-024
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3676.D\

Analysis Lot: 366741
 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)	170	D	4.0	
79-01-6	Trichloroethene (TCE)	25	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	93	70-130	11/6/13 06:09	
Dibromofluoromethane	116	70-130	11/6/13 06:09	
Toluene-d8	96	70-130	11/6/13 06:09	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: AP-20
Lab Code: R1308023-025

Service Request: R1308023
Date Collected: 10/24/13 0830
Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	109		mg/L	2.0	2	NA	11/7/13 11:00	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP-20
 Lab Code: R1308023-025

Service Request: R1308023
 Date Collected: 10/24/13 0830
 Date Received: 10/25/13

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	10/31/13	11/5/13 01:43	
Manganese, Dissolved	6010C	171		µg/L	10	1	10/31/13	11/5/13 23:42	



Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 0830
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 06:39

Sample Name: AP-20
 Lab Code: R1308023-025

Units: µg/L
 Basis: NA

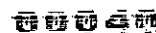
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3677.D\

Analysis Lot: 366741
 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)	8100	E	40	
79-01-6	Trichloroethene (TCE)	370		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	200		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	94	70-130	11/6/13 06:39	
Dibromofluoromethane	116	70-130	11/6/13 06:39	
Toluene-d8	98	70-130	11/6/13 06:39	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 0830
 Date Received: 10/25/13
 Date Analyzed: 11/7/13 17:38

Sample Name: AP-20
 Lab Code: R1308023-025
 Run Type: Dilution

Units: µg/L
 Basis: NA

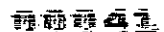
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110713U1250.D\

Analysis Lot: 367213
 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)	7900	D	200	
79-01-6	Trichloroethene (TCE)	340	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	11/7/13 17:38	
Dibromofluoromethane	101	70-130	11/7/13 17:38	
Toluene-d8	96	70-130	11/7/13 17:38	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

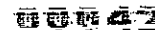
Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: AP-21 (22)
Lab Code: R1308023-026

Service Request: R1308023
Date Collected: 10/24/13 0915
Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	323	mg/L	5.0	5	NA	11/7/13 10:15	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

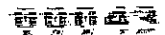
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP-21 (22)
 Lab Code: R1308023-026

Service Request: R1308023
 Date Collected: 10/24/13 0915
 Date Received: 10/25/13

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	10/31/13	11/5/13 01:52	
Manganese, Dissolved	6010C	244		µg/L	10	1	10/31/13	11/5/13 23:48	



Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 0915
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 07:09

Sample Name: AP-21 (22)
 Lab Code: R1308023-026

Units: µg/L
 Basis: NA

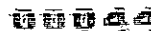
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3678.D\

Analysis Lot: 366741
 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	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	2.2		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)	190		2.0	
79-01-6	Trichloroethene (TCE)	48		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	340	E	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	11/6/13 07:09	
Dibromofluoromethane	114	70-130	11/6/13 07:09	
Toluene-d8	94	70-130	11/6/13 07:09	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 0915
 Date Received: 10/25/13
 Date Analyzed: 11/7/13 17:06

Sample Name: AP-21 (22)
 Lab Code: R1308023-026
 Run Type: Dilution

Units: µg/L
 Basis: NA

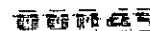
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110713\J1249.D\

Analysis Lot: 367213
 Instrument Name: R-MS-12
 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)	100	D	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)	160	D	10	
79-01-6	Trichloroethene (TCE)	38	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	260	D	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	98	70-130	11/7/13 17:06	
Dibromofluoromethane	102	70-130	11/7/13 17:06	
Toluene-d8	96	70-130	11/7/13 17:06	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP-22 (20.8)
 Lab Code: R1308023-027

Service Request: R1308023
 Date Collected: 10/24/13 1000
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	892	mg/L	20	20	NA	11/7/13 10:18	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP-22 (20.8)
 Lab Code: R1308023-027

Service Request: R1308023
 Date Collected: 10/24/13 1000
 Date Received: 10/25/13

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	10/31/13	11/5/13 02:00	
Manganese, Dissolved	6010C	442000		µg/L	2500	50	10/31/13	11/5/13 23:54	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 1000
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 07:39

Sample Name: AP-22 (20.8)
 Lab Code: R1308023-027

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3679.D\

Analysis Lot: 366741
 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)	6.2		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	5.3		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	93	70-130	11/6/13 07:39	
Dibromofluoromethane	112	70-130	11/6/13 07:39	
Toluene-d8	94	70-130	11/6/13 07:39	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 1030
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 08:09

Sample Name: CL2-BR (79)
 Lab Code: R1308023-028

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3680.D\

Analysis Lot: 366741
 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	16		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	92	70-130	11/6/13 08:09	
Dibromofluoromethane	114	70-130	11/6/13 08:09	
Toluene-d8	94	70-130	11/6/13 08:09	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 1145
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 08:39

Sample Name: BR6 ZONE #1
 Lab Code: R1308023-029

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3681.D\

Analysis Lot: 366741
 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		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	11/6/13 08:39	
Dibromofluoromethane	118	70-130	11/6/13 08:39	
Toluene-d8	97	70-130	11/6/13 08:39	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 1230
 Date Received: 10/25/13
 Date Analyzed: 11/7/13 16:34

Sample Name: BR6 ZONE #2
 Lab Code: R1308023-030

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110713\1248.D\

Analysis Lot: 367213
 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	19		2.0	
156-59-2	cis-1,2-Dichloroethene	140		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	11/7/13 16:34	
Dibromofluoromethane	102	70-130	11/7/13 16:34	
Toluene-d8	95	70-130	11/7/13 16:34	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: 10/24/13 1315
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 09:38

Sample Name: BR6 ZONE #3
 Lab Code: R1308023-031

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3683.D\

Analysis Lot: 366741
 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	94	70-130	11/6/13 09:38	
Dibromofluoromethane	117	70-130	11/6/13 09:38	
Toluene-d8	95	70-130	11/6/13 09:38	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308023-MB1

Service Request: R1308023
 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	11/7/13 10:07	

ALS Group USA, Corp. dba ALS Environmental

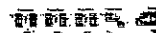
Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308023-MB2

Service Request: R1308023
 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	11/7/13 10:54	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

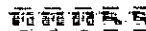
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308023-MB

Service Request: R1308023
 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	10/31/13	11/5/13 00:57	
Manganese, Dissolved	6010C	10	U	µg/L	10	1	10/31/13	11/5/13 23:12	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/4/13 23:16

Sample Name: Method Blank
 Lab Code: RQ1314269-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110413\F3617.D\

Analysis Lot: 366564
 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	93	70-130	11/4/13 23:16	
Dibromofluoromethane	113	70-130	11/4/13 23:16	
Toluene-d8	94	70-130	11/4/13 23:16	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/6/13 01:10

Sample Name: Method Blank
 Lab Code: RQ1314273-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3666.D\

Analysis Lot: 366741
 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	90	70-130	11/6/13 01:10	
Dibromofluoromethane	114	70-130	11/6/13 01:10	
Toluene-d8	94	70-130	11/6/13 01:10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/7/13 12:51

Sample Name: Method Blank
 Lab Code: RQ1314102-06

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoal2\Data\110713\J1241.D\

Analysis Lot: 367213
 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	97	70-130	11/7/13 12:51	
Dibromofluoromethane	99	70-130	11/7/13 12:51	
Toluene-d8	95	70-130	11/7/13 12:51	

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Analyzed: 11/7/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1308023-LCS1			% Rec Limits
		Result	Spike Amount	% Rec	
Chloride	SM 4500-Cl- E	24.3	25.0	97	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Analyzed: 11/7/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1308023-LCS2			% Rec Limits
		Result	Spike Amount	% Rec	
Chloride	SM 4500-Cl- E	24.3	25.0	97	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Analyzed: 11/ 5/13

Lab Control Sample Summary
 Inorganic Parameters

Units: µg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1308023-LCS			% Rec Limits
		Result	Spike Amount	% Rec	
Iron, Dissolved	6010C	1030	1000	103	80 - 120
Manganese, Dissolved	6010C	510	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Analyzed: 11/ 4/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 366564

Analyte Name	Lab Control Sample RQ1314269-02			Duplicate Lab Control Sample RQ1314269-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	18.2	20.0	91	18.4	20.0	92	70 - 130	1	20
1,1,2,2-Tetrachloroethane	16.9	20.0	85	18.2	20.0	91	70 - 130	7	20
1,1,2-Trichloroethane	18.6	20.0	93	19.9	20.0	100	70 - 130	7	20
1,1-Dichloroethane (1,1-DCA)	17.2	20.0	86	16.7	20.0	83	70 - 130	3	20
1,1-Dichloroethene (1,1-DCE)	20.7	20.0	104	20.6	20.0	103	70 - 130	<1	20
1,2-Dichloroethane	18.0	20.0	90	19.5	20.0	98	70 - 130	8	20
1,2-Dichloropropane	16.3	20.0	81	17.5	20.0	87	70 - 130	7	20
Acetone	18.8	20.0	94	17.5	20.0	88	40 - 160	7	20
Bromodichloromethane	19.9	20.0	100	20.2	20.0	101	70 - 130	1	20
Bromoform	22.9	20.0	115	23.3	20.0	117	70 - 130	2	20
Bromomethane	14.2	20.0	71	13.4	20.0	67	40 - 160	6	20
Carbon Tetrachloride	19.2	20.0	96	21.9	20.0	110	70 - 130	13	20
Chlorobenzene	18.3	20.0	92	19.3	20.0	96	70 - 130	5	20
Chloroethane	17.2	20.0	86	16.5	20.0	82	70 - 130	4	20
Chloroform	18.5	20.0	93	19.1	20.0	96	70 - 130	3	20
Chloromethane	15.9	20.0	80	16.2	20.0	81	40 - 160	2	20
Dibromochloromethane	21.9	20.0	109	23.0	20.0	115	70 - 130	5	20
Methylene Chloride	19.7	20.0	98	19.9	20.0	99	70 - 130	1	20
Tetrachloroethene (PCE)	19.0	20.0	95	19.1	20.0	95	70 - 130	<1	20
Trichloroethene (TCE)	20.1	20.0	100	21.7	20.0	108	70 - 130	8	20
Trichlorofluoromethane (CFC 11)	21.1	20.0	105	20.5	20.0	102	70 - 130	3	20
Vinyl Chloride	17.7	20.0	88	16.7	20.0	83	70 - 130	6	20
cis-1,2-Dichloroethene	18.6	20.0	93	18.3	20.0	92	70 - 130	2	20
cis-1,3-Dichloropropene	15.8	20.0	79	17.5	20.0	88	70 - 130	11	20
trans-1,2-Dichloroethene	17.8	20.0	89	18.5	20.0	92	70 - 130	4	20
trans-1,3-Dichloropropene	16.5	20.0	83	17.9	20.0	89	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Analyzed: 11/ 6/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 366741

Analyte Name	Lab Control Sample RQ1314273-02			Duplicate Lab Control Sample RQ1314273-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	22.1	20.0	110	21.0	20.0	105	70 - 130	5	20
1,1,2,2-Tetrachloroethane	19.7	20.0	98	22.3	20.0	111	70 - 130	13	20
1,1,2-Trichloroethane	21.1	20.0	105	22.2	20.0	111	70 - 130	5	20
1,1-Dichloroethane (1,1-DCA)	20.8	20.0	104	21.2	20.0	106	70 - 130	2	20
1,1-Dichloroethene (1,1-DCE)	23.4	20.0	117	23.2	20.0	116	70 - 130	<1	20
1,2-Dichloroethane	21.0	20.0	105	21.6	20.0	108	70 - 130	3	20
1,2-Dichloropropane	19.7	20.0	98	19.0	20.0	95	70 - 130	3	20
Acetone	22.1	20.0	110	19.2	20.0	96	40 - 160	14	20
Bromodichloromethane	22.9	20.0	114	22.6	20.0	113	70 - 130	1	20
Bromoform	24.8	20.0	124	23.4	20.0	117	70 - 130	6	20
Bromomethane	19.8	20.0	99	6.83	20.0	34 *	40 - 160	97 *	20
Carbon Tetrachloride	23.8	20.0	119	23.6	20.0	118	70 - 130	<1	20
Chlorobenzene	20.9	20.0	104	20.6	20.0	103	70 - 130	1	20
Chloroethane	20.3	20.0	102	22.1	20.0	111	70 - 130	8	20
Chloroform	22.7	20.0	113	23.0	20.0	115	70 - 130	1	20
Chloromethane	19.5	20.0	98	19.0	20.0	95	40 - 160	3	20
Dibromochloromethane	24.3	20.0	121	22.8	20.0	114	70 - 130	6	20
Methylene Chloride	23.6	20.0	118	23.7	20.0	118	70 - 130	<1	20
Tetrachloroethene (PCE)	20.5	20.0	103	20.7	20.0	103	70 - 130	<1	20
Trichloroethene (TCE)	25.0	20.0	125	22.1	20.0	110	70 - 130	13	20
Trichlorofluoromethane (CFC 11)	23.9	20.0	119	22.9	20.0	114	70 - 130	4	20
Vinyl Chloride	20.8	20.0	104	20.1	20.0	100	70 - 130	4	20
cis-1,2-Dichloroethene	21.6	20.0	108	21.8	20.0	109	70 - 130	<1	20
cis-1,3-Dichloropropene	19.0	20.0	95	19.0	20.0	95	70 - 130	<1	20
trans-1,2-Dichloroethene	22.3	20.0	112	21.6	20.0	108	70 - 130	4	20
trans-1,3-Dichloropropene	19.1	20.0	96	19.4	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308023
 Date Analyzed: 11/7/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 367213

Analyte Name	Lab Control Sample RQ1314102-04			Duplicate Lab Control Sample RQ1314102-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	20.5	20.0	102	20.6	20.0	103	70 - 130	<1	20
1,1,2,2-Tetrachloroethane	20.6	20.0	103	20.1	20.0	101	70 - 130	2	20
1,1,2-Trichloroethane	20.8	20.0	104	20.9	20.0	105	70 - 130	<1	20
1,1-Dichloroethane (1,1-DCA)	19.4	20.0	97	19.8	20.0	99	70 - 130	2	20
1,1-Dichloroethene (1,1-DCE)	22.5	20.0	113	23.3	20.0	117	70 - 130	4	20
1,2-Dichloroethane	21.1	20.0	106	20.6	20.0	103	70 - 130	3	20
1,2-Dichloropropane	19.9	20.0	99	19.9	20.0	99	70 - 130	<1	20
Acetone	18.8	20.0	94	18.9	20.0	94	40 - 160	<1	20
Bromodichloromethane	21.3	20.0	107	21.4	20.0	107	70 - 130	<1	20
Bromoform	21.4	20.0	107	20.6	20.0	103	70 - 130	4	20
Bromomethane	16.8	20.0	84	14.7	20.0	74	40 - 160	13	20
Carbon Tetrachloride	21.9	20.0	110	22.4	20.0	112	70 - 130	2	20
Chlorobenzene	21.2	20.0	106	21.6	20.0	108	70 - 130	2	20
Chloroethane	17.6	20.0	88	18.1	20.0	91	70 - 130	3	20
Chloroform	18.3	20.0	91	18.5	20.0	92	70 - 130	1	20
Chloromethane	17.1	20.0	86	17.5	20.0	88	40 - 160	2	20
Dibromochloromethane	21.9	20.0	110	21.6	20.0	108	70 - 130	1	20
Methylene Chloride	19.8	20.0	99	20.4	20.0	102	70 - 130	3	20
Tetrachloroethene (PCE)	22.0	20.0	110	22.9	20.0	114	70 - 130	4	20
Trichloroethene (TCE)	21.8	20.0	109	22.8	20.0	114	70 - 130	4	20
Trichlorofluoromethane (CFC 11)	20.2	20.0	101	21.2	20.0	106	70 - 130	5	20
Vinyl Chloride	18.4	20.0	92	19.0	20.0	95	70 - 130	3	20
cis-1,2-Dichloroethene	20.4	20.0	102	20.9	20.0	104	70 - 130	2	20
cis-1,3-Dichloropropene	20.9	20.0	104	20.5	20.0	102	70 - 130	2	20
trans-1,2-Dichloroethene	20.4	20.0	102	21.1	20.0	105	70 - 130	3	20
trans-1,3-Dichloropropene	21.1	20.0	105	20.8	20.0	104	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000

Service Request: R1308023
 Date Analyzed: 11/ 4/13

Continuing Calibration Verification Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 8/19/13
 Calibration ID: RC1300085
 Analysis Lot: 366564
 Units: µg/L

File ID: I:\ACQUDATA\msvoal0\data\110413\F3613.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	50.5	0.6912	0.6975	0.9	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	45.1	0.5544	0.4995	-9.9	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	48.3	0.2354	0.2273	-3.4	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	45.7	0.8916	0.8150	-8.6	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	53.6	0.3238	0.3470	7.2	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	46.8	0.4127	0.3864	-6.4	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	43.8	0.3664	0.3205	-12.5	NA	± 20 %	Average RF
Acetone	50.0	36.9	0.1193	0.08795	-26.3	NA	± 60 %	Average RF
Bromodichloromethane	50.0	52.0	0.3928	0.4084	4.0	NA	± 20 %	Average RF
Bromoform	50.0	60.5	0.1822	0.2203	20.9 *	NA	± 20 %	Average RF
Bromomethane	50.0	36.6	0.2628	0.1926	-26.7	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	58.4	0.1240	0.1448	16.8	NA	± 20 %	Average RF
Chlorobenzene	50.0	48.5	0.9943	0.9643	-3.0	NA	± 20 %	Average RF
Chloroethane	50.0	48.5	0.3150	0.3056	-3.0	NA	± 20 %	Average RF
Chloroform	50.0	48.1	0.7883	0.7581	-3.8	NA	± 20 %	Average RF
Chloromethane	50.0	46.6	0.7038	0.6559	-6.8	NA	± 60 %	Average RF
Dibromochloromethane	50.0	57.5	0.3084	0.3547	15.0	NA	± 20 %	Average RF
Methylene Chloride	50.0	48.0	0.4379	0.4205	-4.0	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	51.8	0.3036	0.3145	3.6	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	55.8	0.3158	0.3523	11.6	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	60.3	0.6359	0.7672	20.6 *	NA	± 20 %	Average RF
Vinyl Chloride	50.0	51.8	0.5756	0.5958	3.5	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	48.8	0.4803	0.4689	-2.4	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	46.3	0.4835	0.4478	-7.4	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	49.4	0.4357	0.4302	-1.2	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	45.4	0.4046	0.3671	-9.3	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	48.2	0.4762	0.4593	-3.5	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	55.1	0.2999	0.3306	10.2	NA	± 20 %	Average RF
Toluene-d8	50.0	47.4	1.176	1.114	-5.2	NA	± 20 %	Average RF

Client: CB&I
 Project: Varian Beverly/150148-04000000

Service Request: R1308023
 Date Analyzed: 11/ 5/13

Continuing Calibration Verification Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 8/19/13
 Calibration ID: RC1300085
 Analysis Lot: 366741
 Units: µg/L

File ID: I:\ACQUDATA\msvoa10\data\110513\F3662.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	53.5	0.6912	0.7396	7.0	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	48.1	0.5544	0.5337	-3.7	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	52.8	0.2354	0.2487	5.7	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	50.3	0.8916	0.8964	0.5	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	51.3	0.3238	0.3320	2.5	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	51.8	0.4127	0.4275	3.6	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	48.1	0.3664	0.3528	-3.7	NA	± 20 %	Average RF
Acetone	50.0	53.0	0.1193	0.1264	6.0	NA	± 60 %	Average RF
Bromodichloromethane	50.0	55.3	0.3928	0.4347	10.7	NA	± 20 %	Average RF
Bromoform	50.0	65.2	0.1822	0.2375	30.4 *	NA	± 20 %	Average RF
Bromomethane	50.0	56.2	0.2628	0.2956	12.5	NA	± 60 %	Average RF
Carbon Tetrachloride	50.0	58.6	0.1240	0.1453	17.2	NA	± 20 %	Average RF
Chlorobenzene	50.0	50.7	0.9943	1.008	1.3	NA	± 20 %	Average RF
Chloroethane	50.0	49.8	0.3150	0.3137	-0.4	NA	± 20 %	Average RF
Chloroform	50.0	54.8	0.7883	0.8632	9.5	NA	± 20 %	Average RF
Chloromethane	50.0	51.2	0.7038	0.7205	2.4	NA	± 60 %	Average RF
Dibromochloromethane	50.0	61.1	0.3084	0.3767	22.2 *	NA	± 20 %	Average RF
Methylene Chloride	50.0	54.5	0.4379	0.4772	9.0	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	49.1	0.3036	0.2982	-1.8	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	57.3	0.3158	0.3621	14.7	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	60.4	0.6359	0.7680	20.8 *	NA	± 20 %	Average RF
Vinyl Chloride	50.0	55.1	0.5756	0.6337	10.1	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	53.4	0.4803	0.5129	6.8	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	50.2	0.4835	0.4851	0.3	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	54.2	0.4357	0.4721	8.4	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	49.8	0.4046	0.4033	-0.3	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	47.7	0.4762	0.4547	-4.5	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	57.0	0.2999	0.3418	14.0	NA	± 20 %	Average RF
Toluene-d8	50.0	47.7	1.176	1.123	-4.5	NA	± 20 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
 Project: Varian Beverly/150148-04000000

Service Request: R1308023
 Date Analyzed: 11/ 7/13

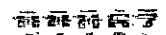
Continuing Calibration Verification Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Calibration Date: 10/22/13
 Calibration ID: RC1300114
 Analysis Lot: 367213
 Units: ppb

File ID: I:\ACQUDATA\msvoa12\Data\110713U1237.D\

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
1,1,1-Trichloroethane (TCA)	50.0	48.6	0.6951	0.6760	-2.7	NA	± 20 %	Average RF
1,1,2,2-Tetrachloroethane	50.0	49.7	0.5238	0.5209	-0.5	NA	± 20 %	Average RF
1,1,2-Trichloroethane	50.0	51.3	0.2090	0.2146	2.7	NA	± 20 %	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	46.5	0.8460	0.7873	-6.9	NA	± 20 %	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	48.7	0.3602	0.3508	-2.6	NA	± 20 %	Average RF
1,2-Dichloroethane	50.0	50.3	0.3471	0.3492	0.6	NA	± 20 %	Average RF
1,2-Dichloropropane	50.0	47.5	0.3114	0.2958	-5.0	NA	± 20 %	Average RF
Acetone	50.0	40.6	0.1059	0.08599	-18.8	NA	± 60 %	Average RF
Bromodichloromethane	50.0	51.5	0.3581	0.3692	3.1	NA	± 20 %	Average RF
Bromoform	50.0	55.4	0.2724	0.3017	10.7	NA	± 20 %	Average RF
Bromomethane	50.0	37.1	NA	NA	NA	-25.8	± 60 %	Quadratic
Carbon Tetrachloride	50.0	52.0	0.1090	0.1133	4.0	NA	± 20 %	Average RF
Chlorobenzene	50.0	49.9	0.9143	0.9126	-0.2	NA	± 20 %	Average RF
Chloroethane	50.0	40.2	0.2987	0.2399	-19.7	NA	± 20 %	Average RF
Chloroform	50.0	43.8	0.8907	0.7797	-12.5	NA	± 20 %	Average RF
Chloromethane	50.0	38.0	0.5375	0.4086	-24.0	NA	± 60 %	Average RF
Dibromochloromethane	50.0	55.0	0.2565	0.2819	9.9	NA	± 20 %	Average RF
Methylene Chloride	50.0	46.1	0.4640	0.4278	-7.8	NA	± 20 %	Average RF
Tetrachloroethene (PCE)	50.0	50.7	0.2678	0.2715	1.4	NA	± 20 %	Average RF
Trichloroethene (TCE)	50.0	51.7	0.2941	0.3038	3.3	NA	± 20 %	Average RF
Trichlorofluoromethane (CFC 11)	50.0	48.9	0.6940	0.6784	-2.2	NA	± 20 %	Average RF
Vinyl Chloride	50.0	42.4	0.5235	0.4441	-15.2	NA	± 20 %	Average RF
cis-1,2-Dichloroethene	50.0	48.8	0.5009	0.4887	-2.5	NA	± 20 %	Average RF
cis-1,3-Dichloropropene	50.0	53.3	0.4263	0.4544	6.6	NA	± 20 %	Average RF
trans-1,2-Dichloroethene	50.0	47.0	0.4542	0.4270	-6.0	NA	± 20 %	Average RF
trans-1,3-Dichloropropene	50.0	54.4	0.3430	0.3731	8.8	NA	± 20 %	Average RF
4-Bromofluorobenzene	50.0	50.6	0.4600	0.4655	1.2	NA	± 20 %	Average RF
Dibromofluoromethane	50.0	51.6	0.2805	0.2893	3.1	NA	± 20 %	Average RF
Toluene-d8	50.0	48.1	1.237	1.189	-3.8	NA	± 20 %	Average RF



Project Name Varian Beverly		Project Number 150148-04000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)												
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE												
Company/Address Shaw Environmental, A CB&I Company				NUMBER OF CONTAINERS	GC/MS VOA's: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP List GC/MS SVOA's <input type="checkbox"/> 8270 <input type="checkbox"/> 625 GC VOA's <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCB's <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS: TOTAL (List in comments below) METALS: DISSOLVED (List in comments below) Fe + Mn Chloride											
150 Royall Street																
Canton, MA 02021																
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com														
Sampler's Signature <i>[Signature]</i>		Sampler's Printed Name DANIEL C. LAMM		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												
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID	SAMPLING DATE TIME MATRIX													
0B41-5 (13.3')			10/23/13 1230 GW													
62-4 (12')			10/23/13 1300													
0B18-5 CW'			10/23/13 1330													
AP15-5 (12.2')			10/23/13 1400													
MW2-3200Z14R(10')			10/23/13 1430													
UL10-5 (12')			10/23/13 1500													
CL10-DO (36')			10/23/13 1530													
CL10-BR (46')			10/23/13 1600													
EB-1			10/22/13 0922													
EB-2			10/23/13 1610													
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site specific VOC list. Massachusetts CAM analyses reporting and QA/QC. Please 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 <input checked="" type="checkbox"/> Standard				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 ___ No				INVOICE INFORMATION PO #: 873800 BILL TO: CB&I				
See QAPP <input type="checkbox"/>																
STATE WHERE SAMPLES WERE COLLECTED: MASS																
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		
Printed Name Raymond Cadorette		Printed Name Daniel C. Lamm		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name		
Firm CB&I		Firm ALS		Firm		Firm		Firm		Firm		Firm		Firm		
Date/Time 10/24/13 1000		Date/Time 10/25/13 0920		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		

Project Name Varian Beverly		Project Number 150148-04000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																	
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE																	
Company/Address Shaw Environmental, A CB&I Co.				NUMBER OF CONTAINERS	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> GC/MS VOA's <input checked="" type="checkbox"/> 8260 <input checked="" type="checkbox"/> 824 <input type="checkbox"/> CLP List GC/MS SVOA's <input type="checkbox"/> 8270 <input type="checkbox"/> 825 GC VOA's <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCB's <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) Chloride </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> 20 </div> </div>																
150 Royall Street																					
Canton, MA 02021																					
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com																			
Sampler's Signature <i>[Signature]</i>		Sampler's Printed Name DANIEL C. LAMM		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 _____																	
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID														SAMPLING DATE TIME		MATRIX		REMARKS/ ALTERNATE DESCRIPTION	
7B-7				10/24/13 0615		GW		3 3													
7B-2				10/23/13 0841				3 3													
7B-3				10/24/13 0725				3 3													
AP-19 (24.3')				10/24/13 0800				5 3													
AP-20				10/24/13 0830				5 3													
AP-21 (22')				10/24/13 0915				5 3													
AP-22 (20.8')				10/24/13 1000				5 3													
012-BR (79')				10/24/13 1030				3 3													
BR6 20N4 #1				10/24/13 1145				3 3													
BR6 20N5 #2				10/24/13 1230				3 3													
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site specific VOC list. Massachusetts CAM analyses reporting and QA/QC. Please email GISKey formatted EDD & PDF of report to: Catherine.Mainville@CBI.com.				TURNAROUND REQUIREMENTS ___ RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day ___ 5 day <input checked="" type="checkbox"/> Standard				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 #: 873489 873800 BILL TO: CB&I									
See QAPP <input type="checkbox"/>				REQUESTED REPORT DATE				Edata <input checked="" type="checkbox"/> Yes ___ No													
STATE WHERE SAMPLES WERE COLLECTED: MASS																					
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY							
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>							
Printed Name H. Hedoux		Printed Name David Packard		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name							
Firm CBI		Firm ALS		Firm		Firm		Firm		Firm		Firm		Firm							
Date/Time 10/24/13 1700		Date/Time 10/25/13 0920		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time							



Cooler Receipt and Preservation Check Form

Project/Client The Shaw Group Folder Number [130 802]

Cooler received on 10/25 by: CP 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: 3.6 5.3

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: 10/25 0930, 0941

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 CP on 10/25 at 0936, 0946, 0948
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: [Signature]

Cooler Breakdown: Date: 10/25 Time: 1518 by: JPS

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 or
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
		YES	NO							
≥12	NaOH									No = Samples were preserved at lab as listed
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									PM OK to Adjust:
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	-	-							
	Zn Aceta	-	-							
	HCl	*	*							*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: client
Other Comments: * CL3-00179 correct bottles used, wrong client label.

PC Secondary Review: [Signature] 11/25/10

*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 :** 11/19/2013
Matrix: Groundwater
Analyte Group : Volatile Organics **Analytical Method :** SW-846 8260C
Metals 6010 C
Chloride SM 4500-CL-E
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1308025
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
10/22-10/24/13	SW-846 8260C	14 days	10 days	11/4-11/7/13
10/22/10/24/13	6010 C	180 Days	180 Days	11/5, 11/6/13
10/22-10/24/13	SM 4500-CL-E	28 Days	28 Days	11/5-11/7/13

Sample temperature within QC limits: Yes, 3.6 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: RQ1313858-04

Equipment Field Blank ID : NA

Trip Blank ID : NA

Method Blank: SW-846 8260C 11/1, 11/8/13
6010 C 11/5/2013
SM 4500-CL-E 11/4-11/7/2013

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:

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. OB9DO(95), MW16(35), B-2(12), AP27DO(59), OB38DO(46), MW13(50), and OB21DO(59) were re-analyzed at larger dilutions to bring the target analytes within the calibration range of the method. Both dilutions were reported with analytes over the range flagged with an "E" and the diluted analytes flagged with a "D"

The % Recovery was outside the recovery limit in the LCS and/or LCSD RQ1313858-04 for Chloroethane, and Vinyl Chloride in in batch 366594 (Method Blank, AP31DO(3.5), OB34DO(63), OB38(46), AP27DO(59), B-2(12), MW-16(35), MW-5(23) MW-9A(13.33), OB9DO(95)). The data was not impacted since the analytical data was non-detect associated with these analytes on this batch except for sample OB9DO(95) in which Vinyl Chloride was detected. This sample was given a qualifier of J.

Reviewed By: Pernilla Haley 12/19/13



November 15, 2013

Service Request No: R1308025

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

Laboratory Results for: Varian Beverly/150148-04000000

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on October 25, 2013. For your reference, these analyses have been assigned our service request number **R1308025**.

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.

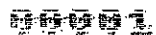
Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Michael Perry
Laboratory Manager

Page 1 of 92



CASE NARRATIVE

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1308025
Project Number: 150148-04000000
Date Received: 10/25/13

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 10/22/13, 10/23/13, and 10/24/13 and received at ALS in good condition at cooler temperatures of 3.6 – 5.3 °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

Twenty-nine 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 OB9DO (95), MW-16 (35), B-2 (12), AP27DO (59), OB38DO (46), MW13 (50), and OB21DO (59) 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.

All Bank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were within QC limits except the LCSD from 11/05/13 for Chloromomethane and Vinyl Chloride. These recoveries were flagged with an "***".

All samples were analyzed within the required holding time of 14 days.

Inorganic Analyses

Thirteen water samples were analyzed for Dissolved Iron and Dissolved Manganese by SW-846 method 6010C and for Chloride by method SM 4500-CL-E. Metals were field filtered.

The initial and continuing calibration criteria were met for all analytes.

All Blank Spike (LCS) recoveries were within QC limits.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 150148-04000000

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1308025 – 001 - 029

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?	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

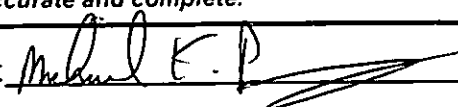
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	X Yes No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness 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?	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: 

Position: Laboratory Manager



Printed Name: Michael K. Perry

Date: 11/15/13

CASE NARRATIVE

This report contains analytical results for the following samples:

Service Request Number: R1308025

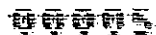
<u>Lab ID</u>	<u>Client ID</u>
R1308025-001	BW-5 (15)
R1308025-002	BW-6 (14)
R1308025-003	BW-8 (14)
R1308025-004	BW-9 (14)
R1308025-005	OB9DO (95)
R1308025-006	OB9BR (121)
R1308025-007	STR-3
R1308025-008	MW-9A (13.33)
R1308025-009	MW-5 (23)
R1308025-010	MW-16 (35)
R1308025-011	OB26DO (65)
R1308025-012	OB19DO (64)
R1308025-013	AP26DO (64)
R1308025-014	OB25BR (99)
R1308025-015	B-2 (12)
R1308025-016	AP27DO (59)
R1308025-017	OB38DO (46)
R1308025-018	AP12DO (57)
R1308025-019	AP12BR (81)
R1308025-020	OB35DO (56)
R1308025-021	OB36DO (51.5)
R1308025-022	OB37DO (59)
R1308025-023	OB34DO (63)
R1308025-024	OB32DO (60)
R1308025-025	MW13 (50)
R1308025-026	OB12DO (59)
R1308025-027	OB27BR (86)
R1308025-028	AP31DO (35)
R1308025-029	AP32DO (35)

REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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

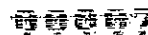
Expires: 30 JUN 2014

**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	

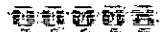


**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

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 385.1	
PHOSPHORUS, TOTAL			EPA 385.1	
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 1684	
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 808	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/22/13 1500
 Date Received: 10/25/13
 Date Analyzed: 11/4/13 18:38

Sample Name: BW-5 (15)
 Lab Code: R1308025-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413V1119.D\

Analysis Lot: 366590
 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	96	70-130	11/4/13 18:38	
Dibromofluoromethane	99	70-130	11/4/13 18:38	
Toluene-d8	93	70-130	11/4/13 18:38	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/22/13 1530
 Date Received: 10/25/13
 Date Analyzed: 11/4/13 19:10

Sample Name: BW-6 (14)
 Lab Code: R1308025-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110413V1120.D\

Analysis Lot: 366590
 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	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	2.0	U	2.0	
156-59-2	cis-1,2-Dichloroethene	2.5		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	97	70-130	11/4/13 19:10	
Dibromofluoromethane	101	70-130	11/4/13 19:10	
Toluene-d8	94	70-130	11/4/13 19:10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/22/13 1300
 Date Received: 10/25/13
 Date Analyzed: 11/4/13 19:42

Sample Name: BW-8 (14)
 Lab Code: R1308025-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413\J1121.D\

Analysis Lot: 366590
 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	3.3		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	11/4/13 19:42	
Dibromofluoromethane	101	70-130	11/4/13 19:42	
Toluene-d8	93	70-130	11/4/13 19:42	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/22/13 1330
 Date Received: 10/25/13
 Date Analyzed: 11/4/13 20:13

Sample Name: BW-9 (14)
 Lab Code: R1308025-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413\J1122.D\

Analysis Lot: 366590
 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	7.5		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	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	11/4/13 20:13	
Dibromofluoromethane	102	70-130	11/4/13 20:13	
Toluene-d8	92	70-130	11/4/13 20:13	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/22/13 1400
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 05:47

Sample Name: OB9DO (95)
 Lab Code: R1308025-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQU\DATA\msvoa12\Data\110413\U1140.D\

Analysis Lot: 366594
 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)	23		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	1300		20	
156-59-2	cis-1,2-Dichloroethene	2400	E	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	97	70-130	11/5/13 05:47	
Dibromofluoromethane	100	70-130	11/5/13 05:47	
Toluene-d8	96	70-130	11/5/13 05:47	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/22/13 1400
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 15:47

Sample Name: OB9DO (95)
 Lab Code: R1308025-005
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513U1158.D\

Analysis Lot: 366803
 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)	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	1400	D	40	
156-59-2	cis-1,2-Dichloroethene	2200	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	97	70-130	11/5/13 15:47	
Dibromofluoromethane	100	70-130	11/5/13 15:47	
Toluene-d8	97	70-130	11/5/13 15:47	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/22/13 1430
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 16:19

Sample Name: OB9BR (121)
 Lab Code: R1308025-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513\1159.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 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)	50	U	50	
79-01-6	Trichloroethene (TCE)	50	U	50	
75-69-4	Trichlorofluoromethane (CFC 11)	50	U	50	
75-01-4	Vinyl Chloride	210		50	
156-59-2	cis-1,2-Dichloroethene	5000		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	96	70-130	11/5/13 16:19	
Dibromofluoromethane	99	70-130	11/5/13 16:19	
Toluene-d8	95	70-130	11/5/13 16:19	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 0830
 Date Received: 10/25/13
 Date Analyzed: 11/4/13 20:45

Sample Name: STR-3
 Lab Code: R1308025-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413\J1123.D\

Analysis Lot: 366590
 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	99	70-130	11/4/13 20:45	
Dibromofluoromethane	103	70-130	11/4/13 20:45	
Toluene-d8	96	70-130	11/4/13 20:45	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 0930
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 02:36

Sample Name: MW-9A (13.33)
 Lab Code: R1308025-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUIDATA\msvoa12\Data\110413\1134.D\

Analysis Lot: 366594
 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	98	70-130	11/5/13 02:36	
Dibromofluoromethane	100	70-130	11/5/13 02:36	
Toluene-d8	94	70-130	11/5/13 02:36	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1000
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 03:08

Sample Name: MW-5 (23)
 Lab Code: R1308025-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413\11135.D\

Analysis Lot: 366594
 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)	6.4		2.0	
79-01-6	Trichloroethene (TCE)	2.2		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	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	11/5/13 03:08	
Dibromofluoromethane	101	70-130	11/5/13 03:08	
Toluene-d8	95	70-130	11/5/13 03:08	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1030
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 03:40

Sample Name: MW-16 (35)
 Lab Code: R1308025-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413\1136.D\

Analysis Lot: 366594
 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)	7.0		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	2.4		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)	12		2.0	
79-01-6	Trichloroethene (TCE)	560	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	120		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	11/5/13 03:40	
Dibromofluoromethane	101	70-130	11/5/13 03:40	
Toluene-d8	93	70-130	11/5/13 03:40	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1030
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 19:30

Sample Name: MW-16 (35)
 Lab Code: R1308025-010
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513\1165.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 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)	11	D	10	
79-01-6	Trichloroethene (TCE)	500	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	110	D	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	98	70-130	11/5/13 19:30	
Dibromofluoromethane	102	70-130	11/5/13 19:30	
Toluene-d8	97	70-130	11/5/13 19:30	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1130
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 16:12

Sample Name: OB26DO (65)
 Lab Code: R1308025-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110613V1203.D\

Analysis Lot: 367000
 Instrument Name: R-MS-12
 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)	1300		50	
79-01-6	Trichloroethene (TCE)	5000		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	270		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	11/6/13 16:12	
Dibromofluoromethane	99	70-130	11/6/13 16:12	
Toluene-d8	97	70-130	11/6/13 16:12	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

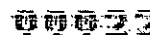
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB19DO (64)
 Lab Code: R1308025-012

Service Request: R1308025
 Date Collected: 10/23/13 1230
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	30.4	mg/L	1.0	1	NA	11/7/13 10:19	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB19DO (64)
 Lab Code: R1308025-012

Service Request: R1308025
 Date Collected: 10/23/13 1230
 Date Received: 10/25/13

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	10/31/13	11/5/13 02:09	
Manganese, Dissolved	6010C	2320		µg/L	10	1	10/31/13	11/6/13 00:00	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1230
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 21:05

Sample Name: OB19DO (64)
 Lab Code: R1308025-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513U1168.D\

Analysis Lot: 366803
 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)	640		40	
79-01-6	Trichloroethene (TCE)	2400		40	
75-69-4	Trichlorofluoromethane (CFC 11)	40	U	40	
75-01-4	Vinyl Chloride	44		40	
156-59-2	cis-1,2-Dichloroethene	800		40	
10061-01-5	cis-1,3-Dichloropropene	40	U	40	
156-60-5	trans-1,2-Dichloroethene	51		40	
10061-02-6	trans-1,3-Dichloropropene	40	U	40	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	11/5/13 21:05	
Dibromofluoromethane	100	70-130	11/5/13 21:05	
Toluene-d8	96	70-130	11/5/13 21:05	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP26DO (64)
 Lab Code: R1308025-013

Service Request: R1308025
 Date Collected: 10/23/13 1300
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	91.2	mg/L	1.0	1	NA	11/7/13 10:20	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

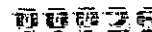
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP26DO (64)
 Lab Code: R1308025-013

Service Request: R1308025
 Date Collected: 10/23/13 1300
 Date Received: 10/25/13

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	10/31/13	11/5/13 02:18	
Manganese, Dissolved	6010C	3910		µg/L	10	1	10/31/13	11/6/13 00:06	



Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1300
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 15:40

Sample Name: AP26DO (64)
 Lab Code: R1308025-013

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110613\1202.D\

Analysis Lot: 367000
 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	2.2		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	41		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	96	70-130	11/6/13 15:40	
Dibromofluoromethane	100	70-130	11/6/13 15:40	
Toluene-d8	96	70-130	11/6/13 15:40	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

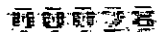
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB25BR (99)
 Lab Code: R1308025-014

Service Request: R1308025
 Date Collected: 10/23/13 1330
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	151	mg/L	4.0	4	NA	11/7/13 11:01	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

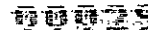
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB25BR (99)
 Lab Code: R1308025-014

Service Request: R1308025
 Date Collected: 10/23/13 1330
 Date Received: 10/25/13

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	10/31/13	11/5/13 05:38	
Manganese, Dissolved	6010C	636		µg/L	10	1	10/31/13	11/6/13 00:24	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1330
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 18:58

Sample Name: OB25BR (99)
 Lab Code: R1308025-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513V1164.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 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)	110		50	
79-01-6	Trichloroethene (TCE)	1100		50	
75-69-4	Trichlorofluoromethane (CFC 11)	50	U	50	
75-01-4	Vinyl Chloride	300		50	
156-59-2	cis-1,2-Dichloroethene	4400		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	97	70-130	11/5/13 18:58	
Dibromofluoromethane	100	70-130	11/5/13 18:58	
Toluene-d8	97	70-130	11/5/13 18:58	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1430
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 04:12

Sample Name: B-2 (12)
 Lab Code: R1308025-015

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413\11137.D\

Analysis Lot: 366594
 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)	2.2		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	4.2		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)	460	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	7.7		2.0	
10061-02-6	trans-1,3-Dichloropropene	2.0	U	2.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	70-130	11/5/13 04:12	
Dibromofluoromethane	103	70-130	11/5/13 04:12	
Toluene-d8	94	70-130	11/5/13 04:12	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1430
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 20:01

Sample Name: B-2 (12)
 Lab Code: R1308025-015
 Run Type: Dilution

Units: µg/L
 Basis: NA

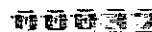
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513\J1166.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 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)	400	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	490	D	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	98	70-130	11/5/13 20:01	
Dibromofluoromethane	102	70-130	11/5/13 20:01	
Toluene-d8	97	70-130	11/5/13 20:01	



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Analytical Report

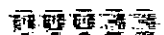
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP27DO (59)
 Lab Code: R1308025-016

Service Request: R1308025
 Date Collected: 10/23/13 1500
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	50.0		mg/L	1.0	1	NA	11/7/13 11:05	



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Analytical Report

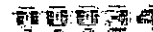
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP27DO (59)
 Lab Code: R1308025-016

Service Request: R1308025
 Date Collected: 10/23/13 1500
 Date Received: 10/25/13

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	10/31/13	11/5/13 06:08	
Manganese, Dissolved	6010C	95		µg/L	10	1	10/31/13	11/6/13 00:55	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1500
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 04:44

Sample Name: AP27DO (59)
 Lab Code: R1308025-016

Units: µg/L
 Basis: NA

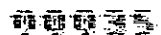
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110413V1138.D\

Analysis Lot: 366594
 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)	370	E	2.0	
79-01-6	Trichloroethene (TCE)	3300	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	14		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	11/5/13 04:44	
Dibromofluoromethane	98	70-130	11/5/13 04:44	
Toluene-d8	95	70-130	11/5/13 04:44	



Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1500
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 22:09

Sample Name: AP27DO (59)
 Lab Code: R1308025-016
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513\1170.D\

Analysis Lot: 366803
 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)	330	D	100	
79-01-6	Trichloroethene (TCE)	5500	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	100	U	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	97	70-130	11/5/13 22:09	
Dibromofluoromethane	101	70-130	11/5/13 22:09	
Toluene-d8	97	70-130	11/5/13 22:09	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1400
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 05:15

Sample Name: OB38DO (46)
 Lab Code: R1308025-017

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110413\1139.D\

Analysis Lot: 366594
 Instrument Name: R-MS-12
 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)	9.4		5.0	
79-01-6	Trichloroethene (TCE)	14		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	570	E	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	7.4		5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	11/5/13 05:15	
Dibromofluoromethane	102	70-130	11/5/13 05:15	
Toluene-d8	96	70-130	11/5/13 05:15	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1400
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 20:33

Sample Name: OB38DO (46)
 Lab Code: R1308025-017
 Run Type: Dilution

Units: µg/L
 Basis: NA

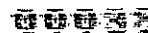
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110513V1167.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 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)	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	540	D	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	96	70-130	11/5/13 20:33	
Dibromofluoromethane	102	70-130	11/5/13 20:33	
Toluene-d8	96	70-130	11/5/13 20:33	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

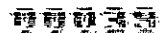
Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: AP12DO (57)
Lab Code: R1308025-018

Service Request: R1308025
Date Collected: 10/23/13 1530
Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	109	mg/L	4.0	4	NA	11/7/13 10:24	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

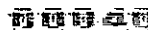
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP12DO (57)
 Lab Code: R1308025-018

Service Request: R1308025
 Date Collected: 10/23/13 1530
 Date Received: 10/25/13

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	10/31/13	11/5/13 06:15	
Manganese, Dissolved	6010C	35500		µg/L	500	50	10/31/13	11/6/13 01:01	



Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1530
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 17:55

Sample Name: AP12DO (57)
 Lab Code: R1308025-018

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513V1162.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	3.8		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	17		2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	93		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)	2.2		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	2.0	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	11/5/13 17:55	
Dibromofluoromethane	104	70-130	11/5/13 17:55	
Toluene-d8	94	70-130	11/5/13 17:55	

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Analytical Report

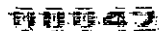
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP12BR (81)
 Lab Code: R1308025-019

Service Request: R1308025
 Date Collected: 10/23/13 1600
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	137		mg/L	20	20	NA	11/7/13 11:12	



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Analytical Report

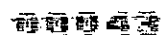
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP12BR (81)
 Lab Code: R1308025-019

Service Request: R1308025
 Date Collected: 10/23/13 1600
 Date Received: 10/25/13

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	10/31/13	11/5/13 06:21	
Manganese, Dissolved	6010C	229000		µg/L	2500	50	10/31/13	11/6/13 01:07	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/23/13 1600
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 15:08

Sample Name: AP12BR (81)
 Lab Code: R1308025-019

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110613V1201.D\

Analysis Lot: 367000
 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	96	70-130	11/6/13 15:08	
Dibromofluoromethane	100	70-130	11/6/13 15:08	
Toluene-d8	89	70-130	11/6/13 15:08	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

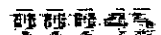
Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: OB35DO (56)
Lab Code: R1308025-020

Service Request: R1308025
Date Collected: 10/24/13 0850
Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl-E	91.5	mg/L	1.0	1	NA	11/7/13 10:27	



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Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB35DO (56)
 Lab Code: R1308025-020

Service Request: R1308025
 Date Collected: 10/24/13 0850
 Date Received: 10/25/13

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	10/31/13	11/5/13 06:27	
Manganese, Dissolved	6010C	14800		µg/L	100	10	10/31/13	11/6/13 01:13	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 0850
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 23:13

Sample Name: OB35DO (56)
 Lab Code: R1308025-020

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513\1172.D\

Analysis Lot: 366803
 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)	9.0		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)	7.0		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	98	70-130	11/5/13 23:13	
Dibromofluoromethane	102	70-130	11/5/13 23:13	
Toluene-d8	96	70-130	11/5/13 23:13	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 0930
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 22:41

Sample Name: OB36DO (51.5)
 Lab Code: R1308025-021

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110513V1171.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	20		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)	13		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	21		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	4.3		2.0	
127-18-4	Tetrachloroethene (PCE)	2.0	U	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	98	70-130	11/5/13 22:41	
Dibromofluoromethane	102	70-130	11/5/13 22:41	
Toluene-d8	96	70-130	11/5/13 22:41	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1030
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 23:45

Sample Name: OB37DO (59)
 Lab Code: R1308025-022

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513V1173.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	6.9		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	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	8.4		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)	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	11/5/13 23:45	
Dibromofluoromethane	102	70-130	11/5/13 23:45	
Toluene-d8	90	70-130	11/5/13 23:45	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1130
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 07:54

Sample Name: OB34DO (63)
 Lab Code: R1308025-023

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413V1144.D\

Analysis Lot: 366594
 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)	1300		100	
79-01-6	Trichloroethene (TCE)	10000		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	780		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	11/5/13 07:54	
Dibromofluoromethane	102	70-130	11/5/13 07:54	
Toluene-d8	97	70-130	11/5/13 07:54	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB32DO (60)
 Lab Code: R1308025-024

Service Request: R1308025
 Date Collected: 10/24/13 1200
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	132	mg/L	5.0	5	NA	11/7/13 10:28	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

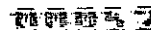
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB32DO (60)
 Lab Code: R1308025-024

Service Request: R1308025
 Date Collected: 10/24/13 1200
 Date Received: 10/25/13

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	10/31/13	11/5/13 06:34	
Manganese, Dissolved	6010C	39600		µg/L	500	50	10/31/13	11/6/13 01:19	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1200
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 16:44

Sample Name: OB32DO (60)
 Lab Code: R1308025-024

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110613V1204.D\

Analysis Lot: 367000
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	43		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	57		2.0	
108-90-7	Chlorobenzene	2.0	U	2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	15		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)	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	96	70-130	11/6/13 16:44	
Dibromofluoromethane	100	70-130	11/6/13 16:44	
Toluene-d8	93	70-130	11/6/13 16:44	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

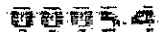
Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: MW13 (50)
Lab Code: R1308025-025

Service Request: R1308025
Date Collected: 10/24/13 1300
Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	491	mg/L	10	10	NA	11/7/13 10:29	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: MW13 (50)
 Lab Code: R1308025-025

Service Request: R1308025
 Date Collected: 10/24/13 1300
 Date Received: 10/25/13

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	10/31/13	11/5/13 07:04	
Manganese, Dissolved	6010C	30600		µg/L	500	50	10/31/13	11/6/13 01:37	



Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1300
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 17:15

Sample Name: MW13 (50)
 Lab Code: R1308025-025

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110613\1205.D\

Analysis Lot: 367000
 Instrument Name: R-MS-12
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	320	E	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	2.9		2.0	
79-00-5	1,1,2-Trichloroethane	10		2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.1		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	3.6		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	490	E	2.0	
108-90-7	Chlorobenzene	5.2		2.0	
75-00-3	Chloroethane	2.0	U	2.0	
67-66-3	Chloroform	500	E	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	2.5		2.0	
127-18-4	Tetrachloroethene (PCE)	22		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	97	70-130	11/6/13 17:15	
Dibromofluoromethane	100	70-130	11/6/13 17:15	
Toluene-d8	94	70-130	11/6/13 17:15	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1300
 Date Received: 10/25/13
 Date Analyzed: 11/7/13 18:42

Sample Name: MW13 (50)
 Lab Code: R1308025-025
 Run Type: Dilution

Units: µg/L
 Basis: NA

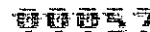
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110713\J1252.D\

Analysis Lot: 367213
 Instrument Name: R-MS-12
 Dilution Factor: 5

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	290	D	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	420	D	10	
108-90-7	Chlorobenzene	10	U	10	
75-00-3	Chloroethane	10	U	10	
67-66-3	Chloroform	480	D	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)	35	D	10	
79-01-6	Trichloroethene (TCE)	13	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	10	U	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	97	70-130	11/7/13 18:42	
Dibromofluoromethane	101	70-130	11/7/13 18:42	
Toluene-d8	95	70-130	11/7/13 18:42	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: OB12DO (59)
Lab Code: R1308025-026

Service Request: R1308025
Date Collected: 10/24/13 1400
Date Received: 10/25/13
Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	53.8	mg/L	1.0	1	NA	11/7/13 11:06	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB12DO (59)
 Lab Code: R1308025-026

Service Request: R1308025
 Date Collected: 10/24/13 1400
 Date Received: 10/25/13

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	10/31/13	11/5/13 07:11	
Manganese, Dissolved	6010C	113		µg/L	10	1	10/31/13	11/6/13 01:43	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1400
 Date Received: 10/25/13
 Date Analyzed: 11/6/13 17:47

Sample Name: OB12DO (59)
 Lab Code: R1308025-026

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110613V1206.D\

Analysis Lot: 367000
 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	2.1		2.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	5.7		2.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	25		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		2.0	
127-18-4	Tetrachloroethene (PCE)	1900	E	2.0	
79-01-6	Trichloroethene (TCE)	6000	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	3300	E	2.0	
10061-01-5	cis-1,3-Dichloropropene	2.0	U	2.0	
156-60-5	trans-1,2-Dichloroethene	51		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	11/6/13 17:47	
Dibromofluoromethane	104	70-130	11/6/13 17:47	
Toluene-d8	92	70-130	11/6/13 17:47	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1400
 Date Received: 10/25/13
 Date Analyzed: 11/7/13 18:10

Sample Name: OB12DO (59)
 Lab Code: R1308025-026
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110713U1251.D\

Analysis Lot: 367213
 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)	1800	D	200	
79-01-6	Trichloroethene (TCE)	18000	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	7500	D	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	97	70-130	11/7/13 18:10	
Dibromofluoromethane	99	70-130	11/7/13 18:10	
Toluene-d8	96	70-130	11/7/13 18:10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

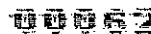
Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: OB27BR (86)
Lab Code: R1308025-027

Service Request: R1308025
Date Collected: 10/24/13 1430
Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	117		mg/L	20	20	NA	11/7/13 10:30	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: OB27BR (86)
 Lab Code: R1308025-027

Service Request: R1308025
 Date Collected: 10/24/13 1430
 Date Received: 10/25/13

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	10/31/13	11/5/13 07:23	
Manganese, Dissolved	6010C	200000		µg/L	2500	50	10/31/13	11/6/13 01:49	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1430
 Date Received: 10/25/13
 Date Analyzed: 11/7/13 14:27

Sample Name: OB27BR (86)
 Lab Code: R1308025-027

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110713U1244.D\

Analysis Lot: 367213
 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)	36		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)	6.1		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	11/7/13 14:27	
Dibromofluoromethane	100	70-130	11/7/13 14:27	
Toluene-d8	94	70-130	11/7/13 14:27	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

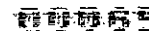
Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: AP31DO (35)
Lab Code: R1308025-028

Service Request: R1308025
Date Collected: 10/24/13 1500
Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	907	mg/L	10	10	NA	11/7/13 11:07	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP31DO (35)
 Lab Code: R1308025-028

Service Request: R1308025
 Date Collected: 10/24/13 1500
 Date Received: 10/25/13

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	10/31/13	11/5/13 07:29	
Manganese, Dissolved	6010C	23300		µg/L	500	50	10/31/13	11/6/13 01:55	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1500
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 06:19

Sample Name: AP31DO (35)
 Lab Code: R1308025-028

Units: µg/L
 Basis: NA

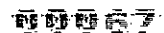
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110413\1141.D\

Analysis Lot: 366594
 Instrument Name: R-MS-12
 Dilution Factor: 10

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	980		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	250		20	
108-90-7	Chlorobenzene	20	U	20	
75-00-3	Chloroethane	20	U	20	
67-66-3	Chloroform	910		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)	620		20	
79-01-6	Trichloroethene (TCE)	20	U	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	97	70-130	11/5/13 06:19	
Dibromofluoromethane	102	70-130	11/5/13 06:19	
Toluene-d8	96	70-130	11/5/13 06:19	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

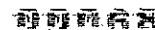
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP32DO (35)
 Lab Code: R1308025-029

Service Request: R1308025
 Date Collected: 10/24/13 1600
 Date Received: 10/25/13

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Chloride	SM 4500-Cl- E	624	mg/L	10	10	NA	11/7/13 10:32	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP32DO (35)
 Lab Code: R1308025-029

Service Request: R1308025
 Date Collected: 10/24/13 1600
 Date Received: 10/25/13

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	10/31/13	11/5/13 07:36	
Manganese, Dissolved	6010C	99100		µg/L	1000	100	10/31/13	11/6/13 02:01	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: 10/24/13 1600
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 21:37

Sample Name: AP32DO (35)
 Lab Code: R1308025-029

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110513V1169.D\

Analysis Lot: 366803
 Instrument Name: R-MS-12
 Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	1800		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	830		40	
108-90-7	Chlorobenzene	40	U	40	
75-00-3	Chloroethane	40	U	40	
67-66-3	Chloroform	2600		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)	270		40	
79-01-6	Trichloroethene (TCE)	49		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	11/5/13 21:37	
Dibromofluoromethane	102	70-130	11/5/13 21:37	
Toluene-d8	96	70-130	11/5/13 21:37	

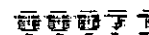
Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308025-MB1

Service Request: R1308025
 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	11/7/13 10:07	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

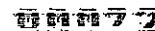
Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308025-MB2

Service Request: R1308025
 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	11/7/13 10:26	



ALS Group USA, Corp. dba ALS Environmental

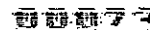
Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1308025-MB3

Service Request: R1308025
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	11/7/13 10:54	



ALS Group USA, Corp. dba ALS Environmental

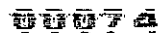
Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308025-MB

Service Request: R1308025
 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	10/31/13	11/5/13 00:57	
Manganese, Dissolved	6010C	10	U	µg/L	10	1	10/31/13	11/5/13 23:12	



Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/4/13 12:38

Sample Name: Method Blank
 Lab Code: RQ1313857-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413V1108.D\

Analysis Lot: 366590
 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	98	70-130	11/4/13 12:38	
Dibromofluoromethane	102	70-130	11/4/13 12:38	
Toluene-d8	95	70-130	11/4/13 12:38	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/5/13 02:04

Sample Name: Method Blank
 Lab Code: RQ1313858-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110413\J1133.D\

Analysis Lot: 366594
 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	96	70-130	11/5/13 02:04	
Dibromofluoromethane	100	70-130	11/5/13 02:04	
Toluene-d8	96	70-130	11/5/13 02:04	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/5/13 15:16

Sample Name: Method Blank
 Lab Code: RQ1313942-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110513\1157.D\

Analysis Lot: 366803
 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	98	70-130	11/5/13 15:16	
Dibromofluoromethane	100	70-130	11/5/13 15:16	
Toluene-d8	97	70-130	11/5/13 15:16	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/6/13 14:36

Sample Name: Method Blank
 Lab Code: RQ1314013-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\110613\1200.D\

Analysis Lot: 367000
 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	98	70-130	11/6/13 14:36	
Dibromofluoromethane	101	70-130	11/6/13 14:36	
Toluene-d8	97	70-130	11/6/13 14:36	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/7/13 12:51

Sample Name: Method Blank
 Lab Code: RQ1314102-06

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\110713\1241.D\

Analysis Lot: 367213
 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	97	70-130	11/7/13 12:51	
Dibromofluoromethane	99	70-130	11/7/13 12:51	
Toluene-d8	95	70-130	11/7/13 12:51	

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/7/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Lab Control Sample
 R1308025-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	SM 4500-Cl- E	24.3	25.0	97	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/7/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1308025-LCS2			% Rec Limits
		Result	Spike Amount	% Rec	
Chloride	SM 4500-Cl- E	24.5	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/7/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Lab Control Sample
 R1308025-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	SM 4500-Cl- E	24.3	25.0	97	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/ 5/13

Lab Control Sample Summary
 Inorganic Parameters

Units: µg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1308025-LCS			% Rec Limits
		Result	Spike Amount	% Rec	
Iron, Dissolved	6010C	1030	1000	103	80 - 120
Manganese, Dissolved	6010C	510	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/ 4/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 366590

Analyte Name	Lab Control Sample RQ1313857-03			Duplicate Lab Control Sample RQ1313857-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	20.4	20.0	102	20.1	20.0	100	70 - 130	2	20
1,1,2,2-Tetrachloroethane	22.7	20.0	114	20.2	20.0	101	70 - 130	12	20
1,1,2-Trichloroethane	22.6	20.0	113	20.9	20.0	105	70 - 130	8	20
1,1-Dichloroethane (1,1-DCA)	19.6	20.0	98	18.9	20.0	94	70 - 130	4	20
1,1-Dichloroethene (1,1-DCE)	23.0	20.0	115	21.5	20.0	108	70 - 130	7	20
1,2-Dichloroethane	21.7	20.0	108	20.8	20.0	104	70 - 130	4	20
1,2-Dichloropropane	20.3	20.0	102	19.4	20.0	97	70 - 130	5	20
Acetone	17.4	20.0	87	15.0	20.0	75	40 - 160	14	20
Bromodichloromethane	22.1	20.0	111	20.6	20.0	103	70 - 130	7	20
Bromoform	23.4	20.0	117	19.6	20.0	98	70 - 130	17	20
Bromomethane	14.0	20.0	70	12.5	20.0	63	40 - 160	11	20
Carbon Tetrachloride	22.4	20.0	112	21.7	20.0	108	70 - 130	3	20
Chlorobenzene	22.1	20.0	111	21.5	20.0	107	70 - 130	3	20
Chloroethane	17.2	20.0	86	17.1	20.0	85	70 - 130	<1	20
Chloroform	18.5	20.0	92	18.1	20.0	91	70 - 130	2	20
Chloromethane	14.6	20.0	73	13.9	20.0	69	40 - 160	5	20
Dibromochloromethane	23.4	20.0	117	20.9	20.0	104	70 - 130	11	20
Methylene Chloride	19.9	20.0	100	19.2	20.0	96	70 - 130	4	20
Tetrachloroethene (PCE)	22.8	20.0	114	22.3	20.0	111	70 - 130	2	20
Trichloroethene (TCE)	22.3	20.0	112	22.3	20.0	111	70 - 130	<1	20
Trichlorofluoromethane (CFC 11)	20.5	20.0	102	19.8	20.0	99	70 - 130	4	20
Vinyl Chloride	17.0	20.0	85	17.1	20.0	85	70 - 130	<1	20
cis-1,2-Dichloroethene	20.7	20.0	103	20.1	20.0	100	70 - 130	3	20
cis-1,3-Dichloropropene	21.2	20.0	106	19.5	20.0	98	70 - 130	8	20
trans-1,2-Dichloroethene	20.3	20.0	102	20.1	20.0	100	70 - 130	1	20
trans-1,3-Dichloropropene	22.5	20.0	112	20.1	20.0	100	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/ 5/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 366594

Analyte Name	Lab Control Sample RQ1313858-03			Duplicate Lab Control Sample RQ1313858-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	19.1	20.0	95	16.5	20.0	82	70 - 130	15	20
1,1,2,2-Tetrachloroethane	20.2	20.0	101	18.8	20.0	94	70 - 130	7	20
1,1,2-Trichloroethane	20.4	20.0	102	20.1	20.0	100	70 - 130	2	20
1,1-Dichloroethane (1,1-DCA)	18.5	20.0	92	15.6	20.0	78	70 - 130	17	20
1,1-Dichloroethene (1,1-DCE)	20.5	20.0	102	17.5	20.0	88	70 - 130	15	20
1,2-Dichloroethane	20.6	20.0	103	18.8	20.0	94	70 - 130	9	20
1,2-Dichloropropane	19.0	20.0	95	17.6	20.0	88	70 - 130	8	20
Acetone	18.9	20.0	94	18.2	20.0	91	40 - 160	4	20
Bromodichloromethane	20.3	20.0	101	18.5	20.0	92	70 - 130	9	20
Bromoform	22.7	20.0	114	20.8	20.0	104	70 - 130	9	20
Bromomethane	14.1	20.0	70	12.5	20.0	62	40 - 160	12	20
Carbon Tetrachloride	20.7	20.0	104	17.8	20.0	89	70 - 130	15	20
Chlorobenzene	20.2	20.0	101	18.1	20.0	91	70 - 130	11	20
Chloroethane	16.0	20.0	80	13.5	20.0	67 *	70 - 130	17	20
Chloroform	17.2	20.0	86	15.3	20.0	76	70 - 130	12	20
Chloromethane	13.6	20.0	68	11.6	20.0	58	40 - 160	16	20
Dibromochloromethane	21.7	20.0	108	20.6	20.0	103	70 - 130	5	20
Methylene Chloride	18.9	20.0	94	17.0	20.0	85	70 - 130	10	20
Tetrachloroethene (PCE)	20.8	20.0	104	18.0	20.0	90	70 - 130	14	20
Trichloroethene (TCE)	20.4	20.0	102	19.2	20.0	96	70 - 130	6	20
Trichlorofluoromethane (CFC 11)	18.2	20.0	91	15.6	20.0	78	70 - 130	16	20
Vinyl Chloride	15.9	20.0	80	13.0	20.0	65 *	70 - 130	20	20
cis-1,2-Dichloroethene	19.1	20.0	95	17.3	20.0	86	70 - 130	10	20
cis-1,3-Dichloropropene	19.5	20.0	97	17.8	20.0	89	70 - 130	9	20
trans-1,2-Dichloroethene	18.7	20.0	94	15.9	20.0	80	70 - 130	16	20
trans-1,3-Dichloropropene	20.1	20.0	100	18.8	20.0	94	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/ 5/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 366803

Analyte Name	Lab Control Sample RQ1313942-03			Duplicate Lab Control Sample RQ1313942-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	21.0	20.0	105	20.2	20.0	101	70 - 130	4	20
1,1,2,2-Tetrachloroethane	21.7	20.0	109	21.0	20.0	105	70 - 130	3	20
1,1,2-Trichloroethane	21.7	20.0	109	20.9	20.0	104	70 - 130	4	20
1,1-Dichloroethane (1,1-DCA)	19.9	20.0	100	19.6	20.0	98	70 - 130	2	20
1,1-Dichloroethene (1,1-DCE)	23.1	20.0	116	21.5	20.0	108	70 - 130	7	20
1,2-Dichloroethane	20.8	20.0	104	20.8	20.0	104	70 - 130	<1	20
1,2-Dichloropropane	20.0	20.0	100	20.0	20.0	100	70 - 130	<1	20
Acetone	15.7	20.0	79	17.5	20.0	88	40 - 160	11	20
Bromodichloromethane	21.7	20.0	108	21.4	20.0	107	70 - 130	1	20
Bromoform	21.9	20.0	109	21.5	20.0	107	70 - 130	2	20
Bromomethane	14.6	20.0	73	14.3	20.0	72	40 - 160	2	20
Carbon Tetrachloride	22.3	20.0	111	20.9	20.0	104	70 - 130	6	20
Chlorobenzene	21.7	20.0	108	21.1	20.0	105	70 - 130	3	20
Chloroethane	17.9	20.0	90	17.6	20.0	88	70 - 130	2	20
Chloroform	19.1	20.0	95	18.2	20.0	91	70 - 130	5	20
Chloromethane	15.5	20.0	77	15.4	20.0	77	40 - 160	<1	20
Dibromochloromethane	22.2	20.0	111	21.5	20.0	107	70 - 130	3	20
Methylene Chloride	20.4	20.0	102	19.4	20.0	97	70 - 130	5	20
Tetrachloroethene (PCE)	22.2	20.0	111	21.1	20.0	105	70 - 130	5	20
Trichloroethene (TCE)	22.4	20.0	112	21.4	20.0	107	70 - 130	5	20
Trichlorofluoromethane (CFC 11)	20.6	20.0	103	20.3	20.0	101	70 - 130	1	20
Vinyl Chloride	18.4	20.0	92	17.4	20.0	87	70 - 130	6	20
cis-1,2-Dichloroethene	20.7	20.0	104	20.3	20.0	101	70 - 130	2	20
cis-1,3-Dichloropropene	20.8	20.0	104	20.3	20.0	102	70 - 130	2	20
trans-1,2-Dichloroethene	21.2	20.0	106	19.7	20.0	98	70 - 130	8	20
trans-1,3-Dichloropropene	22.0	20.0	110	20.8	20.0	104	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/6/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 367000

Analyte Name	Lab Control Sample RQ1314013-03			Duplicate Lab Control Sample RQ1314013-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	20.3	20.0	102	20.5	20.0	102	70 - 130	<1	20
1,1,2,2-Tetrachloroethane	21.6	20.0	108	20.5	20.0	102	70 - 130	6	20
1,1,2-Trichloroethane	21.3	20.0	107	21.0	20.0	105	70 - 130	2	20
1,1-Dichloroethane (1,1-DCA)	19.6	20.0	98	19.6	20.0	98	70 - 130	<1	20
1,1-Dichloroethene (1,1-DCE)	23.2	20.0	116	23.1	20.0	115	70 - 130	<1	20
1,2-Dichloroethane	21.1	20.0	105	20.7	20.0	103	70 - 130	2	20
1,2-Dichloropropane	20.0	20.0	100	20.1	20.0	100	70 - 130	<1	20
Acetone	19.5	20.0	98	17.3	20.0	87	40 - 160	12	20
Bromodichloromethane	21.8	20.0	109	21.9	20.0	109	70 - 130	<1	20
Bromoform	22.5	20.0	113	21.7	20.0	108	70 - 130	4	20
Bromomethane	16.1	20.0	81	15.7	20.0	78	40 - 160	3	20
Carbon Tetrachloride	22.0	20.0	110	21.9	20.0	109	70 - 130	<1	20
Chlorobenzene	20.9	20.0	104	20.9	20.0	105	70 - 130	<1	20
Chloroethane	18.9	20.0	94	18.7	20.0	94	70 - 130	1	20
Chloroform	18.7	20.0	94	18.8	20.0	94	70 - 130	<1	20
Chloromethane	17.2	20.0	86	17.5	20.0	88	40 - 160	2	20
Dibromochloromethane	22.6	20.0	113	22.1	20.0	110	70 - 130	2	20
Methylene Chloride	20.0	20.0	100	19.8	20.0	99	70 - 130	1	20
Tetrachloroethene (PCE)	21.5	20.0	108	22.0	20.0	110	70 - 130	2	20
Trichloroethene (TCE)	21.3	20.0	107	22.2	20.0	111	70 - 130	4	20
Trichlorofluoromethane (CFC 11)	20.5	20.0	102	20.8	20.0	104	70 - 130	2	20
Vinyl Chloride	18.9	20.0	95	19.2	20.0	96	70 - 130	2	20
cis-1,2-Dichloroethene	20.6	20.0	103	20.9	20.0	104	70 - 130	1	20
cis-1,3-Dichloropropene	20.8	20.0	104	21.1	20.0	106	70 - 130	1	20
trans-1,2-Dichloroethene	20.5	20.0	102	20.6	20.0	103	70 - 130	<1	20
trans-1,3-Dichloropropene	21.5	20.0	108	21.3	20.0	106	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.

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308025
 Date Analyzed: 11/7/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

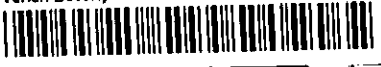
Units: µg/L
 Basis: NA

Analysis Lot: 367213

Analyte Name	Lab Control Sample RQ1314102-04			Duplicate Lab Control Sample RQ1314102-05			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	20.5	20.0	102	20.6	20.0	103	70 - 130	<1	20
1,1,2,2-Tetrachloroethane	20.6	20.0	103	20.1	20.0	101	70 - 130	2	20
1,1,2-Trichloroethane	20.8	20.0	104	20.9	20.0	105	70 - 130	<1	20
1,1-Dichloroethane (1,1-DCA)	19.4	20.0	97	19.8	20.0	99	70 - 130	2	20
1,1-Dichloroethene (1,1-DCE)	22.5	20.0	113	23.3	20.0	117	70 - 130	4	20
1,2-Dichloroethane	21.1	20.0	106	20.6	20.0	103	70 - 130	3	20
1,2-Dichloropropane	19.9	20.0	99	19.9	20.0	99	70 - 130	<1	20
Acetone	18.8	20.0	94	18.9	20.0	94	40 - 160	<1	20
Bromodichloromethane	21.3	20.0	107	21.4	20.0	107	70 - 130	<1	20
Bromoform	21.4	20.0	107	20.6	20.0	103	70 - 130	4	20
Bromomethane	16.8	20.0	84	14.7	20.0	74	40 - 160	13	20
Carbon Tetrachloride	21.9	20.0	110	22.4	20.0	112	70 - 130	2	20
Chlorobenzene	21.2	20.0	106	21.6	20.0	108	70 - 130	2	20
Chloroethane	17.6	20.0	88	18.1	20.0	91	70 - 130	3	20
Chloroform	18.3	20.0	91	18.5	20.0	92	70 - 130	1	20
Chloromethane	17.1	20.0	86	17.5	20.0	88	40 - 160	2	20
Dibromochloromethane	21.9	20.0	110	21.6	20.0	108	70 - 130	1	20
Methylene Chloride	19.8	20.0	99	20.4	20.0	102	70 - 130	3	20
Tetrachloroethene (PCE)	22.0	20.0	110	22.9	20.0	114	70 - 130	4	20
Trichloroethene (TCE)	21.8	20.0	109	22.8	20.0	114	70 - 130	4	20
Trichlorofluoromethane (CFC 11)	20.2	20.0	101	21.2	20.0	106	70 - 130	5	20
Vinyl Chloride	18.4	20.0	92	19.0	20.0	95	70 - 130	3	20
cis-1,2-Dichloroethene	20.4	20.0	102	20.9	20.0	104	70 - 130	2	20
cis-1,3-Dichloropropene	20.9	20.0	104	20.5	20.0	102	70 - 130	2	20
trans-1,2-Dichloroethene	20.4	20.0	102	21.1	20.0	105	70 - 130	3	20
trans-1,3-Dichloropropene	21.1	20.0	105	20.8	20.0	104	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.

Project Name Varian Beverly		Project Number 150148-04000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)												
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE 1 2 0												
Company/Address Shaw Environmental, A CB&I Co.				NUMBER OF CONTAINERS	GC/MS VOA's: <input type="checkbox"/> 8260 <input type="checkbox"/> 824 <input type="checkbox"/> CLP LIST GC/MS SVOA's: <input type="checkbox"/> 8270 <input type="checkbox"/> 825 GC VOA's: <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES: <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCB's: <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED Fe + Chloride (List in comments below)											
150 Royall Street																
Canton, MA 02021																
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com														
Sampler's Signature <i>[Signature]</i>		Sampler's Printed Name Raymond Cadorette		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												
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE TIME MATRIX														
OB 36 DO (51.5)		10/24/13	0930 GW													
OB 37 DO (59)			1030													
OB 34 DO (63)			1130													
OB 32 DO (60)			1200													
MW 13 (50)			1300													
OB 12 DO (59)			1400													
OB 27 BR (86)			1430													
AP 31 DO (35)			1500													
AP 32 DO (35)			1600													
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site Specific VOC list. Massachusetts CAM analyses reporting and QA/QC. Please email GISKey formatted EDD & PDF of report to: Catherine.Mainville@CBI.com.				TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day ___ 5 day <input checked="" type="checkbox"/> Standard				REPORT REQUIREMENTS I. Results Only II. Results + OC Summaries (LCS, DUP, MS/MSD as required) III. Results + OC and Calibration Summaries IV. Data Validation Report with Raw Data				INVOICE INFORMATION PO #: 879489 873800 BILL TO: CB&I				
See QAPP <input type="checkbox"/>				REQUESTED REPORT DATE				Edata <input checked="" type="checkbox"/> Yes ___ No				R1308025 7 Y CB&I Environmental & Infrastructure Varian Beverly 				
STATE WHERE SAMPLES WERE COLLECTED:																
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY						
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>						
Printed Name Raymond Cadorette		Printed Name Craig Packard		Printed Name		Printed Name		Printed Name		Printed Name						
Firm CB&I		Firm ALS		Firm		Firm		Firm		Firm						
Date/Time 10/24/13 1700		Date/Time 10/25/13 0920		Date/Time		Date/Time		Date/Time		Date/Time						

Project Name Varian Beverly		Project Number 150148-04000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)														
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE 1 20														
Company/Address Shaw Environmental, A CB&I Co.				NUMBER OF CONTAINERS	GC/MS VOAs Site Specific <input type="checkbox"/> 8260 <input type="checkbox"/> 824 <input type="checkbox"/> CLP <input type="checkbox"/> 151 <input type="checkbox"/> 8270 <input type="checkbox"/> 825 GC VOAs <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCBs <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) Chloride												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 _____	
150 Royall Street																		
Canton, MA 02021																		
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com																
Sampler's Signature 		Sampler's Printed Name Raymond Cadorette																
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE TIME		MATRIX													REMARKS/ ALTERNATE DESCRIPTION	
BW-5 (15)		10-22-13	1500	GW	3	3												
BW-6 (14)			1530		3	3												
BW-8 (14)			1300		3	3												
BW-9 (14)			1330		3	3												
OB 9 DO (95)			1400		3	3												
OB 9 BR (121)			1430		3	3												
STR-3		10-23-13	0830		3	3												
MW-9A (13.33)			0930		3	3												
MW-5 (23)			1000		3	3												
MW-16 (35)			1030		3	3												
SPECIAL INSTRUCTIONS/COMMENTS Metals=Field Filtered Site specific VOC list. Massachusetts CAM analyses reporting and QA/QC. Please email GISKey formatted EDD & PDF of report to: Catherine.Mainville@CBI.com.					TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day ___ 5 day <input checked="" type="checkbox"/> 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 #: 873800 BILL TO: CB&I					
See QAPP <input type="checkbox"/>					REQUESTED REPORT DATE				Edata <input checked="" type="checkbox"/> Yes ___ No									
STATE WHERE SAMPLES WERE COLLECTED: MA																		
RELINQUISHED BY				RECEIVED BY				RELINQUISHED BY				RECEIVED BY						
								Signature				Signature						
Printed Name Raymond Cadorette				Printed Name Craig Packard				Printed Name				Printed Name						
Firm CBI				Firm ALS				Firm				Firm						
Date/Time 10-22-13 1500				Date/Time 10/25/13 0920				Date/Time				Date/Time						

Project Name Varian Beverly		Project Number 150148-04000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)													
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE													
Company/Address Shaw Environmental, A CB&I Company				NUMBER OF CONTAINERS	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> GC/MS VOA's Site Specific <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP List GC/MS SVOA's <input type="checkbox"/> 8270 <input type="checkbox"/> 625 GC VOA's <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCBs <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) Chloride </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> 20 </div> </div>												
150 Royall Street																	
Canton, MA 02021																	
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com															
Sampler's Signature 		Sampler's Printed Name Paul Hedoux		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													
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID	SAMPLING DATE TIME		MATRIX												
OB 20 DO (65) OB 26 DO (65)			10.23.13 1130		GW												
OB 19 DO (64)			1230														
AP 26 DO (64)			1300														
OB 25 BR (99)			1330														
B-2 (12)			1430														
AP 27 DO (59)			1500														
OB 38 DO (46)			1400														
AP 12 DO (57)			1530														
AP 12 BR (81)			1600														
OB 35 DO (56)			10.24.13 0930														
SPECIAL INSTRUCTIONS/COMMENTS Metals = Field Filtered Site Specific VOC list. Massachusetts CAM analyses reporting and QA/QC. Please email GISKey formatted EDD & PDF of report to: Catherine.Mainville@CBI.com.				TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day ___ 5 day <input checked="" type="checkbox"/> Standard				REPORT REQUIREMENTS ___ I. Results Only ___ II. Results + OC Summaries (LCS, DUP, MS/MSD as required) ___ III. Results + OC and Calibration Summaries ___ IV. Data Validation Report with Raw Data				INVOICE INFORMATION PO #: 873800 BILL TO: CB&I					
See QAPP <input type="checkbox"/>				REQUESTED REPORT DATE				Edata <input checked="" type="checkbox"/> Yes ___ No									
STATE WHERE SAMPLES WERE COLLECTED: MA																	
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY			
Printed Name Paul Hedoux		Printed Name Chris Packard		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name			
Firm CBI		Firm ALS		Firm		Firm		Firm		Firm		Firm		Firm			
Date/Time 10.24.13 1700		Date/Time 10/25/13 0920		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time			



Cooler Receipt and Preservation Check Form

Project/Client The Shaw Group Folder Number _____

Cooler received on 10/25 by: CP 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: 3.6 5.3 _____

Is the temperature within 0° - 6° C?: YN YN YN YN YN
If No, Explain Below Date/Time Temperatures Taken: 10/25 0930, 0941

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 R002 by CP on 10/25 at 0936, 0946, 0948
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review

Cooler Breakdown: Date: 10/25 Time: 1604 by: JFS

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:
		YES	NO							
≥12	NaOH									
≤2	HNO ₃			B0326131C	10/14					
≤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: client
Other Comments:

PC Secondary Review: MD 10/25/13

*significant air bubbles: VOA > 5-6 mm : WC ≥ 1 in. diameter



November 14, 2013

Service Request No: R1308026

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

Laboratory Results for: Varian Beverly/1510151-03000000

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on October 25, 2013. For your reference, these analyses have been assigned our service request number **R1308026**.

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.

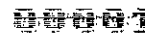
Please contact me if you have any questions. My extension is 7469. You may also contact me via email at Mike.Perry@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental


Michael Perry
Laboratory Manager

Page 1 of 32



CASE NARRATIVE

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1308026
Project Number: 150151-03000000
Date Received: 10/25/13

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 10/22/13 and received at ALS in good condition at cooler temperatures of 3.6 – 5.3 °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

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.

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes.

All Surrogate Standard recoveries were within QC limits.

The Blank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were all within QC limits.

All samples were analyzed within the required holding time of 14 days.

Modified RSK-175

Four 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.

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.

TOC Analyses

Four 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.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 150151-03000000

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1308026 – 001 - 004

Matrices: 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: 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?	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
<p>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.</p>		
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)	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 Director

Printed Name: Michael K. Perry

Date: 11/14/13

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1308026

<u>Lab ID</u>	<u>Client ID</u>
R1308026-001	AP25DO (46.75)
R1308026-002	MW9 (20.21)
R1308026-003	OB9S (29)
R1308026-004	OB15S (18.47)

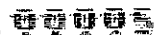
REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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. Jacobs".

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

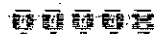
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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/1510151-03000000
 Sample Matrix: Water
 Sample Name: AP25DO (46.75)
 Lab Code: R1308026-001

Service Request: R1308026
 Date Collected: 10/22/13 1200
 Date Received: 10/25/13

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	1.8		mg/L	1.0	1	NA	11/1/13 20:21	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water

Service Request: R1308026
Date Collected: 10/22/13 1200
Date Received: 10/25/13
Date Analyzed: 10/28/13 14:51

Sample Name: AP25DO (46.75)
Lab Code: R1308026-001

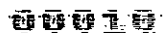
Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1020.run

Analysis Lot: 365460
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	5.7		1.0	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Collected: 10/22/13 1200
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 13:26

Sample Name: AP25DO (46.75)
 Lab Code: R1308026-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3644.D\

Analysis Lot: 366740
 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)	100	U	100	
79-01-6	Trichloroethene (TCE)	100	U	100	
75-69-4	Trichlorofluoromethane (CFC 11)	100	U	100	
75-01-4	Vinyl Chloride	3900		100	
156-59-2	cis-1,2-Dichloroethene	9100		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	92	70-130	11/5/13 13:26	
Dibromofluoromethane	112	70-130	11/5/13 13:26	
Toluene-d8	93	70-130	11/5/13 13:26	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water
Sample Name: MW9 (20.21)
Lab Code: R1308026-002

Service Request: R1308026
Date Collected: 10/22/13 1030
Date Received: 10/25/13

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	1910	mg/L	100	100	NA	11/1/13 20:42	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water

Service Request: R1308026
Date Collected: 10/22/13 1030
Date Received: 10/25/13
Date Analyzed: 10/28/13 15:08

Sample Name: MW9 (20.21)
Lab Code: R1308026-002

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1021.run

Analysis Lot: 365460
Instrument Name: R-GC-02
Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	1000	250	
74-85-1	Ethene	3000	250	
74-82-8	Methane	15000	250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Collected: 10/22/13 1030
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 16:12

Sample Name: MW9 (20.21)
 Lab Code: R1308026-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3648.D\

Analysis Lot: 366740
 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)	100	U	100	
79-01-6	Trichloroethene (TCE)	100	U	100	
75-69-4	Trichlorofluoromethane (CFC 11)	100	U	100	
75-01-4	Vinyl Chloride	460		100	
156-59-2	cis-1,2-Dichloroethene	1200		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	92	70-130	11/5/13 16:12	
Dibromofluoromethane	112	70-130	11/5/13 16:12	
Toluene-d8	94	70-130	11/5/13 16:12	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water
Sample Name: OB9S (29)
Lab Code: R1308026-003

Service Request: R1308026
Date Collected: 10/22/13 1230
Date Received: 10/25/13

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	81		mg/L	10	10	NA	11/8/13 10:47	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water

Service Request: R1308026
Date Collected: 10/22/13 1230
Date Received: 10/25/13
Date Analyzed: 10/28/13 15:21

Sample Name: OB9S (29)
Lab Code: R1308026-003

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1022.run

Analysis Lot: 365460
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	10000	200	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Collected: 10/22/13 1230
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 16:41

Sample Name: OB9S (29)
 Lab Code: R1308026-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\110513\F3649.D\

Analysis Lot: 366740
 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	8.0		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	3.3		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	93	70-130	11/5/13 16:41	
Dibromofluoromethane	113	70-130	11/5/13 16:41	
Toluene-d8	94	70-130	11/5/13 16:41	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

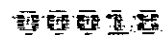
Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water
Sample Name: OB15S (18.47)
Lab Code: R1308026-004

Service Request: R1308026
Date Collected: 10/22/13 1100
Date Received: 10/25/13

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	187		mg/L	20	20	NA	11/8/13 11:08	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water

Service Request: R1308026
Date Collected: 10/22/13 1100
Date Received: 10/25/13
Date Analyzed: 10/28/13 16:03

Sample Name: OB15S (18.47)
Lab Code: R1308026-004

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1026.run

Analysis Lot: 365461
Instrument Name: R-GC-02
Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	340	250	
74-85-1	Ethene	250 U	250	
74-82-8	Methane	13000	250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Collected: 10/22/13 1100
 Date Received: 10/25/13
 Date Analyzed: 11/5/13 17:11

Sample Name: OB15S (18.47)
 Lab Code: R1308026-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\110513\F3650.D\

Analysis Lot: 366740
 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	2.1		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)	2.3		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	57		2.0	
156-59-2	cis-1,2-Dichloroethene	17		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	93	70-130	11/5/13 17:11	
Dibromofluoromethane	114	70-130	11/5/13 17:11	
Toluene-d8	96	70-130	11/5/13 17:11	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

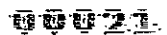
Client: CB&I
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308026-MB1

Service Request: R1308026
 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	11/1/13 17:34	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1308026-MB2

Service Request: R1308026
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	11/8/13 05:14	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water

Service Request: R1308026
Date Collected: NA
Date Received: NA
Date Analyzed: 10/28/13 10:05

Sample Name: Method Blank
Lab Code: RQ1313491-01

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1001.run

Analysis Lot: 365460
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 Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water

Service Request: R1308026
Date Collected: NA
Date Received: NA
Date Analyzed: 10/28/13 15:42

Sample Name: Method Blank
Lab Code: RQ1313492-01

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1024.run

Analysis Lot: 365461
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 Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/5/13 12:56

Sample Name: Method Blank
 Lab Code: RQ1313957-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQU\DATA\msvov10\data\110513\F3643.D\

Analysis Lot: 366740
 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	11/5/13 12:56	
Dibromofluoromethane	113	70-130	11/5/13 12:56	
Toluene-d8	95	70-130	11/5/13 12:56	

Client: CB&I
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Analyzed: 11/ 1/13

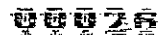
Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Lab Control Sample R1308026-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	10.5	10.0	105	86 - 119

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
Project: Varian Beverly/1510151-03000000
Sample Matrix: Water

Service Request: R1308026
Date Analyzed: 11/ 8/13

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
R1308026-LCS2

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.55	10.0	96	86 - 119

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
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Analyzed: 10/28/13

Lab Control Sample Summary
 Dissolved Gases by GC/FID

Analytical Method: RSK 175

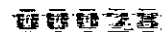
Units: µg/L
 Basis: NA

Analysis Lot: 365460

Analyte Name	Lab Control Sample RQ1313491-02			Duplicate Lab Control Sample RQ1313491-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ethane	24.2	26.1	93	24.0	26.1	92	78 - 134	1	30
Ethene	23.9	24.3	98	23.8	24.3	98	73 - 129	<1	30
Methane	22.8	26.2	87	22.7	26.2	87	76 - 138	<1	30

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
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Analyzed: 10/28/13

Lab Control Sample Summary
 Dissolved Gases by GC/FID

Analytical Method: RSK 175

Units: µg/L
 Basis: NA

Analysis Lot: 365461

Lab Control Sample
 RQ1313492-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Ethane	24.4	26.1	93	78 - 134
Ethene	24.3	24.3	100	73 - 129
Methane	23.2	26.2	89	76 - 138

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
 Project: Varian Beverly/1510151-03000000
 Sample Matrix: Water

Service Request: R1308026
 Date Analyzed: 11/ 5/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 366740

Analyte Name	Lab Control Sample RQ1313957-07			Duplicate Lab Control Sample RQ1313957-08			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	19.4	20.0	97	20.0	20.0	100	70 - 130	3	20
1,1,2,2-Tetrachloroethane	18.7	20.0	93	21.6	20.0	108	70 - 130	15	20
1,1,2-Trichloroethane	18.7	20.0	94	21.2	20.0	106	70 - 130	13	20
1,1-Dichloroethane (1,1-DCA)	18.2	20.0	91	19.3	20.0	97	70 - 130	6	20
1,1-Dichloroethene (1,1-DCE)	21.6	20.0	108	23.0	20.0	115	70 - 130	6	20
1,2-Dichloroethane	17.5	20.0	87	20.2	20.0	101	70 - 130	14	20
1,2-Dichloropropane	17.3	20.0	86	19.4	20.0	97	70 - 130	12	20
Acetone	15.5	20.0	77	21.5	20.0	108	40 - 160	33 *	20
Bromodichloromethane	19.7	20.0	98	22.5	20.0	112	70 - 130	13	20
Bromoform	21.8	20.0	109	24.1	20.0	120	70 - 130	10	20
Bromomethane	18.8	20.0	94	19.0	20.0	95	40 - 160	<1	20
Carbon Tetrachloride	22.3	20.0	111	22.4	20.0	112	70 - 130	<1	20
Chlorobenzene	19.2	20.0	96	20.4	20.0	102	70 - 130	6	20
Chloroethane	18.5	20.0	92	19.0	20.0	95	70 - 130	3	20
Chloroform	20.0	20.0	100	21.2	20.0	106	70 - 130	6	20
Chloromethane	17.2	20.0	86	18.1	20.0	90	40 - 160	5	20
Dibromochloromethane	21.9	20.0	110	23.9	20.0	120	70 - 130	9	20
Methylene Chloride	20.1	20.0	100	21.5	20.0	108	70 - 130	7	20
Tetrachloroethene (PCE)	19.6	20.0	98	20.2	20.0	101	70 - 130	3	20
Trichloroethene (TCE)	20.0	20.0	100	22.3	20.0	112	70 - 130	11	20
Trichlorofluoromethane (CFC 11)	22.5	20.0	112	22.9	20.0	114	70 - 130	2	20
Vinyl Chloride	18.3	20.0	91	18.9	20.0	95	70 - 130	4	20
cis-1,2-Dichloroethene	19.2	20.0	96	21.1	20.0	105	70 - 130	9	20
cis-1,3-Dichloropropene	16.9	20.0	84	19.4	20.0	97	70 - 130	14	20
trans-1,2-Dichloroethene	19.5	20.0	98	20.6	20.0	103	70 - 130	5	20
trans-1,3-Dichloropropene	17.5	20.0	87	19.2	20.0	96	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.



Cooler Receipt and Preservation Check Form

Project/Client The Shaw Group Folder Number R1308026

Cooler received on 10/25 by: CP 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: 3.6 5.3

Is the temperature within 0°-6°C?: Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 10/25 0930, 0941

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 R002 by CP on 10/25 at 0936, 0946, 0948
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: _____

Cooler Breakdown: Date: 10/25 Time: 1640 by: JPS

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									No = Samples were preserved at lab as listed
≤2	HNO ₃	<input checked="" type="checkbox"/>		<u>client</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)						PM OK to Adjust:
	Na ₂ S ₂ O ₃	-	-							
	Zn Aceta	-	-							
	HCl	*	*							

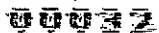
*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: client

Other Comments:

PC Secondary Review: MM/10/25/13
G:\SMODOCS\Cooler Receipt 6.doc 11/6/12

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Data Usability Worksheet

Project Name : Varian Medical Systems, Inc. **Job Number :** 146898.11
Prepared By: Pernilla Haley **Date :** 11/12/2013
Matrix: Air
Analyte Group : Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1308084
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
10/24/13	VOC TO-15		30 Days	10/30/13

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 10/30/2013

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. Sample 32 Tozer SV-4 was reanalyzed at larger dilutions to bring analytes within calibration range of the method. Both dilutions were reported with analytes over the range flagged with an "E" and the diluted analytes flagged with a "D"

Reviewed By: Pernilla Haley 4/1/14



November 06, 2013

Service Request No: R1308084

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 October 29, 2013. For your reference, these analyses have been assigned our service request number **R1308084**.

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.: R1308084
Project No.: 146898
Date Received: 10/29/13

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 10/24/13 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. Sample 32 Tozer-SV4 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.

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

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1308084

<u>Lab ID</u>	<u>Client ID</u>
R1308084-001	32 Tozer- SV3
R1308084-002	32 Tozer- 1
R1308084-003	32 Tozer- SV5
R1308084-004	32 Tozer- 3
R1308084-005	32 Tozer- SV4
R1308084-006	32 Tozer- 2

0000

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):
 R1308084-001 - 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?	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?	X	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 as requested)	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: 

Position: Laboratory Director

Printed Name: Michael K. Perry

Date: 11/07/13

REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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 black ink, appearing to read "Oscar C. Jacobo".

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

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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



REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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.

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer- SV3
 Lab Code: R1308084-001

Service Request: R1308084
 Date Collected: 10/24/13 1130
 Date Received: 10/29/13

Analytical Method: TO-15

Date Analyzed: 10/30/13 1102
 Canister Dilution Factor: 1.70

Initial Pressure (psig): -3.98 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
75-01-4	Vinyl Chloride	9.7	11	11	4.1	4.1	U
75-35-4	1,1-Dichloroethene	9.7	77	77	19	19	U
156-60-5	trans-1,2-Dichloroethene	9.7	77	77	19	19	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	9.7	79	79	19	19	U
156-59-2	cis-1,2-Dichloroethene	9.7	3100	77	790	19	
71-55-6	1,1,1-Trichloroethane (TCA)	9.7	110	110	19	19	U
79-01-6	Trichloroethene (TCE)	9.7	1500	11	280	2.0	
127-18-4	Tetrachloroethene (PCE)	9.7	8100	14	1200	2.1	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	99	70-130	10/30/13 1102	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer- 1
 Lab Code: R1308084-002

Service Request: R1308084
 Date Collected: 10/24/13 1535
 Date Received: 10/29/13

Analytical Method: TO-15

Date Analyzed: 10/30/13 1152
 Canister Dilution Factor: 1.63

Initial Pressure (psig): -3.49 Final Pressure (psig): 3.59

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	800	0.12	0.12	0.048	0.048	U
75-35-4	1,1-Dichloroethene	800	0.90	0.90	0.23	0.23	U
156-60-5	trans-1,2-Dichloroethene	800	0.90	0.90	0.23	0.23	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	800	0.92	0.92	0.23	0.23	U
156-59-2	cis-1,2-Dichloroethene	800	3.3	0.90	0.83	0.23	
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.2	1.2	0.22	0.22	U
79-01-6	Trichloroethene (TCE)	800	1.5	0.12	0.27	0.023	
127-18-4	Tetrachloroethene (PCE)	800	11	0.16	1.6	0.024	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	102	70-130	10/30/13 1152	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146898
Sample Matrix: Air
Sample Name: 32 Tozer- SV5
Lab Code: R1308084-003

Service Request: R1308084
Date Collected: 10/24/13 1140
Date Received: 10/29/13

Analytical Method: TO-15

Date Analyzed: 10/30/13 1241
Canister Dilution Factor: 1.69

Initial Pressure (psig): -3.83 Final Pressure (psig): 3.63

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	800	0.13	0.13	0.050	0.050	U
75-35-4	1,1-Dichloroethene	800	0.93	0.93	0.23	0.23	U
156-60-5	trans-1,2-Dichloroethene	800	0.93	0.93	0.23	0.23	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	800	0.95	0.95	0.23	0.23	U
156-59-2	cis-1,2-Dichloroethene	800	7.9	0.93	2.0	0.23	
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.3	1.3	0.23	0.23	U
79-01-6	Trichloroethene (TCE)	800	4.8	0.13	0.90	0.024	
127-18-4	Tetrachloroethene (PCE)	800	24	0.17	3.6	0.025	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	10/30/13 1241	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer- 3
 Lab Code: R1308084-004

Service Request: R1308084
 Date Collected: 10/24/13 1540
 Date Received: 10/29/13

Analytical Method: TO-15

Date Analyzed: 10/30/13 1558
 Canister Dilution Factor: 1.72

Initial Pressure (psig): -4.13 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
75-01-4	Vinyl Chloride	1000	0.10	0.10	0.040	0.040	U
75-35-4	1,1-Dichloroethene	1000	0.76	0.76	0.19	0.19	U
156-60-5	trans-1,2-Dichloroethene	1000	0.76	0.76	0.19	0.19	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.77	0.77	0.19	0.19	U
156-59-2	cis-1,2-Dichloroethene	1000	0.76	0.76	0.19	0.19	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	1.0	1.0	0.19	0.19	U
79-01-6	Trichloroethene (TCE)	1000	0.10	0.10	0.019	0.019	U
127-18-4	Tetrachloroethene (PCE)	1000	0.33	0.14	0.048	0.020	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	97	70-130	10/30/13 1558	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/146898
Sample Matrix: Air
Sample Name: 32 Tozer- SV4
Lab Code: R1308084-005

Service Request: R1308084
Date Collected: 10/24/13 1150
Date Received: 10/29/13

Analytical Method: TO-15

Date Analyzed: 10/30/13 1416
Canister Dilution Factor: 1.66

Initial Pressure (psig): -3.73 Final Pressure (psig): 3.55

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	200	1.7	0.50	0.65	0.19	
75-35-4	1,1-Dichloroethene	200	3.7	3.7	0.92	0.92	U
156-60-5	trans-1,2-Dichloroethene	200	3.7	3.7	0.92	0.92	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	200	3.7	3.7	0.92	0.92	U
156-59-2	cis-1,2-Dichloroethene	200	80	3.7	20	0.92	
71-55-6	1,1,1-Trichloroethane (TCA)	200	5.0	5.0	0.91	0.91	U
79-01-6	Trichloroethene (TCE)	200	68	0.50	13	0.093	
127-18-4	Tetrachloroethene (PCE)	200	610	0.66	89	0.098	E

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	104	70-130	10/30/13 1416	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer- SV4
 Lab Code: R1308084-005
 Run Type: Dilution

Service Request: R1308084
 Date Collected: 10/24/13 1150
 Date Received: 10/29/13

Analytical Method: TO-15

Date Analyzed: 10/30/13 1642
 Canister Dilution Factor: 1.66

Initial Pressure (psig): -3.73 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
75-01-4	Vinyl Chloride	100	1.8	1.0	0.72	0.39	D
75-35-4	1,1-Dichloroethene	100	7.3	7.3	1.8	1.8	U
156-60-5	trans-1,2-Dichloroethene	100	7.3	7.3	1.8	1.8	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	7.5	7.5	1.8	1.8	U
156-59-2	cis-1,2-Dichloroethene	100	79	7.3	20	1.8	D
71-55-6	1,1,1-Trichloroethane (TCA)	100	10	10	1.8	1.8	U
79-01-6	Trichloroethene (TCE)	100	67	1.0	12	0.19	D
127-18-4	Tetrachloroethene (PCE)	100	610	1.3	89	0.20	D

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	102	70-130	10/30/13 1642	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer- 2
 Lab Code: R1308084-006

Service Request: R1308084
 Date Collected: 10/24/13 1555
 Date Received: 10/29/13

Analytical Method: TO-15

Date Analyzed: 10/30/13 1817
 Canister Dilution Factor: 1.65

Initial Pressure (psig): -3.68 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
75-01-4	Vinyl Chloride	1000	0.099	0.099	0.039	0.039	U
75-35-4	1,1-Dichloroethene	1000	0.73	0.73	0.18	0.18	U
156-60-5	trans-1,2-Dichloroethene	1000	0.73	0.73	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	2.2	0.73	0.55	0.18	
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.99	0.99	0.18	0.18	U
79-01-6	Trichloroethene (TCE)	1000	0.67	0.099	0.12	0.018	
127-18-4	Tetrachloroethene (PCE)	1000	3.9	0.13	0.57	0.019	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	10/30/13 1817	

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: RQ1313675-01

Service Request: R1308084
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 10/30/13 1016

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	101	70-130	10/30/13 1016	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air

Service Request: R1308084

Date Analyzed: 10/30/13

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: 366046

Lab Control Sample


RQ1313675-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	6.99	6.58	106	70 - 130
1,1-Dichloroethene	10.1	10.4	97	70 - 130
trans-1,2-Dichloroethene	9.92	10.4	95	70 - 130
1,1-Dichloroethane (1,1-DCA)	10.1	10.5	96	70 - 130
cis-1,2-Dichloroethene	10.3	10.5	98	70 - 130
1,1,1-Trichloroethane (TCA)	14.7	14.3	103	70 - 130
Trichloroethene (TCE)	13.9	14.0	99	70 - 130
Tetrachloroethene (PCE)	18.2	18.0	102	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.

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: Shaw Environmental, A CB&I Company			Project Name: Varian Beverly			CAS Contact:			
Address: 150 Royall Street			Project Number: 146898-11000000			Analysis Method and/or Analytes			
City, State, Zip: Canton, MA 02021			P.O. #/Billing Information: 853583					TO-15 Site specific List	Comments Specific Instructions
Project Manager: Raymond Cadorette									
Phone: 617-589-6102		Fax: 617-589-5495							
Email (for result reporting):			Sampler (Print & Sign):						
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID				
32 Tozer-SV3		10/24/13	1130	FC0076	SLC00165	X			
32 Tozer-1		↓	1535	FC0074	SLC00072	↓			
32 Tozer-SV5		↓	1140	FC00823	SLC00180				
32 Tozer-3		↓	1540	FC00822	SLC00068				
32 Tozer-SV4		↓	1150	FC00774	SLC00171				
32 Tozer-2		↓	1555	FC00754	SLC00173	↓			
						R1308084 7 Y			
						<small>CB&I Environmental & Infrastructure Varian Beverly Air Samples</small> 			
What State were samples collected in:						Project Requirements (MRLs, QAPP, etc.) Note for second run. QA/QC: MADEP CAM Report only: 1,1,1-TCA, 1,1,1-DCA 1,1-DCE, PCE, TCE, VC, cis-1,2-DCE, trans-1,2-DCE.			
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: <u>GISKey</u> EDD Units: <u>ug/m3 & ppmV</u>			
Relinquished by: (Signature) <i>[Signature]</i>		Date: 10/24/13	Time: 530	Received by: (Signature) <i>[Signature]</i>		Date: 10-29-13	Time: 09:05		
Relinquished by: (Signature) <i>[Signature]</i>		Date:	Time:	Received by: (Signature)		Date:	Time:		
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Date:	Time:		



Cooler Receipt and Preservation Check Form

Project/Client CB+I, SHAW Folder Number _____

Cooler received on 10-29-13 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 SMO by KE on 10/29/13 at 09:25
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: _____

Cooler Breakdown: Date: 10/29/13 Time: 1105 by: JFS

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
		YES	NO							
≥12	NaOH									No = Samples were preserved at lab as listed
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									PM OK to Adjust:
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	-	-							
	Zn Aceta	-	-							
	HCl	*	*							

*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: cons
Other Comments:

PC Secondary Review: MKP 10/29/13

*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: Dale Dailey

Date : 12/18/2013

Matrix: Water

Analyte Group: Total Organics

Analytical Method : EPA Method SM20 5310 C

Completed MADEP CAM Certification Form included: Yes

Laboratory ID No. : R1308219

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
10/15, 10/21, 10/31/13	SM20 5310 C		28 Days	11/28, 12/3, 12/5/13

Sample temperature within QC limits: Yes (4.8° C)

Surrogate Recovery

Are all % recoveries within the allowable range ? Ye: NA

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: SM20 5310 C 11/28, 12/2, 12/3, 12/5/13

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:

(1) Samples AP23DO-BIO-01, APDO-BIO-02, and AP24DO-BIO-02 were reanalyzed at dilutions to bring target analytes within the calibration range of the method. Both dilutions have been reported with the value over the calibration range flagged with an "E".

(2) Samples AP23DO-BIO-01, APDO-BIO-02, and AP24DO-BIO-02 were reanalyzed **outside of the 28 day hold time.** applicable data was qualified J/UJ.

(3) All LCS within QC Limits.

Reviewed By: Pernilla Haley 4/14/14



December 10, 2013

Service Request No: R1308219

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

Laboratory Results for: Varian Beverly/150148-04000000

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on November 1, 2013. For your reference, these analyses have been assigned our service request number **R1308219**.

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 24

CASE NARRATIVE

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1308219
Project Number: 150151-03000000
Date Received: 11/01/13

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 10/15/13 – 10/31/13 and received at ALS in good condition at cooler temperature of 1.8 °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 #.

Note: samples AP23DO-BIO-03 and AP24DO-BIO-01 were received broken.

TOC Analyses

Four water samples were analyzed for TOC by method SM20 5310C.

Samples AP23DO-BIO-01, APDO-BIO-02, and AP24DO-BIO-02 were reanalyzed at dilutions to bring target analytes within the calibration range of the method. Both dilutions have been reported with the value over the calibration range flagged with an "E". The re-analyses were performed outside the 28 day holding time and was flagged with an "**".

The initial and continuing calibration criteria were met for all analytes.

All Blank Spike (LCS) recoveries were within QC limits.

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1308219

<u>Lab ID</u>	<u>Client ID</u>
R1308219-001	AP23DO-BIO-01
R1308219-003	AP23DO-BIO-02
R1308219-004	AP24DO-BIO-02
R1308219-006	AP24DO-BIO-04

00003

REPORT QUALIFIERS AND DEFINITIONS

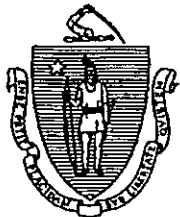
- | | |
|---|--|
| <p>U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.</p> <p>J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration 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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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. Jacobo".

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



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/150148-04000000
Sample Matrix: Water
Sample Name: AP23DO-BIO-01
Lab Code: R1308219-001

Service Request: R1308219
Date Collected: 10/31/13 1115
Date Received: 11/1/13

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	413	E	mg/L	1.0	1	NA	11/28/13 08:20	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP23DO-BIO-01
 Lab Code: R1308219-001
 Run Type: Reanalysis

Service Request: R1308219
 Date Collected: 10/31/13 1115
 Date Received: 11/1/13

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	193	mg/L	20	20	NA	12/3/13 06:46	*



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: AP23DO-BIO-02
Lab Code: R1308219-003

Service Request: R1308219
Date Collected: 10/31/13 0800
Date Received: 11/1/13

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	135000	E	mg/L	1.0	1	NA	11/28/13 08:51	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP23DO-BIO-02
 Lab Code: R1308219-003
 Run Type: Reanalysis

Service Request: R1308219
 Date Collected: 10/31/13 0800
 Date Received: 11/ 1/13

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	260	mg/L	100	100	NA	12/5/13 15:32	*

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: AP24DO-BIO-02
Lab Code: R1308219-004

Service Request: R1308219
Date Collected: 10/31/13 0815
Date Received: 11/1/13

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	34.0	E	mg/L	1.0	1	NA	11/28/13 09:02	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: AP24DO-BIO-02
 Lab Code: R1308219-004
 Run Type: Reanalysis

Service Request: R1308219
 Date Collected: 10/31/13 0815
 Date Received: 11/1/13

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	29.4	mg/L	2.0	2	NA	12/3/13 09:10	*

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: AP24DO-BIO-04
Lab Code: R1308219-006

Service Request: R1308219
Date Collected: 10/31/13 0815
Date Received: 11/1/13

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	20.3		mg/L	1.0	1	NA	11/28/13 09:23	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308219-MB1

Service Request: R1308219
 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	11/28/13 01:06	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1308219-MB2

Service Request: R1308219
 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	12/2/13 16:30	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1308219-MB3

Service Request: R1308219
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	12/3/13 08:08	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150148-04000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1308219-MB4

Service Request: R1308219
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	12/5/13 13:30	

Client: CB&I
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308219
 Date Analyzed: 11/28/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Lab Control Sample
 R1308219-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.73	10.0	97	86 - 119

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
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308219
 Date Analyzed: 12/ 2/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1308219-LCS2			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	10.5	10.0	105	86 - 119

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/150148-04000000
Sample Matrix: Water

Service Request: R1308219
Date Analyzed: 12/3/13

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1308219-LCS3			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	9.70	10.0	97	86 - 119

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
 Project: Varian Beverly/150148-04000000
 Sample Matrix: Water

Service Request: R1308219
 Date Analyzed: 12/ 5/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1308219-LCS4			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	9.86	10.0	99	86 - 119

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/LABORATORY ANALYSIS REQUEST FORM 11366

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 Varian		Project Number 150151		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																	
Project Manager Ray Cadorette		Report CC		PRESERVATIVE																	
Company/Address 150 Royall Dr. Lantern, MA 02021 Shaw / CB; I		Email raymond.cadorette@cbi.com		NUMBER OF CONTAINERS	GC/MS VOA's • 8260 • 821 • CLP	GC/MS SVO's • 8270 • 825	GC VOA's • 8021 • 801/802	PESTICIDES • 8031 • 808	PCBs • 8082 • 808	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Total Organics Carbon	3.	PRESERVATIVE KEY							
Phone # 617-549-6102														0. NONE 1. HCL 2. HNO ₃ 3. H ₂ SO ₄ 4. NaOH 5. Zn. Acetate 6. MeOH 7. NaHSO ₄ 8. Other _____							
Sampler's Signature [Signature]														Sampler's Printed Name Dale Danley							
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID	SAMPLING DATE		TIME		MATRIX														
AP23DO-BIO-01			10/15/13		11:15		GW		X												
AP24DO-BIO-01			10/15/13		11:30		GW		X												
AP23DO-BIO-02			10/21/13		8:00		GW		X												
AP23DO-BIO-02			10/21/13		-		-														
AP24DO-BIO-02			10/21/13		8:15		GW		X												
AP25DO-BIO-05			10/21/13		8:00		GW		X												
AP24DO-BIO-04			10/21/13		8:15		GW		X												
SPECIAL INSTRUCTIONS/COMMENTS Metals												TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) 1 day ___ 2 day ___ 3 day ___ 4 day ___ 5 day <u>X</u>			REPORT REQUIREMENTS I. Results Only <u>X</u> 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 # BILL TO: CB; I 150 Royall Dr Lantern, MA 02021			
STATE WHERE SAMPLES WERE COLLECTED												Edata ___ Yes ___ No									
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY											
Signature [Signature]		Signature LIPS		Signature		Signature [Signature]		Signature		Signature											
Printed Name CB; I		Printed Name LIPS		Printed Name		Printed Name Gregory O. Esmerman		Printed Name		Printed Name											
Firm 10/31/13		Firm		Firm		Firm ALS		Firm		Firm											
Date/Time 16:00		Date/Time 10/31/13 16:00		Date/Time		Date/Time 11-13 9:45		Date/Time		Date/Time											

R1308219 **7 Y**

CB&I Environmental & Infrastructure
Varian Beverly - Non-Bio Wells



Cooler Receipt and Preservation Check Form

Project/Client CB+I Folder Number R13-8219

Cooler received on 11-1-13 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: 4.8°

Is the temperature within 0° - 6° C?: YN Y N Y N Y N Y N
If No, Explain Below Date/Time Temperatures Taken: 11-1-13 @ 10:23

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 R602 by ME on 11-1-13 at 10:25
5035 samples placed in storage location by on at

PC Secondary Review:

Cooler Breakdown: Date: 11/1/13 Time: 1440 by: R

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:
		YES	NO							
≥12	NaOH									
≤2	HNO ₃									
≤2	H ₂ SO ₄			<u>we chem correct</u>						
<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: 09 0213-18MC

Other Comments:

AP23D0-BIO-03 Broken in shipment, sample lost.
AP24D0-BIO-01 Broken in shipment, sample lost.
ME 11-1-13

PC Secondary Review: MP 11/1/13

*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 :** 12/18/2013
Matrix: Air
Analyte Group: Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1308290
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
11/1/13	VOC TO-15		30 Days	11/6 - 11/8/13

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 11/6, 11/7, 11/8/13

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:

- (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.
- (2) Several samples were re-analyzed at other dilutions to achieve lower reporting limits. Both dilutions were reported with target analytes over the calibration range flagged with an "E" and the diluted analytes flagged with a "D".
- (3) A CCV's were compliant
- (4) A LCS and surrogate recoveries were within the QC limits.

Reviewed By: Pernilla Haley 3/5/14



November 20, 2013

Service Request No: R1308290

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

Laboratory Results for: Varian Beverly Air Samples/150148

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on November 5, 2013. For your reference, these analyses have been assigned our service request number **R1308290**.

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

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

Service Request No.: R1308290
Project No.: 150148
Date Received: 11/05/13

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 11/01/13 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. Several samples were re-analyzed at other dilutions to achieve lower reporting limits. 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 #: 150148

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
 R1308290-001 - 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?	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?	X	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 as requested)	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: 

 Position: Laboratory Director 000003

 Printed Name: Michael K. Perry

 Date: 11/20/13

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1308290

<u>Lab ID</u>	<u>Client ID</u>
R1308290-001	BLDG5-SV1
R1308290-002	BLDG5-SV2
R1308290-003	BLDG5-SV3
R1308290-004	BLDG5-SV5
R1308290-005	BLDG5-SV6
R1308290-006	BLDG5-1
R1308290-007	BLDG5-2
R1308290-008	BLDG5-3
R1308290-009	BLDG3 3-3
R1308290-010	BLDG3 3-4
R1308290-011	BLDG3 3-2
R1308290-012	BLDG3 2-6
R1308290-013	BLDG3 VP-1
R1308290-014	BLDG3 VP-2
R1308290-015	BLDG3 VP-3

00004

REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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. Parola".

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	

**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 385.1
PHOSPHORUS, TOTAL				EPA 385.1
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/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SV1
 Lab Code: R1308290-001

Service Request: R1308290
 Date Collected: 11/1/13 1314
 Date Received: 11/5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 1158
 Canister Dilution Factor: 1.61

Initial Pressure (psig): -3.00 Final Pressure (psig): 4.13

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	13	56	56	27	27	U
75-01-4	Vinyl Chloride	13	7.4	7.4	2.9	2.9	U
74-83-9	Bromomethane	13	53	53	14	14	U
75-00-3	Chloroethane	13	72	72	27	27	U
67-64-1	Acetone	13	1500	620	650	260	D
75-69-4	Trichlorofluoromethane (CFC 11)	13	77	77	14	14	U
75-35-4	1,1-Dichloroethene	13	54	54	14	14	U
75-09-2	Methylene Chloride	13	47	47	14	14	U
156-60-5	trans-1,2-Dichloroethene	13	54	54	14	14	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	13	56	56	14	14	U
156-59-2	cis-1,2-Dichloroethene	13	54	54	14	14	U
67-66-3	Chloroform	13	67	67	14	14	U
107-06-2	1,2-Dichloroethane	13	56	56	14	14	U
71-55-6	1,1,1-Trichloroethane (TCA)	13	74	74	14	14	U
56-23-5	Carbon Tetrachloride	13	8.7	8.7	1.4	1.4	U
78-87-5	1,2-Dichloropropane	13	63	63	14	14	U
75-27-4	Bromodichloromethane	13	19	19	2.8	2.8	U
79-01-6	Trichloroethene (TCE)	13	15	7.4	2.7	1.4	D
10061-01-5	cis-1,3-Dichloropropene	13	120	120	27	27	U
10061-02-6	trans-1,3-Dichloropropene	13	62	62	14	14	U
79-00-5	1,1,2-Trichloroethane	13	74	74	14	14	U
124-48-1	Dibromochloromethane	13	24	24	2.8	2.8	U
127-18-4	Tetrachloroethene (PCE)	13	9.9	9.9	1.5	1.5	U
108-90-7	Chlorobenzene	13	63	63	14	14	U
75-25-2	Bromoform	13	140	140	14	14	U
79-34-5	1,1,2,2-Tetrachloroethane	13	19	19	2.7	2.7	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	11/7/13 1158	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SV1
 Lab Code: R1308290-001
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/ 1/13 1314
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 0150
 Canister Dilution Factor: 1.61

Initial Pressure (psig): -3.00 Final Pressure (psig): 4.13

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	50	14	14	7.0	7.0	U
75-01-4	Vinyl Chloride	50	1.9	1.9	0.76	0.76	U
74-83-9	Bromomethane	50	14	14	3.6	3.6	U
75-00-3	Chloroethane	50	19	19	7.1	7.1	U
67-64-1	Acetone	50	1400	160	600	68	E
75-69-4	Trichlorofluoromethane (CFC 11)	50	20	20	3.6	3.6	U
75-35-4	1,1-Dichloroethene	50	14	14	3.6	3.6	U
75-09-2	Methylene Chloride	50	12	12	3.5	3.5	U
156-60-5	trans-1,2-Dichloroethene	50	14	14	3.6	3.6	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	14	14	3.6	3.6	U
156-59-2	cis-1,2-Dichloroethene	50	14	14	3.6	3.6	U
67-66-3	Chloroform	50	17	17	3.6	3.6	U
107-06-2	1,2-Dichloroethane	50	14	14	3.6	3.6	U
71-55-6	1,1,1-Trichloroethane (TCA)	50	19	19	3.5	3.5	U
56-23-5	Carbon Tetrachloride	50	2.3	2.3	0.36	0.36	U
78-87-5	1,2-Dichloropropane	50	16	16	3.6	3.6	U
75-27-4	Bromodichloromethane	50	4.8	4.8	0.72	0.72	U
79-01-6	Trichloroethene (TCE)	50	14	1.9	2.7	0.36	U
10061-01-5	cis-1,3-Dichloropropene	50	32	32	7.1	7.1	U
10061-02-6	trans-1,3-Dichloropropene	50	16	16	3.5	3.5	U
79-00-5	1,1,2-Trichloroethane	50	19	19	3.5	3.5	U
124-48-1	Dibromochloromethane	50	6.1	6.1	0.72	0.72	U
127-18-4	Tetrachloroethene (PCE)	50	7.6	2.6	1.1	0.38	U
108-90-7	Chlorobenzene	50	16	16	3.6	3.6	U
75-25-2	Bromoform	50	37	37	3.6	3.6	U
79-34-5	1,1,2,2-Tetrachloroethane	50	4.8	4.8	0.70	0.70	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	107	70-130	11/8/13 0150	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SV2
 Lab Code: R1308290-002

Service Request: R1308290
 Date Collected: 11/1/13 1315
 Date Received: 11/5/13

Analytical Method: TO-15

Date Analyzed: 11/6/13 2158
 Canister Dilution Factor: 1.62

Initial Pressure (psig): -3.34 Final Pressure (psig): 3.69

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	500	1.5	1.5	0.71	0.71	U
75-01-4	Vinyl Chloride	500	0.19	0.19	0.076	0.076	U
74-83-9	Bromomethane	500	1.4	1.4	0.36	0.36	U
75-00-3	Chloroethane	500	1.9	1.9	0.71	0.71	U
67-64-1	Acetone	500	68	16	29	6.8	
75-69-4	Trichlorofluoromethane (CFC 11)	500	3.1	2.0	0.55	0.36	
75-35-4	1,1-Dichloroethene	500	1.4	1.4	0.36	0.36	U
75-09-2	Methylene Chloride	500	8.5	1.2	2.4	0.35	
156-60-5	trans-1,2-Dichloroethene	500	1.4	1.4	0.36	0.36	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	500	1.5	1.5	0.36	0.36	U
156-59-2	cis-1,2-Dichloroethene	500	1.4	1.4	0.36	0.36	U
67-66-3	Chloroform	500	1.7	1.7	0.36	0.36	U
107-06-2	1,2-Dichloroethane	500	1.5	1.5	0.36	0.36	U
71-55-6	1,1,1-Trichloroethane (TCA)	500	1.9	1.9	0.36	0.36	U
56-23-5	Carbon Tetrachloride	500	0.53	0.23	0.084	0.036	
78-87-5	1,2-Dichloropropane	500	1.7	1.7	0.36	0.36	U
75-27-4	Bromodichloromethane	500	0.49	0.49	0.073	0.073	U
79-01-6	Trichloroethene (TCE)	500	17	0.19	3.1	0.036	
10061-01-5	cis-1,3-Dichloropropene	500	3.2	3.2	0.71	0.71	U
10061-02-6	trans-1,3-Dichloropropene	500	1.6	1.6	0.36	0.36	U
79-00-5	1,1,2-Trichloroethane	500	1.9	1.9	0.36	0.36	U
124-48-1	Dibromochloromethane	500	0.62	0.62	0.072	0.072	U
127-18-4	Tetrachloroethene (PCE)	500	5.1	0.26	0.76	0.038	
108-90-7	Chlorobenzene	500	1.7	1.7	0.36	0.36	U
75-25-2	Bromoform	500	3.7	3.7	0.36	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	500	0.49	0.49	0.071	0.071	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	105	70-130	11/6/13 2158	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SV3
 Lab Code: R1308290-003

Service Request: R1308290
 Date Collected: 11/ 1/13 1316
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/6/13 2241
 Canister Dilution Factor: 1.43

Initial Pressure (psig): -1.82 Final Pressure (psig): 3.66

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	90	7.2	7.2	3.5	3.5	U
75-01-4	Vinyl Chloride	90	0.95	0.95	0.37	0.37	U
74-83-9	Bromomethane	90	6.8	6.8	1.8	1.8	U
75-00-3	Chloroethane	90	9.2	9.2	3.5	3.5	U
67-64-1	Acetone	90	390	79	170	33	E
75-69-4	Trichlorofluoromethane (CFC 11)	90	9.9	9.9	1.8	1.8	U
75-35-4	1,1-Dichloroethene	90	7.0	7.0	1.8	1.8	U
75-09-2	Methylene Chloride	90	9.2	6.0	2.6	1.7	
156-60-5	trans-1,2-Dichloroethene	90	7.0	7.0	1.8	1.8	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	90	7.2	7.2	1.8	1.8	U
156-59-2	cis-1,2-Dichloroethene	90	7.0	7.0	1.8	1.8	U
67-66-3	Chloroform	90	8.6	8.6	1.8	1.8	U
107-06-2	1,2-Dichloroethane	90	7.2	7.2	1.8	1.8	U
71-55-6	1,1,1-Trichloroethane (TCA)	90	9.5	9.5	1.7	1.7	U
56-23-5	Carbon Tetrachloride	90	1.1	1.1	0.18	0.18	U
78-87-5	1,2-Dichloropropane	90	8.1	8.1	1.8	1.8	U
75-27-4	Bromodichloromethane	90	2.4	2.4	0.36	0.36	U
79-01-6	Trichloroethene (TCE)	90	190	0.95	36	0.18	
10061-01-5	cis-1,3-Dichloropropene	90	16	16	3.5	3.5	U
10061-02-6	trans-1,3-Dichloropropene	90	7.9	7.9	1.8	1.8	U
79-00-5	1,1,2-Trichloroethane	90	9.5	9.5	1.7	1.7	U
124-48-1	Dibromochloromethane	90	3.0	3.0	0.35	0.35	U
127-18-4	Tetrachloroethene (PCE)	90	31	1.3	4.5	0.19	
108-90-7	Chlorobenzene	90	8.1	8.1	1.8	1.8	U
75-25-2	Bromoform	90	18	18	1.8	1.8	U
79-34-5	1,1,2,2-Tetrachloroethane	90	2.4	2.4	0.35	0.35	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	11/6/13 2241	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SV3
 Lab Code: R1308290-003
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/ 1/13 1316
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 2209
 Canister Dilution Factor: 1.43

Initial Pressure (psig): -1.82 Final Pressure (psig): 3.66

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	50	13	13	6.2	6.2	U
75-01-4	Vinyl Chloride	50	1.7	1.7	0.67	0.67	U
74-83-9	Bromomethane	50	12	12	3.2	3.2	U
75-00-3	Chloroethane	50	17	17	6.3	6.3	U
67-64-1	Acetone	50	280	140	120	60	D
75-69-4	Trichlorofluoromethane (CFC 11)	50	18	18	3.2	3.2	U
75-35-4	1,1-Dichloroethene	50	13	13	3.2	3.2	U
75-09-2	Methylene Chloride	50	11	11	3.1	3.1	U
156-60-5	trans-1,2-Dichloroethene	50	13	13	3.2	3.2	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	50	13	13	3.2	3.2	U
156-59-2	cis-1,2-Dichloroethene	50	13	13	3.2	3.2	U
67-66-3	Chloroform	50	15	15	3.2	3.2	U
107-06-2	1,2-Dichloroethane	50	13	13	3.2	3.2	U
71-55-6	1,1,1-Trichloroethane (TCA)	50	17	17	3.1	3.1	U
56-23-5	Carbon Tetrachloride	50	2.0	2.0	0.32	0.32	U
78-87-5	1,2-Dichloropropane	50	15	15	3.2	3.2	U
75-27-4	Bromodichloromethane	50	4.3	4.3	0.64	0.64	U
79-01-6	Trichloroethene (TCE)	50	160	1.7	29	0.32	D
10061-01-5	cis-1,3-Dichloropropene	50	29	29	6.3	6.3	U
10061-02-6	trans-1,3-Dichloropropene	50	14	14	3.2	3.2	U
79-00-5	1,1,2-Trichloroethane	50	17	17	3.1	3.1	U
124-48-1	Dibromochloromethane	50	5.4	5.4	0.64	0.64	U
127-18-4	Tetrachloroethene (PCE)	50	26	2.3	3.9	0.34	D
108-90-7	Chlorobenzene	50	15	15	3.2	3.2	U
75-25-2	Bromoform	50	33	33	3.2	3.2	U
79-34-5	1,1,2,2-Tetrachloroethane	50	4.3	4.3	0.62	0.62	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	107	70-130	11/7/13 2209	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SV5
 Lab Code: R1308290-004

Service Request: R1308290
 Date Collected: 11/ 1/13 1310
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/6/13 2329
 Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.60

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	500	1.4	1.4	0.68	0.68	U
75-01-4	Vinyl Chloride	500	0.19	0.19	0.073	0.073	U
74-83-9	Bromomethane	500	1.3	1.3	0.34	0.34	U
75-00-3	Chloroethane	500	1.8	1.8	0.68	0.68	U
67-64-1	Acetone	500	79	16	33	6.5	E
75-69-4	Trichlorofluoromethane (CFC 11)	500	3.1	1.9	0.55	0.34	
75-35-4	1,1-Dichloroethene	500	1.4	1.4	0.34	0.34	U
75-09-2	Methylene Chloride	500	5.9	1.2	1.7	0.34	
156-60-5	trans-1,2-Dichloroethene	500	1.4	1.4	0.34	0.34	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	500	1.4	1.4	0.34	0.34	U
156-59-2	cis-1,2-Dichloroethene	500	1.4	1.4	0.34	0.34	U
67-66-3	Chloroform	500	1.7	1.7	0.34	0.34	U
107-06-2	1,2-Dichloroethane	500	1.4	1.4	0.34	0.34	U
71-55-6	1,1,1-Trichloroethane (TCA)	500	1.9	1.9	0.34	0.34	U
56-23-5	Carbon Tetrachloride	500	0.54	0.22	0.085	0.035	
78-87-5	1,2-Dichloropropane	500	1.6	1.6	0.34	0.34	U
75-27-4	Bromodichloromethane	500	0.47	0.47	0.069	0.069	U
79-01-6	Trichloroethene (TCE)	500	14	0.19	2.6	0.035	
10061-01-5	cis-1,3-Dichloropropene	500	3.1	3.1	0.68	0.68	U
10061-02-6	trans-1,3-Dichloropropene	500	1.6	1.6	0.34	0.34	U
79-00-5	1,1,2-Trichloroethane	500	1.9	1.9	0.34	0.34	U
124-48-1	Dibromochloromethane	500	0.59	0.59	0.069	0.069	U
127-18-4	Tetrachloroethene (PCE)	500	120	0.25	18	0.037	
108-90-7	Chlorobenzene	500	1.6	1.6	0.34	0.34	U
75-25-2	Bromoform	500	3.5	3.5	0.34	0.34	U
79-34-5	1,1,2,2-Tetrachloroethane	500	0.47	0.47	0.068	0.068	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	105	70-130	11/6/13 2329	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SV5
 Lab Code: R1308290-004
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/ 1/13 1310
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 2253
 Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.60

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	200	3.5	3.5	1.7	1.7	U
75-01-4	Vinyl Chloride	200	0.47	0.47	0.18	0.18	U
74-83-9	Bromomethane	200	3.3	3.3	0.86	0.86	U
75-00-3	Chloroethane	200	4.5	4.5	1.7	1.7	U
67-64-1	Acetone	200	73	39	31	16	D
75-69-4	Trichlorofluoromethane (CFC 11)	200	4.8	4.8	0.86	0.86	U
75-35-4	1,1-Dichloroethene	200	3.4	3.4	0.86	0.86	U
75-09-2	Methylene Chloride	200	6.2	2.9	1.8	0.85	D
156-60-5	trans-1,2-Dichloroethene	200	3.4	3.4	0.86	0.86	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	200	3.5	3.5	0.86	0.86	U
156-59-2	cis-1,2-Dichloroethene	200	3.4	3.4	0.86	0.86	U
67-66-3	Chloroform	200	4.2	4.2	0.86	0.86	U
107-06-2	1,2-Dichloroethane	200	3.5	3.5	0.86	0.86	U
71-55-6	1,1,1-Trichloroethane (TCA)	200	4.7	4.7	0.85	0.85	U
56-23-5	Carbon Tetrachloride	200	0.54	0.54	0.086	0.086	U
78-87-5	1,2-Dichloropropane	200	4.0	4.0	0.86	0.86	U
75-27-4	Bromodichloromethane	200	1.2	1.2	0.17	0.17	U
79-01-6	Trichloroethene (TCE)	200	13	0.47	2.4	0.087	D
10061-01-5	cis-1,3-Dichloropropene	200	7.8	7.8	1.7	1.7	U
10061-02-6	trans-1,3-Dichloropropene	200	3.9	3.9	0.85	0.85	U
79-00-5	1,1,2-Trichloroethane	200	4.7	4.7	0.85	0.85	U
124-48-1	Dibromochloromethane	200	1.5	1.5	0.17	0.17	U
127-18-4	Tetrachloroethene (PCE)	200	110	0.62	17	0.091	D
108-90-7	Chlorobenzene	200	4.0	4.0	0.86	0.86	U
75-25-2	Bromoform	200	8.8	8.8	0.85	0.85	U
79-34-5	1,1,2,2-Tetrachloroethane	200	1.2	1.2	0.17	0.17	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	108	70-130	11/7/13 2253	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SV6
 Lab Code: R1308290-005

Service Request: R1308290
 Date Collected: 11/ 1/13 1313
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 1246
 Canister Dilution Factor: 1.48

Initial Pressure (psig): -2.31 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	33	20	20	9.8	9.8	U
75-01-4	Vinyl Chloride	33	110	2.7	44	1.1	
74-83-9	Bromomethane	33	19	19	5.0	5.0	U
75-00-3	Chloroethane	33	26	26	9.9	9.9	U
67-64-1	Acetone	33	220	220	94	94	U
75-69-4	Trichlorofluoromethane (CFC 11)	33	28	28	5.0	5.0	U
75-35-4	1,1-Dichloroethene	33	270	20	67	5.0	
75-09-2	Methylene Chloride	33	17	17	4.9	4.9	U
156-60-5	trans-1,2-Dichloroethene	33	20	20	5.0	5.0	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	33	1300	20	320	5.0	
156-59-2	cis-1,2-Dichloroethene	33	1200	20	300	5.0	
67-66-3	Chloroform	33	24	24	5.0	5.0	U
107-06-2	1,2-Dichloroethane	33	20	20	5.0	5.0	U
71-55-6	1,1,1-Trichloroethane (TCA)	33	790	27	150	4.9	
56-23-5	Carbon Tetrachloride	33	3.1	3.1	0.50	0.50	U
78-87-5	1,2-Dichloropropane	33	23	23	5.0	5.0	U
75-27-4	Bromodichloromethane	33	6.7	6.7	1.0	1.0	U
79-01-6	Trichloroethene (TCE)	33	1300	2.7	240	0.50	
10061-01-5	cis-1,3-Dichloropropene	33	45	45	9.9	9.9	U
10061-02-6	trans-1,3-Dichloropropene	33	22	22	4.9	4.9	U
79-00-5	1,1,2-Trichloroethane	33	27	27	4.9	4.9	U
124-48-1	Dibromochloromethane	33	8.5	8.5	1.0	1.0	U
127-18-4	Tetrachloroethene (PCE)	33	440	3.6	64	0.53	
108-90-7	Chlorobenzene	33	23	23	5.0	5.0	U
75-25-2	Bromoform	33	51	51	4.9	4.9	U
79-34-5	1,1,2,2-Tetrachloroethane	33	6.7	6.7	0.98	0.98	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	99	70-130	11/7/13 1246	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-1
 Lab Code: R1308290-006

Service Request: R1308290
 Date Collected: 11/1/13 1713
 Date Received: 11/5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 1332
 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	7.6	93	93	45	45	U
75-01-4	Vinyl Chloride	7.6	12	12	4.9	4.9	U
74-83-9	Bromomethane	7.6	89	89	23	23	U
75-00-3	Chloroethane	7.6	120	120	45	45	U
67-64-1	Acetone	7.6	3400	1000	1400	430	D
75-69-4	Trichlorofluoromethane (CFC 11)	7.6	130	130	23	23	U
75-35-4	1,1-Dichloroethene	7.6	91	91	23	23	U
75-09-2	Methylene Chloride	7.6	79	79	23	23	U
156-60-5	trans-1,2-Dichloroethene	7.6	91	91	23	23	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	7.6	93	93	23	23	U
156-59-2	cis-1,2-Dichloroethene	7.6	91	91	23	23	U
67-66-3	Chloroform	7.6	110	110	23	23	U
107-06-2	1,2-Dichloroethane	7.6	93	93	23	23	U
71-55-6	1,1,1-Trichloroethane (TCA)	7.6	120	120	23	23	U
56-23-5	Carbon Tetrachloride	7.6	14	14	2.3	2.3	U
78-87-5	1,2-Dichloropropane	7.6	110	110	23	23	U
75-27-4	Bromodichloromethane	7.6	31	31	4.6	4.6	U
79-01-6	Trichloroethene (TCE)	7.6	14	12	2.6	2.3	D
10061-01-5	cis-1,3-Dichloropropene	7.6	210	210	46	46	U
10061-02-6	trans-1,3-Dichloropropene	7.6	100	100	23	23	U
79-00-5	1,1,2-Trichloroethane	7.6	120	120	23	23	U
124-48-1	Dibromochloromethane	7.6	39	39	4.6	4.6	U
127-18-4	Tetrachloroethene (PCE)	7.6	17	17	2.4	2.4	U
108-90-7	Chlorobenzene	7.6	110	110	23	23	U
75-25-2	Bromoform	7.6	240	240	23	23	U
79-34-5	1,1,2,2-Tetrachloroethane	7.6	31	31	4.5	4.5	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	100	70-130	11/7/13 1332	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-1
 Lab Code: R1308290-006
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/ 1/13 1713
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 0233
 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	100	7.1	7.1	3.4	3.4	U
75-01-4	Vinyl Chloride	100	0.94	0.94	0.37	0.37	U
74-83-9	Bromomethane	100	6.8	6.8	1.7	1.7	U
75-00-3	Chloroethane	100	9.1	9.1	3.5	3.5	U
67-64-1	Acetone	100	3000	79	1300	33	E
75-69-4	Trichlorofluoromethane (CFC 11)	100	9.7	9.7	1.7	1.7	U
75-35-4	1,1-Dichloroethene	100	6.9	6.9	1.7	1.7	U
75-09-2	Methylene Chloride	100	6.0	6.0	1.7	1.7	U
156-60-5	trans-1,2-Dichloroethene	100	6.9	6.9	1.7	1.7	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	100	7.1	7.1	1.7	1.7	U
156-59-2	cis-1,2-Dichloroethene	100	6.9	6.9	1.7	1.7	U
67-66-3	Chloroform	100	8.5	8.5	1.7	1.7	U
107-06-2	1,2-Dichloroethane	100	7.1	7.1	1.7	1.7	U
71-55-6	1,1,1-Trichloroethane (TCA)	100	9.4	9.4	1.7	1.7	U
56-23-5	Carbon Tetrachloride	100	1.1	1.1	0.17	0.17	U
78-87-5	1,2-Dichloropropane	100	8.0	8.0	1.7	1.7	U
75-27-4	Bromodichloromethane	100	2.4	2.4	0.35	0.35	U
79-01-6	Trichloroethene (TCE)	100	12	0.94	2.2	0.18	U
10061-01-5	cis-1,3-Dichloropropene	100	16	16	3.5	3.5	U
10061-02-6	trans-1,3-Dichloropropene	100	7.9	7.9	1.7	1.7	U
79-00-5	1,1,2-Trichloroethane	100	9.4	9.4	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	7.3	1.3	1.1	0.19	U
108-90-7	Chlorobenzene	100	8.0	8.0	1.7	1.7	U
75-25-2	Bromoform	100	18	18	1.7	1.7	U
79-34-5	1,1,2,2-Tetrachloroethane	100	2.4	2.4	0.34	0.34	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	104	70-130	11/8/13 0233	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-2
 Lab Code: R1308290-007

Service Request: R1308290
 Date Collected: 11/ 1/13 1712
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 1420
 Canister Dilution Factor: 1.56

Initial Pressure (psig): -3.00 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	34	21	21	10	10	U
75-01-4	Vinyl Chloride	34	2.8	2.8	1.1	1.1	U
74-83-9	Bromomethane	34	20	20	5.1	5.1	U
75-00-3	Chloroethane	34	27	27	10	10	U
67-64-1	Acetone	34	870	230	370	97	
75-69-4	Trichlorofluoromethane (CFC 11)	34	28	28	5.1	5.1	U
75-35-4	1,1-Dichloroethene	34	20	20	5.1	5.1	U
75-09-2	Methylene Chloride	34	17	17	5.0	5.0	U
156-60-5	trans-1,2-Dichloroethene	34	20	20	5.1	5.1	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	34	21	21	5.1	5.1	U
156-59-2	cis-1,2-Dichloroethene	34	20	20	5.1	5.1	U
67-66-3	Chloroform	34	25	25	5.1	5.1	U
107-06-2	1,2-Dichloroethane	34	21	21	5.1	5.1	U
71-55-6	1,1,1-Trichloroethane (TCA)	34	28	28	5.0	5.0	U
56-23-5	Carbon Tetrachloride	34	3.2	3.2	0.51	0.51	U
78-87-5	1,2-Dichloropropane	34	23	23	5.1	5.1	U
75-27-4	Bromodichloromethane	34	6.9	6.9	1.0	1.0	U
79-01-6	Trichloroethene (TCE)	34	12	2.8	2.2	0.51	
10061-01-5	cis-1,3-Dichloropropene	34	46	46	10	10	U
10061-02-6	trans-1,3-Dichloropropene	34	23	23	5.1	5.1	U
79-00-5	1,1,2-Trichloroethane	34	28	28	5.0	5.0	U
124-48-1	Dibromochloromethane	34	8.7	8.7	1.0	1.0	U
127-18-4	Tetrachloroethene (PCE)	34	9.2	3.7	1.4	0.54	
108-90-7	Chlorobenzene	34	23	23	5.1	5.1	U
75-25-2	Bromoform	34	52	52	5.1	5.1	U
79-34-5	1,1,2,2-Tetrachloroethane	34	6.9	6.9	1.0	1.0	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	98	70-130	11/7/13 1420	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-3
 Lab Code: R1308290-008

Service Request: R1308290
 Date Collected: 11/ 1/13 1705
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 1508
 Canister Dilution Factor: 1.63

Initial Pressure (psig): -3.39 Final Pressure (psig): 3.77

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	12	61	61	30	30	U
75-01-4	Vinyl Chloride	12	8.2	8.2	3.2	3.2	U
74-83-9	Bromomethane	12	58	58	15	15	U
75-00-3	Chloroethane	12	79	79	30	30	U
67-64-1	Acetone	12	2100	680	900	290	D
75-69-4	Trichlorofluoromethane (CFC 11)	12	84	84	15	15	U
75-35-4	1,1-Dichloroethene	12	60	60	15	15	U
75-09-2	Methylene Chloride	12	52	52	15	15	U
156-60-5	trans-1,2-Dichloroethene	12	60	60	15	15	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	12	61	61	15	15	U
156-59-2	cis-1,2-Dichloroethene	12	60	60	15	15	U
67-66-3	Chloroform	12	73	73	15	15	U
107-06-2	1,2-Dichloroethane	12	61	61	15	15	U
71-55-6	1,1,1-Trichloroethane (TCA)	12	82	82	15	15	U
56-23-5	Carbon Tetrachloride	12	9.5	9.5	1.5	1.5	U
78-87-5	1,2-Dichloropropane	12	69	69	15	15	U
75-27-4	Bromodichloromethane	12	20	20	3.0	3.0	U
79-01-6	Trichloroethene (TCE)	12	11	8.2	2.1	1.5	D
10061-01-5	cis-1,3-Dichloropropene	12	140	140	30	30	U
10061-02-6	trans-1,3-Dichloropropene	12	68	68	15	15	U
79-00-5	1,1,2-Trichloroethane	12	82	82	15	15	U
124-48-1	Dibromochloromethane	12	26	26	3.0	3.0	U
127-18-4	Tetrachloroethene (PCE)	12	11	11	1.6	1.6	U
108-90-7	Chlorobenzene	12	69	69	15	15	U
75-25-2	Bromoform	12	150	150	15	15	U
79-34-5	1,1,2,2-Tetrachloroethane	12	20	20	3.0	3.0	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	97	70-130	11/7/13 1508	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-3
 Lab Code: R1308290-008
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/ 1/13 1705
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1752
 Canister Dilution Factor: 1.63

Initial Pressure (psig): -3.39 Final Pressure (psig): 3.77

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	120	6.1	6.1	3.0	3.0	U
75-01-4	Vinyl Chloride	120	0.82	0.82	0.32	0.32	U
74-83-9	Bromomethane	120	5.8	5.8	1.5	1.5	U
75-00-3	Chloroethane	120	7.9	7.9	3.0	3.0	U
67-64-1	Acetone	120	2000	68	860	29	E
75-69-4	Trichlorofluoromethane (CFC 11)	120	8.4	8.4	1.5	1.5	U
75-35-4	1,1-Dichloroethene	120	6.0	6.0	1.5	1.5	U
75-09-2	Methylene Chloride	120	6.4	5.2	1.8	1.5	U
156-60-5	trans-1,2-Dichloroethene	120	6.0	6.0	1.5	1.5	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	120	6.1	6.1	1.5	1.5	U
156-59-2	cis-1,2-Dichloroethene	120	6.0	6.0	1.5	1.5	U
67-66-3	Chloroform	120	7.3	7.3	1.5	1.5	U
107-06-2	1,2-Dichloroethane	120	6.1	6.1	1.5	1.5	U
71-55-6	1,1,1-Trichloroethane (TCA)	120	8.2	8.2	1.5	1.5	U
56-23-5	Carbon Tetrachloride	120	0.95	0.95	0.15	0.15	U
78-87-5	1,2-Dichloropropane	120	6.9	6.9	1.5	1.5	U
75-27-4	Bromodichloromethane	120	2.0	2.0	0.30	0.30	U
79-01-6	Trichloroethene (TCE)	120	10	0.82	1.9	0.15	U
10061-01-5	cis-1,3-Dichloropropene	120	14	14	3.0	3.0	U
10061-02-6	trans-1,3-Dichloropropene	120	6.8	6.8	1.5	1.5	U
79-00-5	1,1,2-Trichloroethane	120	8.2	8.2	1.5	1.5	U
124-48-1	Dibromochloromethane	120	2.6	2.6	0.30	0.30	U
127-18-4	Tetrachloroethene (PCE)	120	3.8	1.1	0.57	0.16	U
108-90-7	Chlorobenzene	120	6.9	6.9	1.5	1.5	U
75-25-2	Bromoform	120	15	15	1.5	1.5	U
79-34-5	1,1,2,2-Tetrachloroethane	120	2.0	2.0	0.30	0.30	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	11/8/13 1752	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 3-3
 Lab Code: R1308290-009

Service Request: R1308290
 Date Collected: 11/ 1/13 1747
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 0013
 Canister Dilution Factor: 1.65

Initial Pressure (psig): -3.54 Final Pressure (psig): 3.73

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	55	14	14	6.5	6.5	U
75-01-4	Vinyl Chloride	55	1.8	1.8	0.70	0.70	U
74-83-9	Bromomethane	55	13	13	3.3	3.3	U
75-00-3	Chloroethane	55	17	17	6.6	6.6	U
67-64-1	Acetone	55	400	150	170	63	D
75-69-4	Trichlorofluoromethane (CFC 11)	55	19	19	3.3	3.3	U
75-35-4	1,1-Dichloroethene	55	13	13	3.3	3.3	U
75-09-2	Methylene Chloride	55	11	11	3.3	3.3	U
156-60-5	trans-1,2-Dichloroethene	55	13	13	3.3	3.3	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	55	14	14	3.3	3.3	U
156-59-2	cis-1,2-Dichloroethene	55	13	13	3.3	3.3	U
67-66-3	Chloroform	55	16	16	3.3	3.3	U
107-06-2	1,2-Dichloroethane	55	14	14	3.3	3.3	U
71-55-6	1,1,1-Trichloroethane (TCA)	55	18	18	3.3	3.3	U
56-23-5	Carbon Tetrachloride	55	2.1	2.1	0.33	0.33	U
78-87-5	1,2-Dichloropropane	55	15	15	3.3	3.3	U
75-27-4	Bromodichloromethane	55	4.5	4.5	0.67	0.67	U
79-01-6	Trichloroethene (TCE)	55	1.8	1.8	0.34	0.34	U
10061-01-5	cis-1,3-Dichloropropene	55	30	30	6.6	6.6	U
10061-02-6	trans-1,3-Dichloropropene	55	15	15	3.3	3.3	U
79-00-5	1,1,2-Trichloroethane	55	18	18	3.3	3.3	U
124-48-1	Dibromochloromethane	55	5.7	5.7	0.67	0.67	U
127-18-4	Tetrachloroethene (PCE)	55	2.4	2.4	0.35	0.35	U
108-90-7	Chlorobenzene	55	15	15	3.3	3.3	U
75-25-2	Bromoform	55	34	34	3.3	3.3	U
79-34-5	1,1,2,2-Tetrachloroethane	55	4.5	4.5	0.66	0.66	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	100	70-130	11/7/13 0013	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 3-3
 Lab Code: R1308290-009
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/1/13 1747
 Date Received: 11/5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 2340
 Canister Dilution Factor: 1.65

Initial Pressure (psig): -3.54 Final Pressure (psig): 3.73

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	550	1.4	1.4	0.65	0.65	U
75-01-4	Vinyl Chloride	550	0.18	0.18	0.070	0.070	U
74-83-9	Bromomethane	550	1.3	1.3	0.33	0.33	U
75-00-3	Chloroethane	550	1.7	1.7	0.66	0.66	U
67-64-1	Acetone	550	350	15	150	6.3	E
75-69-4	Trichlorofluoromethane (CFC 11)	550	1.9	1.9	0.33	0.33	U
75-35-4	1,1-Dichloroethene	550	1.3	1.3	0.33	0.33	U
75-09-2	Methylene Chloride	550	1.1	1.1	0.33	0.33	U
156-60-5	trans-1,2-Dichloroethene	550	1.3	1.3	0.33	0.33	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	550	1.4	1.4	0.33	0.33	U
156-59-2	cis-1,2-Dichloroethene	550	1.3	1.3	0.33	0.33	U
67-66-3	Chloroform	550	1.6	1.6	0.33	0.33	U
107-06-2	1,2-Dichloroethane	550	1.4	1.4	0.33	0.33	U
71-55-6	1,1,1-Trichloroethane (TCA)	550	1.8	1.8	0.33	0.33	U
56-23-5	Carbon Tetrachloride	550	0.58	0.21	0.092	0.033	
78-87-5	1,2-Dichloropropane	550	1.5	1.5	0.33	0.33	U
75-27-4	Bromodichloromethane	550	0.45	0.45	0.067	0.067	U
79-01-6	Trichloroethene (TCE)	550	0.39	0.18	0.072	0.034	
10061-01-5	cis-1,3-Dichloropropene	550	3.0	3.0	0.66	0.66	U
10061-02-6	trans-1,3-Dichloropropene	550	1.5	1.5	0.33	0.33	U
79-00-5	1,1,2-Trichloroethane	550	1.8	1.8	0.33	0.33	U
124-48-1	Dibromochloromethane	550	0.57	0.57	0.067	0.067	U
127-18-4	Tetrachloroethene (PCE)	550	0.84	0.24	0.12	0.035	
108-90-7	Chlorobenzene	550	1.5	1.5	0.33	0.33	U
75-25-2	Bromoform	550	3.4	3.4	0.33	0.33	U
79-34-5	1,1,2,2-Tetrachloroethane	550	0.45	0.45	0.066	0.066	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	111	70-130	11/7/13 2340	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 3-4
 Lab Code: R1308290-010

Service Request: R1308290
 Date Collected: 11/ 1/13 1746
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 1556
 Canister Dilution Factor: 1.61

Initial Pressure (psig): -3.29 Final Pressure (psig): 3.66

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	31	23	23	11	11	U
75-01-4	Vinyl Chloride	31	3.1	3.1	1.2	1.2	U
74-83-9	Bromomethane	31	22	22	5.8	5.8	U
75-00-3	Chloroethane	31	30	30	11	11	U
67-64-1	Acetone	31	780	260	330	110	D
75-69-4	Trichlorofluoromethane (CFC 11)	31	32	32	5.7	5.7	U
75-35-4	1,1-Dichloroethene	31	23	23	5.8	5.8	U
75-09-2	Methylene Chloride	31	20	20	5.7	5.7	U
156-60-5	trans-1,2-Dichloroethene	31	23	23	5.8	5.8	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	31	23	23	5.8	5.8	U
156-59-2	cis-1,2-Dichloroethene	31	23	23	5.8	5.8	U
67-66-3	Chloroform	31	28	28	5.7	5.7	U
107-06-2	1,2-Dichloroethane	31	23	23	5.8	5.8	U
71-55-6	1,1,1-Trichloroethane (TCA)	31	31	31	5.7	5.7	U
56-23-5	Carbon Tetrachloride	31	3.6	3.6	0.58	0.58	U
78-87-5	1,2-Dichloropropane	31	26	26	5.7	5.7	U
75-27-4	Bromodichloromethane	31	7.8	7.8	1.2	1.2	U
79-01-6	Trichloroethene (TCE)	31	3.1	3.1	0.58	0.58	U
10061-01-5	cis-1,3-Dichloropropene	31	52	52	11	11	U
10061-02-6	trans-1,3-Dichloropropene	31	26	26	5.7	5.7	U
79-00-5	1,1,2-Trichloroethane	31	31	31	5.7	5.7	U
124-48-1	Dibromochloromethane	31	9.9	9.9	1.2	1.2	U
127-18-4	Tetrachloroethene (PCE)	31	4.2	4.2	0.61	0.61	U
108-90-7	Chlorobenzene	31	26	26	5.8	5.8	U
75-25-2	Bromoform	31	59	59	5.7	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	31	7.8	7.8	1.1	1.1	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	96	70-130	11/7/13 1556	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 3-4
 Lab Code: R1308290-010
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/ 1/13 1746
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1837
 Canister Dilution Factor: 1.61

Initial Pressure (psig): -3.29 Final Pressure (psig): 3.66

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	300	2.4	2.4	1.2	1.2	U
75-01-4	Vinyl Chloride	300	0.32	0.32	0.13	0.13	U
74-83-9	Bromomethane	300	2.3	2.3	0.59	0.59	U
75-00-3	Chloroethane	300	3.1	3.1	1.2	1.2	U
67-64-1	Acetone	300	790	27	330	11	E
75-69-4	Trichlorofluoromethane (CFC 11)	300	3.3	3.3	0.59	0.59	U
75-35-4	1,1-Dichloroethene	300	2.4	2.4	0.60	0.60	U
75-09-2	Methylene Chloride	300	2.0	2.0	0.59	0.59	U
156-60-5	trans-1,2-Dichloroethene	300	2.4	2.4	0.60	0.60	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	300	2.4	2.4	0.60	0.60	U
156-59-2	cis-1,2-Dichloroethene	300	2.4	2.4	0.60	0.60	U
67-66-3	Chloroform	300	2.9	2.9	0.59	0.59	U
107-06-2	1,2-Dichloroethane	300	2.4	2.4	0.60	0.60	U
71-55-6	1,1,1-Trichloroethane (TCA)	300	3.2	3.2	0.59	0.59	U
56-23-5	Carbon Tetrachloride	300	0.52	0.38	0.083	0.060	
78-87-5	1,2-Dichloropropane	300	2.7	2.7	0.59	0.59	U
75-27-4	Bromodichloromethane	300	0.81	0.81	0.12	0.12	U
79-01-6	Trichloroethene (TCE)	300	0.55	0.32	0.10	0.060	
10061-01-5	cis-1,3-Dichloropropene	300	5.4	5.4	1.2	1.2	U
10061-02-6	trans-1,3-Dichloropropene	300	2.7	2.7	0.59	0.59	U
79-00-5	1,1,2-Trichloroethane	300	3.2	3.2	0.59	0.59	U
124-48-1	Dibromochloromethane	300	1.0	1.0	0.12	0.12	U
127-18-4	Tetrachloroethene (PCE)	300	1.6	0.43	0.24	0.063	
108-90-7	Chlorobenzene	300	2.7	2.7	0.59	0.59	U
75-25-2	Bromoform	300	6.1	6.1	0.59	0.59	U
79-34-5	1,1,2,2-Tetrachloroethane	300	0.81	0.81	0.12	0.12	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	105	70-130	11/8/13 1837	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 3-2
 Lab Code: R1308290-011

Service Request: R1308290
 Date Collected: 11/ 1/13 1744
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 1642
 Canister Dilution Factor: 1.61

Initial Pressure (psig): -3.24

Final Pressure (psig): 3.72

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	24	30	30	15	15	U
75-01-4	Vinyl Chloride	24	4.0	4.0	1.6	1.6	U
74-83-9	Bromomethane	24	29	29	7.4	7.4	U
75-00-3	Chloroethane	24	39	39	15	15	U
67-64-1	Acetone	24	1100	340	460	140	D
75-69-4	Trichlorofluoromethane (CFC 11)	24	42	42	7.4	7.4	U
75-35-4	1,1-Dichloroethene	24	30	30	7.4	7.4	U
75-09-2	Methylene Chloride	24	25	25	7.3	7.3	U
156-60-5	trans-1,2-Dichloroethene	24	30	30	7.4	7.4	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	24	30	30	7.5	7.5	U
156-59-2	cis-1,2-Dichloroethene	24	30	30	7.4	7.4	U
67-66-3	Chloroform	24	36	36	7.4	7.4	U
107-06-2	1,2-Dichloroethane	24	30	30	7.5	7.5	U
71-55-6	1,1,1-Trichloroethane (TCA)	24	40	40	7.4	7.4	U
56-23-5	Carbon Tetrachloride	24	4.7	4.7	0.75	0.75	U
78-87-5	1,2-Dichloropropane	24	34	34	7.4	7.4	U
75-27-4	Bromodichloromethane	24	10	10	1.5	1.5	U
79-01-6	Trichloroethene (TCE)	24	4.0	4.0	0.75	0.75	U
10061-01-5	cis-1,3-Dichloropropene	24	67	67	15	15	U
10061-02-6	trans-1,3-Dichloropropene	24	34	34	7.4	7.4	U
79-00-5	1,1,2-Trichloroethane	24	40	40	7.4	7.4	U
124-48-1	Dibromochloromethane	24	13	13	1.5	1.5	U
127-18-4	Tetrachloroethene (PCE)	24	5.4	5.4	0.79	0.79	U
108-90-7	Chlorobenzene	24	34	34	7.4	7.4	U
75-25-2	Bromoform	24	76	76	7.4	7.4	U
79-34-5	1,1,2,2-Tetrachloroethane	24	10	10	1.5	1.5	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	98	70-130	11/7/13 1642	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 3-2
 Lab Code: R1308290-011
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/ 1/13 1744
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1921
 Canister Dilution Factor: 1.61

Initial Pressure (psig): -3.24 Final Pressure (psig): 3.72

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	240	3.0	3.0	1.5	1.5	U
75-01-4	Vinyl Chloride	240	0.40	0.40	0.16	0.16	U
74-83-9	Bromomethane	240	2.9	2.9	0.74	0.74	U
75-00-3	Chloroethane	240	3.9	3.9	1.5	1.5	U
67-64-1	Acetone	240	1100	34	440	14	E
75-69-4	Trichlorofluoromethane (CFC 11)	240	4.2	4.2	0.74	0.74	U
75-35-4	1,1-Dichloroethene	240	3.0	3.0	0.74	0.74	U
75-09-2	Methylene Chloride	240	2.5	2.5	0.73	0.73	U
156-60-5	trans-1,2-Dichloroethene	240	3.0	3.0	0.74	0.74	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	240	3.0	3.0	0.75	0.75	U
156-59-2	cis-1,2-Dichloroethene	240	3.0	3.0	0.74	0.74	U
67-66-3	Chloroform	240	3.6	3.6	0.74	0.74	U
107-06-2	1,2-Dichloroethane	240	3.0	3.0	0.75	0.75	U
71-55-6	1,1,1-Trichloroethane (TCA)	240	4.0	4.0	0.74	0.74	U
56-23-5	Carbon Tetrachloride	240	0.52	0.47	0.082	0.075	
78-87-5	1,2-Dichloropropane	240	3.4	3.4	0.74	0.74	U
75-27-4	Bromodichloromethane	240	1.0	1.0	0.15	0.15	U
79-01-6	Trichloroethene (TCE)	240	1.0	0.40	0.19	0.075	
10061-01-5	cis-1,3-Dichloropropene	240	6.7	6.7	1.5	1.5	U
10061-02-6	trans-1,3-Dichloropropene	240	3.4	3.4	0.74	0.74	U
79-00-5	1,1,2-Trichloroethane	240	4.0	4.0	0.74	0.74	U
124-48-1	Dibromochloromethane	240	1.3	1.3	0.15	0.15	U
127-18-4	Tetrachloroethene (PCE)	240	2.4	0.54	0.36	0.079	
108-90-7	Chlorobenzene	240	3.4	3.4	0.74	0.74	U
75-25-2	Bromoform	240	7.6	7.6	0.74	0.74	U
79-34-5	1,1,2,2-Tetrachloroethane	240	1.0	1.0	0.15	0.15	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	104	70-130	11/8/13 1921	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 2-6
 Lab Code: R1308290-012

Service Request: R1308290
 Date Collected: 11/1/13 1743
 Date Received: 11/5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 0056
 Canister Dilution Factor: 1.53

Initial Pressure (psig): -2.75 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	52	13	13	6.4	6.4	U
75-01-4	Vinyl Chloride	52	1.8	1.8	0.69	0.69	U
74-83-9	Bromomethane	52	13	13	3.3	3.3	U
75-00-3	Chloroethane	52	17	17	6.5	6.5	U
67-64-1	Acetone	52	440	150	190	62	
75-69-4	Trichlorofluoromethane (CFC 11)	52	18	18	3.2	3.2	U
75-35-4	1,1-Dichloroethene	52	13	13	3.3	3.3	U
75-09-2	Methylene Chloride	52	11	11	3.2	3.2	U
156-60-5	trans-1,2-Dichloroethene	52	13	13	3.3	3.3	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	52	13	13	3.3	3.3	U
156-59-2	cis-1,2-Dichloroethene	52	13	13	3.3	3.3	U
67-66-3	Chloroform	52	16	16	3.3	3.3	U
107-06-2	1,2-Dichloroethane	52	13	13	3.3	3.3	U
71-55-6	1,1,1-Trichloroethane (TCA)	52	18	18	3.2	3.2	U
56-23-5	Carbon Tetrachloride	52	2.1	2.1	0.33	0.33	U
78-87-5	1,2-Dichloropropane	52	15	15	3.2	3.2	U
75-27-4	Bromodichloromethane	52	4.4	4.4	0.66	0.66	U
79-01-6	Trichloroethene (TCE)	52	5.7	1.8	1.1	0.33	
10061-01-5	cis-1,3-Dichloropropene	52	29	29	6.5	6.5	U
10061-02-6	trans-1,3-Dichloropropene	52	15	15	3.2	3.2	U
79-00-5	1,1,2-Trichloroethane	52	18	18	3.2	3.2	U
124-48-1	Dibromochloromethane	52	5.6	5.6	0.66	0.66	U
127-18-4	Tetrachloroethene (PCE)	52	22	2.4	3.2	0.35	
108-90-7	Chlorobenzene	52	15	15	3.3	3.3	U
75-25-2	Bromoform	52	34	34	3.2	3.2	U
79-34-5	1,1,2,2-Tetrachloroethane	52	4.4	4.4	0.64	0.64	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	11/7/13 0056	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 VP-1
 Lab Code: R1308290-013

Service Request: R1308290
 Date Collected: 11/ 1/13 1349
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 0140
 Canister Dilution Factor: 1.67

Initial Pressure (psig): -3.68 Final Pressure (psig): 3.75

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	95	7.9	7.9	3.8	3.8	U
75-01-4	Vinyl Chloride	95	1.1	1.1	0.41	0.41	U
74-83-9	Bromomethane	95	7.6	7.6	1.9	1.9	U
75-00-3	Chloroethane	95	10	10	3.9	3.9	U
67-64-1	Acetone	95	120	88	50	37	
75-69-4	Trichlorofluoromethane (CFC 11)	95	11	11	1.9	1.9	U
75-35-4	1,1-Dichloroethene	95	7.7	7.7	2.0	2.0	U
75-09-2	Methylene Chloride	95	6.7	6.7	1.9	1.9	U
156-60-5	trans-1,2-Dichloroethene	95	7.7	7.7	2.0	2.0	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	95	7.9	7.9	2.0	2.0	U
156-59-2	cis-1,2-Dichloroethene	95	7.7	7.7	2.0	2.0	U
67-66-3	Chloroform	95	16	9.5	3.2	1.9	
107-06-2	1,2-Dichloroethane	95	7.9	7.9	2.0	2.0	U
71-55-6	1,1,1-Trichloroethane (TCA)	95	11	11	1.9	1.9	U
56-23-5	Carbon Tetrachloride	95	1.2	1.2	0.20	0.20	U
78-87-5	1,2-Dichloropropane	95	9.0	9.0	1.9	1.9	U
75-27-4	Bromodichloromethane	95	2.6	2.6	0.39	0.39	U
79-01-6	Trichloroethene (TCE)	95	290	1.1	53	0.20	
10061-01-5	cis-1,3-Dichloropropene	95	18	18	3.9	3.9	U
10061-02-6	trans-1,3-Dichloropropene	95	8.8	8.8	1.9	1.9	U
79-00-5	1,1,2-Trichloroethane	95	11	11	1.9	1.9	U
124-48-1	Dibromochloromethane	95	3.3	3.3	0.39	0.39	U
127-18-4	Tetrachloroethene (PCE)	95	1000	1.4	150	0.21	
108-90-7	Chlorobenzene	95	9.0	9.0	1.9	1.9	U
75-25-2	Bromoform	95	20	20	1.9	1.9	U
79-34-5	1,1,2,2-Tetrachloroethane	95	2.6	2.6	0.38	0.38	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	104	70-130	11/7/13 0140	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 VP-2
 Lab Code: R1308290-014

Service Request: R1308290
 Date Collected: 11/1/13 1321
 Date Received: 11/5/13

Analytical Method: TO-15

Date Analyzed: 11/7/13 1913
 Canister Dilution Factor: 1.33

Initial Pressure (psig): -0.93 Final Pressure (psig): 3.60

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	400	1.5	1.5	0.72	0.72	U
75-01-4	Vinyl Chloride	400	0.20	0.20	0.078	0.078	U
74-83-9	Bromomethane	400	1.4	1.4	0.37	0.37	U
75-00-3	Chloroethane	400	1.9	1.9	0.73	0.73	U
67-64-1	Acetone	400	130	17	56	7.0	E
75-69-4	Trichlorofluoromethane (CFC 11)	400	2.1	2.1	0.37	0.37	U
75-35-4	1,1-Dichloroethene	400	1.5	1.5	0.37	0.37	U
75-09-2	Methylene Chloride	400	1.3	1.3	0.36	0.36	U
156-60-5	trans-1,2-Dichloroethene	400	1.5	1.5	0.37	0.37	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	400	1.5	1.5	0.37	0.37	U
156-59-2	cis-1,2-Dichloroethene	400	1.5	1.5	0.37	0.37	U
67-66-3	Chloroform	400	14	1.8	2.9	0.37	U
107-06-2	1,2-Dichloroethane	400	1.5	1.5	0.37	0.37	U
71-55-6	1,1,1-Trichloroethane (TCA)	400	2.0	2.0	0.37	0.37	U
56-23-5	Carbon Tetrachloride	400	0.54	0.23	0.085	0.037	U
78-87-5	1,2-Dichloropropane	400	1.7	1.7	0.37	0.37	U
75-27-4	Bromodichloromethane	400	0.50	0.50	0.074	0.074	U
79-01-6	Trichloroethene (TCE)	400	11	0.20	2.0	0.037	U
10061-01-5	cis-1,3-Dichloropropene	400	3.3	3.3	0.73	0.73	U
10061-02-6	trans-1,3-Dichloropropene	400	1.7	1.7	0.37	0.37	U
79-00-5	1,1,2-Trichloroethane	400	2.0	2.0	0.37	0.37	U
124-48-1	Dibromochloromethane	400	0.63	0.63	0.074	0.074	U
127-18-4	Tetrachloroethene (PCE)	400	31	0.27	4.6	0.039	U
108-90-7	Chlorobenzene	400	1.7	1.7	0.37	0.37	U
75-25-2	Bromoform	400	3.8	3.8	0.37	0.37	U
79-34-5	1,1,2,2-Tetrachloroethane	400	0.50	0.50	0.073	0.073	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	106	70-130	11/7/13 1913	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 VP-2
 Lab Code: R1308290-014
 Run Type: Dilution

Service Request: R1308290
 Date Collected: 11/ 1/13 1321
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1708
 Canister Dilution Factor: 1.33

Initial Pressure (psig): -0.93 Final Pressure (psig): 3.60

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	150	4.0	4.0	1.9	1.9	U
75-01-4	Vinyl Chloride	150	0.53	0.53	0.21	0.21	U
74-83-9	Bromomethane	150	3.8	3.8	0.98	0.98	U
75-00-3	Chloroethane	150	5.1	5.1	1.9	1.9	U
67-64-1	Acetone	150	140	44	59	19	D
75-69-4	Trichlorofluoromethane (CFC 11)	150	5.5	5.5	0.98	0.98	U
75-35-4	1,1-Dichloroethene	150	3.9	3.9	0.98	0.98	U
75-09-2	Methylene Chloride	150	3.4	3.4	0.97	0.97	U
156-60-5	trans-1,2-Dichloroethene	150	3.9	3.9	0.98	0.98	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	150	4.0	4.0	0.99	0.99	U
156-59-2	cis-1,2-Dichloroethene	150	3.9	3.9	0.98	0.98	U
67-66-3	Chloroform	150	14	4.8	2.9	0.98	D
107-06-2	1,2-Dichloroethane	150	4.0	4.0	0.99	0.99	U
71-55-6	1,1,1-Trichloroethane (TCA)	150	5.3	5.3	0.98	0.98	U
56-23-5	Carbon Tetrachloride	150	0.62	0.62	0.099	0.099	U
78-87-5	1,2-Dichloropropane	150	4.5	4.5	0.98	0.98	U
75-27-4	Bromodichloromethane	150	1.3	1.3	0.20	0.20	U
79-01-6	Trichloroethene (TCE)	150	11	0.53	2.1	0.099	D
10061-01-5	cis-1,3-Dichloropropene	150	8.9	8.9	2.0	2.0	U
10061-02-6	trans-1,3-Dichloropropene	150	4.4	4.4	0.98	0.98	U
79-00-5	1,1,2-Trichloroethane	150	5.3	5.3	0.98	0.98	U
124-48-1	Dibromochloromethane	150	1.7	1.7	0.20	0.20	U
127-18-4	Tetrachloroethene (PCE)	150	33	0.71	4.8	0.10	D
108-90-7	Chlorobenzene	150	4.5	4.5	0.98	0.98	U
75-25-2	Bromoform	150	10	10	0.98	0.98	U
79-34-5	1,1,2,2-Tetrachloroethane	150	1.3	1.3	0.19	0.19	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	11/8/13 1708	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG3 VP-3
 Lab Code: R1308290-015

Service Request: R1308290
 Date Collected: 11/ 1/13 1351
 Date Received: 11/ 5/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 0023
 Canister Dilution Factor: 1.45

Initial Pressure (psig): -2.11 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	75	8.7	8.7	4.2	4.2	U
75-01-4	Vinyl Chloride	75	1.2	1.2	0.45	0.45	U
74-83-9	Bromomethane	75	8.3	8.3	2.1	2.1	U
75-00-3	Chloroethane	75	11	11	4.3	4.3	U
67-64-1	Acetone	75	160	97	67	41	
75-69-4	Trichlorofluoromethane (CFC 11)	75	12	12	2.1	2.1	U
75-35-4	1,1-Dichloroethene	75	8.5	8.5	2.1	2.1	U
75-09-2	Methylene Chloride	75	7.3	7.3	2.1	2.1	U
156-60-5	trans-1,2-Dichloroethene	75	8.5	8.5	2.1	2.1	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	75	8.7	8.7	2.2	2.2	U
156-59-2	cis-1,2-Dichloroethene	75	19	8.5	4.8	2.1	
67-66-3	Chloroform	75	15	10	3.1	2.1	
107-06-2	1,2-Dichloroethane	75	8.7	8.7	2.2	2.2	U
71-55-6	1,1,1-Trichloroethane (TCA)	75	12	12	2.1	2.1	U
56-23-5	Carbon Tetrachloride	75	1.4	1.4	0.22	0.22	U
78-87-5	1,2-Dichloropropane	75	9.9	9.9	2.1	2.1	U
75-27-4	Bromodichloromethane	75	2.9	2.9	0.43	0.43	U
79-01-6	Trichloroethene (TCE)	75	270	1.2	51	0.22	
10061-01-5	cis-1,3-Dichloropropene	75	19	19	4.3	4.3	U
10061-02-6	trans-1,3-Dichloropropene	75	9.7	9.7	2.1	2.1	U
79-00-5	1,1,2-Trichloroethane	75	12	12	2.1	2.1	U
124-48-1	Dibromochloromethane	75	3.7	3.7	0.43	0.43	U
127-18-4	Tetrachloroethene (PCE)	75	620	1.5	92	0.23	
108-90-7	Chlorobenzene	75	9.9	9.9	2.1	2.1	U
75-25-2	Bromoform	75	22	22	2.1	2.1	U
79-34-5	1,1,2,2-Tetrachloroethane	75	2.9	2.9	0.42	0.42	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	108	70-130	11/8/13 0023	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1314286-01

Service Request: R1308290
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 11/6/13 1150

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	98	70-130	11/6/13 1150	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1314289-01

Service Request: R1308290
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 11/7/13 1110

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	100	70-130	11/7/13 1110	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1314293-01

Service Request: R1308290
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 11/8/13 1055

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	104	70-130	11/8/13 1055	

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air

Service Request: R1308290
 Date Analyzed: 11/ 6/13

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: 367883

Lab Control Sample
 RQ1314286-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.52	5.26	86	70 - 130
Vinyl Chloride	6.30	6.58	96	70 - 130
Bromomethane	9.84	9.89	99	70 - 130
Chloroethane	6.39	6.66	96	70 - 130
Acetone	5.62	6.47	87	50 - 150
Trichlorofluoromethane (CFC 11)	14.6	14.3	102	70 - 130
1,1-Dichloroethene	9.55	10.4	92	70 - 130
Methylene Chloride	8.40	9.03	93	70 - 130
trans-1,2-Dichloroethene	9.22	10.4	89	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.46	10.5	90	70 - 130
cis-1,2-Dichloroethene	9.85	10.5	94	70 - 130
Chloroform	12.6	13.2	96	70 - 130
1,2-Dichloroethane	10.4	10.6	98	70 - 130
1,1,1-Trichloroethane (TCA)	14.1	14.3	98	70 - 130
Carbon Tetrachloride	15.5	15.9	98	70 - 130
1,2-Dichloropropane	10.6	12.1	87	70 - 130
Bromodichloromethane	17.3	17.4	100	70 - 130
Trichloroethene (TCE)	13.5	14.0	97	70 - 130
cis-1,3-Dichloropropene	11.4	12.3	93	70 - 130
trans-1,3-Dichloropropene	9.97	11.0	91	70 - 130
1,1,2-Trichloroethane	13.8	14.6	95	70 - 130
Dibromochloromethane	23.2	23.4	99	70 - 130
Tetrachloroethene (PCE)	17.4	18.0	97	70 - 130
Chlorobenzene	11.6	12.3	94	70 - 130
Bromoform	27.2	26.6	102	70 - 130
1,1,2,2-Tetrachloroethane	16.4	18.9	87	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.

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air

Service Request: R1308290
 Date Analyzed: 11/7/13

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: 367889

Lab Control Sample
 RQ1314289-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.49	5.26	85	70 - 130
Vinyl Chloride	6.39	6.58	97	70 - 130
Bromomethane	10.1	9.89	102	70 - 130
Chloroethane	6.48	6.66	97	70 - 130
Acetone	5.46	6.47	84	50 - 150
Trichlorofluoromethane (CFC 11)	14.8	14.3	103	70 - 130
1,1-Dichloroethene	9.61	10.4	92	70 - 130
Methylene Chloride	8.50	9.03	94	70 - 130
trans-1,2-Dichloroethene	9.34	10.4	90	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.45	10.5	90	70 - 130
cis-1,2-Dichloroethene	10.1	10.5	96	70 - 130
Chloroform	12.6	13.2	96	70 - 130
1,2-Dichloroethane	10.2	10.6	96	70 - 130
1,1,1-Trichloroethane (TCA)	14.0	14.3	97	70 - 130
Carbon Tetrachloride	15.5	15.9	98	70 - 130
1,2-Dichloropropane	10.6	12.1	87	70 - 130
Bromodichloromethane	17.0	17.4	98	70 - 130
Trichloroethene (TCE)	13.2	14.0	94	70 - 130
cis-1,3-Dichloropropene	11.4	12.3	93	70 - 130
trans-1,3-Dichloropropene	9.79	11.0	89	70 - 130
1,1,2-Trichloroethane	13.6	14.6	93	70 - 130
Dibromochloromethane	23.0	23.4	98	70 - 130
Tetrachloroethene (PCE)	17.3	18.0	96	70 - 130
Chlorobenzene	11.5	12.3	93	70 - 130
Bromoform	26.6	26.6	100	70 - 130
1,1,2,2-Tetrachloroethane	15.5	18.9	82	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.

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air

Service Request: R1308290
 Date Analyzed: 11/ 8/13

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: 367896

Lab Control Sample
RQ1314293-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.27	5.26	81	70 - 130
Vinyl Chloride	6.27	6.58	95	70 - 130
Bromomethane	9.86	9.89	100	70 - 130
Chloroethane	6.44	6.66	97	70 - 130
Acetone	5.20	6.47	80	50 - 150
Trichlorofluoromethane (CFC 11)	14.7	14.3	102	70 - 130
1,1-Dichloroethene	9.29	10.4	89	70 - 130
Methylene Chloride	8.29	9.03	92	70 - 130
trans-1,2-Dichloroethene	9.03	10.4	87	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.22	10.5	88	70 - 130
cis-1,2-Dichloroethene	9.71	10.5	92	70 - 130
Chloroform	12.3	13.2	94	70 - 130
1,2-Dichloroethane	9.94	10.6	94	70 - 130
1,1,1-Trichloroethane (TCA)	13.6	14.3	95	70 - 130
Carbon Tetrachloride	15.1	15.9	95	70 - 130
1,2-Dichloropropane	10.1	12.1	84	70 - 130
Bromodichloromethane	16.5	17.4	95	70 - 130
Trichloroethene (TCE)	13.0	14.0	93	70 - 130
cis-1,3-Dichloropropene	11.1	12.3	91	70 - 130
trans-1,3-Dichloropropene	9.46	11.0	86	70 - 130
1,1,2-Trichloroethane	13.3	14.6	91	70 - 130
Dibromochloromethane	22.4	23.4	96	70 - 130
Tetrachloroethene (PCE)	16.9	18.0	94	70 - 130
Chlorobenzene	11.3	12.3	92	70 - 130
Bromoform	26.0	26.6	98	70 - 130
1,1,2,2-Tetrachloroethane	15.0	18.9	80	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.

MS #13 (Air 2)
TO-15

Date: 11/6/13

Analyst: R. Hering

Leak Check: 0.8 psia → 1.2 psia in 480 sec

Pressures (psia): He = 21.4 IS = 24.5 ATM = 14.6

Volumes (mL): IS = 250 of # 63752 Nominal Sample Volume 1000

Methods: Tune = BFB.U GCMS = 120712.M Entech = CASMP1

LIMS Run# 367883

J:\Acqudata\air2\Data\110613

A.S. Pos	Vol (mL)	Sample	File #	OK?	Comments	
14	500	ROOM Air	B5086	-		
14	500	ROOM Air	B5087	-		
14	0	TUNE CHECK	B5088	Y	(06/26)	
15	500	CCV # 63199	B5089	N	CANISTER	
16	250	LCS # 63753	B5090	N	VALVE CLOSED	
15	500	CCV # 63199	B5091	Y		
16	250	LCS # 63753	B5092	Y		
1	1000	MET BLK U2 Air Direct - # 26250	B5093	Y		
SYR	0.012	R1308295-001	[CBEI 9518 T2]	B5094	Y	
SYR	0.067	-002		B5095	Y	
SYR	2.0	-003		B5096	Y	
SYR	3.8	-004		B5097	N	PIPE B.DNC
SYR	6.0	-004		B5098	Y	
SYR	15	R1308296-001	[Matrix 9531 T1]	B5099	Y	
SYR	7.6	R1308243-001 [1/2] = 3.8 mL in LIMS	[TRC 9518 T2]	B5100	Y	
SYR	13.4	-002 [1/2] = 6.7 in LIMS		B5101	Y	
SYR	50	-003 [1/2] = 25 mL in LIMS		B5102	Y	
2	50	-003 [1/2] = 25 mL in LIMS		B5103	Y	
3	500	-004 [1/2] = 250 mL in LIMS		B5104	Y	
4	164	-006 [1/2] = 82 mL in LIMS		B5105	Y	
5	500	R1308290-002	[CBEI 9670 T2]	B5106	Y	
6	90	-003	Mass O2M	B5107	Y	
7	500	-004		B5108	Y	
8	55	-009		B5109	Y	
9	52	-012		B5110	Y	
10	95	-013		B5111	Y	
10	95	2nd/6 - 04013 Dup		B5112	Y	

PH 11/6/13

MS #13 (Air 2)
TO-15

Date: 11/7/13

Analyst: R. Herring

Leak Check: 0.8 psia → 1.2 psia in 500 sec.

Pressures (psia): He = 21.7 IS = 15.8 ATM = 14.4

Volumes (mL): IS = 250 of # 63752 Nominal Sample Volume 1000

Methods: Tune = BFB.U GCMS = 120712.M Entech = CAS.MPT

LIMS Run# 367889

J:\Acqudata\air2\Data\110713

A.S. Pos	Vol (mL)	Sample	File #	OK?	Comments
14	500	ROOM Air	B5113	-	
14	500	ROOM Air	B5114	-	
14	0	Tune Check	B5115	Y	(04:40)
15	500	CCV # 63199	B5116	Y	
16	250	LCS # 63753	B5117	Y	
1	1000	MET BLK UZ Air-direct # 26250	B5118	Y	
SYR	13	R1308290 -001	B5119	Y	COET 9560 T2 TCE/TCR 100ml DL
SYR	33	-005	B5120	Y	Mass CAM
SYR	7.6	-006	B5121	Y	TCE/TCR 100ml DL
SYR	34	-007	B5122	Y	
SYR	12	-008	B5123	Y	TCE/TCR 120ml DL
SYR	31	-010	B5124	Y	TCE/TCR 300ml DL
SYR	24	-011	B5125	Y	TCE/TCR 240ml DL
1	500	ROOM AIR	B5126	-	
2	400	-014	B5127	Y	Acceptance TCE/TCR 150ml
3	200	R1308243 -004 [1/2] = 100ml by LIMS	B5128	Y	TRC 9518 T2 DL
4	100	-006 [1/2] = 50ml by LIMS	B5129	Y	DL
5	200	R1308290 -002	B5130	Y	COET 9560 T2 NET NEEDED DL
6	50	-003	B5131	Y	Mass CAM DL
7	200	-004	B5132	Y	DL
8	550	-009	B5133	Y	Acceptance TCE+TCR - DL performed 11/6
9	75	-015	B5134	Y	
9	75	-015 DUP	B5135	Y	
10	50	-001	B5136	Y	Acceptance DL performed 11/6
11	100	-006	B5137	Y	Acceptance DL performed 11/6

A.H. 11/7/13

Date: 11/08/13

Analyst: R. Herring

Leak Check: 0.8 psia → 1.2 psia in 500 sec.

Pressures (psia): He = 21.6 IS = 25.4 ATM = 14.4

Volumes (mL): IS = 250 of # 64079 Nominal Sample Volume 1000

Methods: Tune = BFB.U GCMS = 120712.M Entech = CAS.MPT

LIMS Run# 367896

J:\Acqdata\air2\Data\

A.S. Pos	Vol (mL)	Sample	File #	OK?	Comments
14	500	Room Air	B5138	-	
14	500	Room Air	B5139	-	
14	0	Tune Check	B5140	Y	(04:52)
15	500	CCV # 63199	B5141	Y	
16	250	LCS # 63753	B5142	Y	
1	1000	METBLK UZAir - direct - # 26250	B5143	Y	
1	1000	R1308224-001	[Shale Test 9517 T2] B5144	Y	
1	14	R1308359-001	[CB&I 9760 T2] B5145	Y	TRCT-rpt@7ml
1	0.44	-002	B5146	Y	
1	7.0	-001	B5147	Y	[DL]
1	80	-003	B5148	Y	
1	40	-004	B5149	Y	
1	40	-004 DUP	B5150	Y	
2	150	R1308290-014	[CB&I 9560 T2] B5151	Y	[DL]
3	120	-008	B5152	Y	Acetone ↑ DL performed 11/7 run
4	300	-010	B5153	Y	Acetone ↑ DL performed 11/7 run
5	240	-011	B5154	Y	Acetone ↑ DL performed 11/7 run

P.H. 11/08/13

Client: CB&I

Folder: R1308290

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>
R1308290-001.01	BLDG5-SV1	6.0 L-Non-Specified SC	-6.10	-3.00	4.13				SLC00233	44251	FC00858
R1308290-002.01	BLDG5-SV2	6.0 L-Non-Specified SC	-6.80	-3.34	3.69				SLC00232	44251	FC00845
R1308290-003.01	BLDG5-SV3	6.0 L-Non-Specified SC	-3.70	-1.82	3.66				SLC00145	44251	FC00850
R1308290-004.01	BLDG5-SV5	6.0 L-Non-Specified SC	-5.90	-2.90	3.60				SLC00199	44251	FC00846
R1308290-005.01	BLDG5-SV6	6.0 L-Non-Specified SC	-4.70	-2.31	3.59				SLC00178	44251	FC00848
R1308290-006.01	BLDG5-1	6.0 L-Non-Specified SC	-6.30	-3.09	3.57				SLC00155	44251	FC00856
R1308290-007.01	BLDG5-2	6.0 L-Non-Specified SC	-6.10	-3.00	3.52				SLC00261	44251	FC00859
R1308290-008.01	BLDG5-3	6.0 L-Non-Specified SC	-6.90	-3.39	3.77				SLC00166	44251	FC00849
R1308290-009.01	BLDG3 3-3	6.0 L-Non-Specified SC	-7.20	-3.54	3.73				SLC00054	44251	FC00857
R1308290-010.01	BLDG3 3-4	6.0 L-Non-Specified SC	-6.70	-3.29	3.66				SLC00228	44251	FC00851
R1308290-011.01	BLDG3 3-2	6.0 L-Non-Specified SC	-6.60	-3.24	3.72				SLC00210	44251	FC00847
R1308290-012.01	BLDG3 2-6	6.0 L-Non-Specified SC	-5.60	-2.75	3.59				SLC00140	44251	FC00852
R1308290-013.01	BLDG3 VP-1	6.0 L-Non-Specified SC	-7.50	-3.68	3.75				SLC00183	44251	FC00862
R1308290-014.01	BLDG3 VP-2	6.0 L-Non-Specified SC	-1.90	-0.93	3.60				SLC00256	44251	FC00861
R1308290-015.01	BLDG3 VP-3	6.0 L-Non-Specified SC	-4.30	-2.11	3.59				SLC00185	44251	FC00863

Miscellaneous Items - received

00043

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: Shaw Environmental, A CB&I Company		Project Name: Varian Beverly						
Address: 150 Royall Street		CAS Contact:						
City, State, Zip: Canton, MA 02021		Analysis Method and/or Analytes						
Project Manager: Raymond Cadorette								
Phone: 617-589-6102		TO-15 (Site Specific List)						
Fax: 617-589-5495								
Email (for result reporting): Raymond.Cadorette@CBI.com								
Sampler (Print & Sign): <i>Date Daily [Signature]</i>		Comments Specific Instructions						
Client Sample ID	Laboratory ID Number			Date Collected	Time Collected	Canister ID	Flow Controller ID	
<i>Bldg 5-SV1</i>				<i>11/1/13</i>	<i>13:14</i>	<i>SLC00233</i>	<i>FC00858</i>	
<i>Bldg 5-SV2</i>				↓	<i>13:15</i>	<i>SLC00232</i>	<i>FC00845</i>	
<i>Bldg 5-SV3</i>					<i>13:16</i>	<i>SLC00145</i>	<i>FC00850</i>	
<i>Bldg 5-SV5</i>					<i>13:10</i>	<i>SLC00199</i>	<i>FC00846</i>	
<i>Bldg 5-SV6</i>					<i>13:13</i>	<i>SLC00178</i>	<i>FC00848</i>	
<i>Bldg 5-SV4 (OD)</i>					-	-	-	
<i>Bldg 5-1</i>						<i>17:13</i>	<i>SLC00155</i>	<i>FC00856</i>
<i>Bldg 5-2</i>						<i>17:12</i>	<i>SLC00261</i>	<i>FC00859</i>
<i>Bldg 5-3</i>			<i>17:05</i>	<i>SLC00166</i>	<i>FC00849</i>			
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: <u>GISKey</u> EDD Units: <u>ug/m3 & ppmV</u> QA/QC: MADEP CAM Complete 2nd run.						
Relinquished by: (Signature) <i>William Sando (TOUPS)</i>	Date: <i>11/4/13</i>	Time	Received by: (Signature) <i>Craig Fairbank</i>	Date: <i>11/05/13</i>	Time: <i>09:40</i>			
Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time:			
Relinquished by: (Signature)	Date:	Time	Received by: (Signature)	Date:	Time:			

R1308290 **7 Y**
 CB&I Environmental & Infrastructure
 Varian Beverly Air Samples



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: Shaw Environmental, A CB&I Company		Project Name: Varian Beverly					
Address: 150 Royall Street		CAS Contact:					
City, State, Zip: Canton, MA 02021		Analysis Method and/or Analytes					
Project Manager: Raymond Cadorette							
Phone: 617-589-6102	Fax: 617-589-5495	Comments Specific Instructions					
Email (for result reporting): Raymond.Cadorette@CBI.com							
Sampler (Print & Sign): <i>Paul Hedrick Paul Hedrick</i>		TO-15 (Site Specific List)					
Client Sample ID	Laboratory ID Number			Date Collected	Time Collected	Canister ID	Flow Controller ID
Bldg 3 3-3				11.1.13	1747	^{SLC} 00054	^{FC} 00857
Bldg 3 3-4				11.1.13	1746	^{SLC} 00228	^{FC} 00851
Bldg 3 3-2				11.1.13	1744	^{SLC} 00210	^{FC} 00847
Bldg 3 2-6				11.1.13	1743	^{SLC} 00140	^{FC} 00852
Bldg 3 VP-1				11.1.13	1349	^{SLC} 00183	^{FC} 00862
Bldg 3 VA-2				11.1.13	1321	^{SLC} 00236	^{FC} 00861
Bldg 3 VP-3				11.1.13	1351	^{SLC} 00185	^{FC} 00863
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: <u>GISKey</u> EDD Units: <u>ug/m3 & ppmV</u>					
Relinquished by: (Signature) <i>Paul Hedrick</i>		Date: 11.1.13	Time:	Received by: (Signature) <i>Mellini Sasso</i>	Date: 11/1/13	Time:	
Relinquished by: (Signature) <i>Mellini Sasso (TO UPS)</i>		Date: 11/4/13	Time:	Received by: (Signature) <i>Craig Fickard</i>	Date: 11/05/13	Time: 0940	
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date:	Time:	



Cooler Receipt and Preservation Check Form

Project/Client Shaw Environmental Folder Number R1308290

Cooler received on 11/05 by: CP COURIER: ALS UPS FEDEX VELOCITY CLIENT

- Were custody seals on outside of cooler? YES NO
- Were custody papers properly filled out (ink, signed, etc.)? YES NO
- Did all bottles arrive in good condition (unbroken)? YES NO
- Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
- Were Ice or Ice packs present? YES NO
- Where did the bottles originate? ALS/ROC, CLIENT
- Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
- 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 SMO by _____ on _____ at _____
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: 11/5/13

Cooler Breakdown: Date: 11/5 Time: 1525 by: JFS

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- 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: _____
		YES	NO							
≥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: canisters

Other Comments:

PC Secondary Review: 11/6/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Sample Collection Supplies



T019262

Order #: 44251

Date Required: 10/31/13

Project Chemist: Michael Perry

Phone Number: 585-288-5380 x7469

Client: CB&I
Project: Varian Beverly
SDG Name: Varian Beverly Air Samples

P.O. Number: 821947

Ship 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.**

Shipped On: _____

Shipped By: _____

Tracking #: _____

Shipping Cost: _____

Grouped by Container Type

ID	Container
15	6.0L-Non-Specified

Shipped Pressure

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

Ship To: Vallerie Sasso
150 Royall Street
Canton, MA 02021

E-mail: vallerie.sasso@cbi.com

Phone: 617-589-6163

Order #: 44251

Date Required: 10/31/13

Project Chemist: Michael Perry

Phone Number: 585-288-5380 x7469

Shipped On: _____

Shipped By: _____

Tracking #: _____

Shipping Cost: _____

Comments: **Bag containers by sample template.** Hours

FC00845	1 each-Flow Controller Stainless Steel	- 4	
FC00846	1 each-Flow Controller Stainless Steel	- 4	
FC00847	1 each-Flow Controller Stainless Steel	- 8	
FC00848	1 each-Flow Controller Stainless Steel	- 4	
FC00849	1 each-Flow Controller Stainless Steel	- 8	
FC00850	1 each-Flow Controller Stainless Steel	- 4	
FC00851	1 each-Flow Controller Stainless Steel	- 8	
FC00852	1 each-Flow Controller Stainless Steel	- 8	
FC00856	1 each-Flow Controller Stainless Steel	- 8	
FC00857	1 each-Flow Controller Stainless Steel	- 8	
FC00858	1 each-Flow Controller Stainless Steel	- 4	
FC00859	1 each-Flow Controller Stainless Steel	- 8	
FC00861	1 each-Flow Controller Stainless Steel	- 4	
FC00862	1 each-Flow Controller Stainless Steel	- 4	
FC00863	1 each-Flow Controller Stainless Steel	- 4	
SLC00054	6.0 L-Non-Specified SC		-29.80
SLC00140	6.0 L-Non-Specified SC		-29.80
SLC00145	6.0 L-Non-Specified SC		-29.80
SLC00155	6.0 L-Non-Specified SC		-29.80
SLC00166	6.0 L-Non-Specified SC		-29.80
SLC00178	6.0 L-Non-Specified SC		-29.80
SLC00183	6.0 L-Non-Specified SC		-29.80
SLC00185	6.0 L-Non-Specified SC		-29.80
SLC00199	6.0 L-Non-Specified SC		-29.80
SLC00210	6.0 L-Non-Specified SC		-29.80
SLC00228	6.0 L-Non-Specified SC		-29.80
SLC00232	6.0 L-Non-Specified SC		-29.80
SLC00233	6.0 L-Non-Specified SC		-29.80
SLC00256	6.0 L-Non-Specified SC		-29.80
SLC00261	6.0 L-Non-Specified SC		-29.80

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

Order #: 44251

Date Required: 10/31/13

Project Chemist: Michael Perry

Phone Number: 585-288-5380 x7469

Client: CB&I
Project: Varian Beverly
SDG Name: Varian Beverly Air Samples

P.O. Number: 821947

Ship To: Vallerie Sasso
150 Royall Street
Canton, MA 02021
E-mail: vallerie.sasso@cbi.com
Phone: 617-589-6163

Shipped On: _____

Shipped By: _____

Tracking #: _____

Shipping Cost: _____

Comments: **Bag containers by sample template.**

Grouped by Sample Template

Sample Template Number / Name	Expected Number of Samples	Containers	Number of Containers per Sample	Comments
001 / TO-15	15			
		6.0L-Non-Specified SC - TO-15	1	

Quantity	Miscellaneous Supply
8	Flow Controller, 6L, 4hr
7	Flow Controller, 6L, 8hr

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.



QC Certification

ALS Environmental
1565 Jefferson Rd, Building 300
Suite 360
Rochester, NY 14623
Ph. 585-288-5380
Fax 585-288-8475

05050

<u>Container IDs</u>	<u>Cleaned Date</u>	<u>Date Analyzed</u>	<u>QC Results</u>	<u>Comments</u>
FC00845	10/16/13	10/16/13		
FC00846	10/16/13	10/16/13		
FC00847	10/15/13	10/15/13		
FC00848	10/28/13	10/28/13		
FC00849	10/16/13	10/16/13		
FC00850	10/16/13	10/16/13		
FC00851	10/16/13	10/16/13		
FC00852	10/16/13	10/16/13		
FC00856	10/16/13	10/16/13		
FC00857	10/15/13	10/15/13		
FC00858	10/16/13	10/16/13		
FC00859	10/16/13	10/16/13		
FC00861	10/16/13	10/16/13		
FC00862	10/16/13	10/16/13		
FC00863	10/16/13	10/16/13		
SLC00054	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00140	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00145	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00155	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00166	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00178	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00183	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00185	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00199	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00210	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00228	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00232	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)

* QC Canister

15000

<u>Container IDs</u>	<u>Cleaned Date</u>	<u>Date Analyzed</u>	<u>QC Results</u>	<u>Comments</u>
SLC00233	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00256	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00261*	8/29/13	9/4/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)

* QC Canister

Data Usability Worksheet

Project Name : Varian Medical Systems, Inc. **Job Number :** 150148
Prepared By: Dale Dailey **Date :** 12/18/2013
Matrix: Air
Analyte Group : Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1308359
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
11/5/13	VOC TO-15		30 Days	11/8/13

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 11/8/2013

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.
- (2) Sample BLDG 5 SVE Influent 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 3/5/14



November 21, 2013

Service Request No: R1308359

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

Laboratory Results for: Varian Beverly Air Samples/150148

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on November 6, 2013. For your reference, these analyses have been assigned our service request number **R1308359**.

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 21

ALS Environmental

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

Service Request No.: R1308359
Project No.: 146898
Date Received: 10/29/13

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 10/24/13 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. Sample BLDG 5 SVE Influent 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.

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

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 150148

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1308359-001 - 004

Matrices: Groundwater/Surface Water Soil/Sediment Drinking Water X 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 X
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?	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?	X Yes No X 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
<p><i>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.</i></p>		
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 as requested)	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 Director 000003

Printed Name: Michael K. Perry

Date: 11/21/13

CASE NARRATIVE

This report contains analytical results for the following samples:

Service Request Number: R1308359

<u>Lab ID</u>	<u>Client ID</u>
R1308359-001	BLDG 5 SVE influent
R1308359-002	BLDG 5 SVE 1
R1308359-003	BLDG 5 SVE 2
R1308359-004	BLDG 5 SVE 3

00004

REPORT QUALIFIERS AND DEFINITIONS

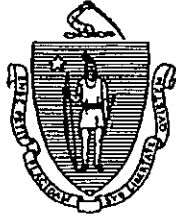
- | | |
|---|--|
| <p>U Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.</p> <p>J Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration 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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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

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/150148
 Sample Matrix: Air
 Sample Name: BLDG 5 SVE influent
 Lab Code: R1308359-001

Service Request: R1308359
 Date Collected: 11/ 5/13 1300
 Date Received: 11/ 6/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1240
 Canister Dilution Factor: 1.29

Initial Pressure (psig): -0.49 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	14	41	41	20	20	U
75-01-4	Vinyl Chloride	14	5.5	5.5	2.2	2.2	U
74-83-9	Bromomethane	14	40	40	10	10	U
75-00-3	Chloroethane	14	53	53	20	20	U
67-64-1	Acetone	14	530	460	220	190	
75-69-4	Trichlorofluoromethane (CFC 11)	14	57	57	10	10	U
75-35-4	1,1-Dichloroethene	14	41	41	10	10	U
75-09-2	Methylene Chloride	14	35	35	10	10	U
156-60-5	trans-1,2-Dichloroethene	14	41	41	10	10	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	14	41	41	10	10	U
156-59-2	cis-1,2-Dichloroethene	14	90	41	23	10	
67-66-3	Chloroform	14	50	50	10	10	U
107-06-2	1,2-Dichloroethane	14	41	41	10	10	U
71-55-6	1,1,1-Trichloroethane (TCA)	14	55	55	10	10	U
56-23-5	Carbon Tetrachloride	14	6.5	6.5	1.0	1.0	U
78-87-5	1,2-Dichloropropane	14	47	47	10	10	U
75-27-4	Bromodichloromethane	14	14	14	2.1	2.1	U
79-01-6	Trichloroethene (TCE)	14	6100	5.5	1100	1.0	E
10061-01-5	cis-1,3-Dichloropropene	14	92	92	20	20	U
10061-02-6	trans-1,3-Dichloropropene	14	46	46	10	10	U
79-00-5	1,1,2-Trichloroethane	14	55	55	10	10	U
124-48-1	Dibromochloromethane	14	18	18	2.1	2.1	U
127-18-4	Tetrachloroethene (PCE)	14	1100	7.4	160	1.1	
108-90-7	Chlorobenzene	14	47	47	10	10	U
75-25-2	Bromoform	14	110	110	10	10	U
79-34-5	1,1,2,2-Tetrachloroethane	14	14	14	2.0	2.0	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	104	70-130	11/8/13 1240	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5 SVE influent
 Lab Code: R1308359-001
 Run Type: Dilution

Service Request: R1308359
 Date Collected: 11/ 5/13 1300
 Date Received: 11/ 6/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1416
 Canister Dilution Factor: 1.29

Initial Pressure (psig): -0.49 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	7.0	83	83	40	40	U
75-01-4	Vinyl Chloride	7.0	11	11	4.3	4.3	U
74-83-9	Bromomethane	7.0	79	79	20	20	U
75-00-3	Chloroethane	7.0	110	110	41	41	U
67-64-1	Acetone	7.0	920	920	390	390	U
75-69-4	Trichlorofluoromethane (CFC 11)	7.0	110	110	20	20	U
75-35-4	1,1-Dichloroethene	7.0	81	81	20	20	U
75-09-2	Methylene Chloride	7.0	70	70	20	20	U
156-60-5	trans-1,2-Dichloroethene	7.0	81	81	20	20	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	7.0	83	83	20	20	U
156-59-2	cis-1,2-Dichloroethene	7.0	87	81	22	20	D
67-66-3	Chloroform	7.0	100	100	20	20	U
107-06-2	1,2-Dichloroethane	7.0	83	83	20	20	U
71-55-6	1,1,1-Trichloroethane (TCA)	7.0	110	110	20	20	U
56-23-5	Carbon Tetrachloride	7.0	13	13	2.1	2.1	U
78-87-5	1,2-Dichloropropane	7.0	94	94	20	20	U
75-27-4	Bromodichloromethane	7.0	28	28	4.1	4.1	U
79-01-6	Trichloroethene (TCE)	7.0	6100	11	1100	2.1	D
10061-01-5	cis-1,3-Dichloropropene	7.0	180	180	41	41	U
10061-02-6	trans-1,3-Dichloropropene	7.0	92	92	20	20	U
79-00-5	1,1,2-Trichloroethane	7.0	110	110	20	20	U
124-48-1	Dibromochloromethane	7.0	35	35	4.1	4.1	U
127-18-4	Tetrachloroethene (PCE)	7.0	1000	15	150	2.2	D
108-90-7	Chlorobenzene	7.0	94	94	20	20	U
75-25-2	Bromoform	7.0	210	210	20	20	U
79-34-5	1,1,2,2-Tetrachloroethane	7.0	28	28	4.0	4.0	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	101	70-130	11/8/13 1416	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5 SVE 1
 Lab Code: R1308359-002

Service Request: R1308359
 Date Collected: 11/ 5/13 1415
 Date Received: 11/ 6/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1328
 Canister Dilution Factor: 1.33

Initial Pressure (psig): -0.83 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	0.44	1400	1400	660	660	U
75-01-4	Vinyl Chloride	0.44	180	180	71	71	U
74-83-9	Bromomethane	0.44	1300	1300	330	330	U
75-00-3	Chloroethane	0.44	1800	1800	660	660	U
67-64-1	Acetone	0.44	15000	15000	6400	6400	U
75-69-4	Trichlorofluoromethane (CFC 11)	0.44	1900	1900	330	330	U
75-35-4	1,1-Dichloroethene	0.44	1300	1300	340	340	U
75-09-2	Methylene Chloride	0.44	1100	1100	330	330	U
156-60-5	trans-1,2-Dichloroethene	0.44	1300	1300	340	340	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	0.44	1400	1400	340	340	U
156-59-2	cis-1,2-Dichloroethene	0.44	1300	1300	340	340	U
67-66-3	Chloroform	0.44	1600	1600	330	330	U
107-06-2	1,2-Dichloroethane	0.44	1400	1400	340	340	U
71-55-6	1,1,1-Trichloroethane (TCA)	0.44	1800	1800	330	330	U
56-23-5	Carbon Tetrachloride	0.44	210	210	34	34	U
78-87-5	1,2-Dichloropropane	0.44	1500	1500	330	330	U
75-27-4	Bromodichloromethane	0.44	450	450	68	68	U
79-01-6	Trichloroethene (TCE)	0.44	150000	180	28000	34	U
10061-01-5	cis-1,3-Dichloropropene	0.44	3000	3000	670	670	U
10061-02-6	trans-1,3-Dichloropropene	0.44	1500	1500	330	330	U
79-00-5	1,1,2-Trichloroethane	0.44	1800	1800	330	330	U
124-48-1	Dibromochloromethane	0.44	570	570	67	67	U
127-18-4	Tetrachloroethene (PCE)	0.44	18000	240	2600	36	U
108-90-7	Chlorobenzene	0.44	1500	1500	330	330	U
75-25-2	Bromoform	0.44	3400	3400	330	330	U
79-34-5	1,1,2,2-Tetrachloroethane	0.44	450	450	66	66	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	100	70-130	11/8/13 1328	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5 SVE 2
 Lab Code: R1308359-003

Service Request: R1308359
 Date Collected: 11/5/13 1410
 Date Received: 11/6/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1459
 Canister Dilution Factor: 1.36

Initial Pressure (psig): -1.23 Final Pressure (psig): 3.65

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
74-87-3	Chloromethane	80	7.7	7.7	3.7	3.7	U
75-01-4	Vinyl Chloride	80	1.0	1.0	0.40	0.40	U
74-83-9	Bromomethane	80	7.3	7.3	1.9	1.9	U
75-00-3	Chloroethane	80	9.9	9.9	3.7	3.7	U
67-64-1	Acetone	80	310	85	130	36	
75-69-4	Trichlorofluoromethane (CFC 11)	80	11	11	1.9	1.9	U
75-35-4	1,1-Dichloroethene	80	7.5	7.5	1.9	1.9	U
75-09-2	Methylene Chloride	80	6.5	6.5	1.9	1.9	U
156-60-5	trans-1,2-Dichloroethene	80	7.5	7.5	1.9	1.9	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	80	7.7	7.7	1.9	1.9	U
156-59-2	cis-1,2-Dichloroethene	80	120	7.5	30	1.9	
67-66-3	Chloroform	80	9.2	9.2	1.9	1.9	U
107-06-2	1,2-Dichloroethane	80	7.7	7.7	1.9	1.9	U
71-55-6	1,1,1-Trichloroethane (TCA)	80	10	10	1.9	1.9	U
56-23-5	Carbon Tetrachloride	80	1.2	1.2	0.19	0.19	U
78-87-5	1,2-Dichloropropane	80	8.7	8.7	1.9	1.9	U
75-27-4	Bromodichloromethane	80	2.6	2.6	0.38	0.38	U
79-01-6	Trichloroethene (TCE)	80	270	1.0	50	0.19	
10061-01-5	cis-1,3-Dichloropropene	80	17	17	3.7	3.7	U
10061-02-6	trans-1,3-Dichloropropene	80	8.5	8.5	1.9	1.9	U
79-00-5	1,1,2-Trichloroethane	80	10	10	1.9	1.9	U
124-48-1	Dibromochloromethane	80	3.2	3.2	0.38	0.38	U
127-18-4	Tetrachloroethene (PCE)	80	250	1.4	37	0.20	
108-90-7	Chlorobenzene	80	8.7	8.7	1.9	1.9	U
75-25-2	Bromoform	80	19	19	1.9	1.9	U
79-34-5	1,1,2,2-Tetrachloroethane	80	2.6	2.6	0.37	0.37	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	103	70-130	11/8/13 1459	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5 SVE 3
 Lab Code: R1308359-004

Service Request: R1308359
 Date Collected: 11/ 5/13 1405
 Date Received: 11/ 6/13

Analytical Method: TO-15

Date Analyzed: 11/8/13 1542
 Canister Dilution Factor: 1.35

Initial Pressure (psig): -1.13 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	40	15	15	7.4	7.4	U
75-01-4	Vinyl Chloride	40	2.0	2.0	0.79	0.79	U
74-83-9	Bromomethane	40	15	15	3.7	3.7	U
75-00-3	Chloroethane	40	20	20	7.4	7.4	U
67-64-1	Acetone	40	750	170	310	71	
75-69-4	Trichlorofluoromethane (CFC 11)	40	21	21	3.7	3.7	U
75-35-4	1,1-Dichloroethene	40	15	15	3.7	3.7	U
75-09-2	Methylene Chloride	40	13	13	3.7	3.7	U
156-60-5	trans-1,2-Dichloroethene	40	15	15	3.7	3.7	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	40	15	15	3.8	3.8	U
156-59-2	cis-1,2-Dichloroethene	40	15	15	3.7	3.7	U
67-66-3	Chloroform	40	18	18	3.7	3.7	U
107-06-2	1,2-Dichloroethane	40	15	15	3.8	3.8	U
71-55-6	1,1,1-Trichloroethane (TCA)	40	20	20	3.7	3.7	U
56-23-5	Carbon Tetrachloride	40	2.4	2.4	0.38	0.38	U
78-87-5	1,2-Dichloropropane	40	17	17	3.7	3.7	U
75-27-4	Bromodichloromethane	40	5.1	5.1	0.76	0.76	U
79-01-6	Trichloroethene (TCE)	40	1100	2.0	210	0.38	
10061-01-5	cis-1,3-Dichloropropene	40	34	34	7.4	7.4	U
10061-02-6	trans-1,3-Dichloropropene	40	17	17	3.7	3.7	U
79-00-5	1,1,2-Trichloroethane	40	20	20	3.7	3.7	U
124-48-1	Dibromochloromethane	40	6.4	6.4	0.75	0.75	U
127-18-4	Tetrachloroethene (PCE)	40	420	2.7	62	0.40	
108-90-7	Chlorobenzene	40	17	17	3.7	3.7	U
75-25-2	Bromoform	40	38	38	3.7	3.7	U
79-34-5	1,1,2,2-Tetrachloroethane	40	5.1	5.1	0.74	0.74	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	100	70-130	11/8/13 1542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1314293-01

Service Request: R1308359
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 11/8/13 1055

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	104	70-130	11/8/13 1055	

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air

Service Request: R1308359
 Date Analyzed: 11/ 8/13

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: 367896

Lab Control Sample
RQ1314293-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Chloromethane	4.27	5.26	81	70 - 130
Vinyl Chloride	6.27	6.58	95	70 - 130
Bromomethane	9.86	9.89	100	70 - 130
Chloroethane	6.44	6.66	97	70 - 130
Acetone	5.20	6.47	80	50 - 150
Trichlorofluoromethane (CFC 11)	14.7	14.3	102	70 - 130
1,1-Dichloroethene	9.29	10.4	89	70 - 130
Methylene Chloride	8.29	9.03	92	70 - 130
trans-1,2-Dichloroethene	9.03	10.4	87	70 - 130
1,1-Dichloroethane (1,1-DCA)	9.22	10.5	88	70 - 130
cis-1,2-Dichloroethene	9.71	10.5	92	70 - 130
Chloroform	12.3	13.2	94	70 - 130
1,2-Dichloroethane	9.94	10.6	94	70 - 130
1,1,1-Trichloroethane (TCA)	13.6	14.3	95	70 - 130
Carbon Tetrachloride	15.1	15.9	95	70 - 130
1,2-Dichloropropane	10.1	12.1	84	70 - 130
Bromodichloromethane	16.5	17.4	95	70 - 130
Trichloroethene (TCE)	13.0	14.0	93	70 - 130
cis-1,3-Dichloropropene	11.1	12.3	91	70 - 130
trans-1,3-Dichloropropene	9.46	11.0	86	70 - 130
1,1,2-Trichloroethane	13.3	14.6	91	70 - 130
Dibromochloromethane	22.4	23.4	96	70 - 130
Tetrachloroethene (PCE)	16.9	18.0	94	70 - 130
Chlorobenzene	11.3	12.3	92	70 - 130
Bromoform	26.0	26.6	98	70 - 130
1,1,2,2-Tetrachloroethane	15.0	18.9	80	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.

MS #13 (Air 2)
TO-15

Date: 11/08/13

Analyst: R. Herring

Leak Check: 0.8 psia → 1.2 psia in 500 sec.

Pressures (psia): He = 21.6 IS = 25.4 ATM = 14.4

Volumes (mL): IS = 250 of # 64079 Nominal Sample Volume 1000

Methods: Tune = BFB.U GCMS = 120712.M Entech = CAS.MPT

LIMS Run# 367896

J:\Acqudata\air2\Data\

A.S. Pos	Vol (mL)	Sample	File #	OK?	Comments
14	500	Room Air	B5138	-	
14	500	Room Air	B5139	-	
14	0	Tune Check	B5140	Y	(04:52)
15	500	CCV # 63199	B5141	Y	
16	250	LCS # 63753	B5142	Y	
1	1000	METBLK UZAir-dried- # 26250	B5143	Y	
1	1000	R1308224-001	[Shale Test 9517 T2] B5144	Y	
1	14	R1308359-001	[CBET 9760 T2] B5145	Y	TRET-rpt@7ml
1	0.44	-002	B5146	Y	
1	7.0	-001	B5147	Y	[DL]
1	80	-003	B5148	Y	
1	40	-004	B5149	Y	
1	40	-004 DUP	B5150	Y	
2	150	R1308290-014	[CBET 9560 T2] B5151	Y	[DL]
3	120	-008	B5152	Y	Acetone ↑ DL post 11/7 run
4	300	-010	B5153	Y	Acetone ↑ DL post 11/7 run
5	240	-011	B5154	Y	Acetone ↑ DL post 11/7 run

R.H. 11/08/13

Client: CB&I

Folder: R1308359

Project: Varian Beverly Air Samples 150148

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>
R1308359-001.01	BLDG 5 SVE influent	6.0 L-Non-Specified SC	-1.00	-0.49	3.58				SLC00084	44405	
R1308359-002.01	BLDG 5 SVE 1	6.0 L-Non-Specified SC	-1.70	-0.83	3.74				SLC00037	44405	
R1308359-003.01	BLDG 5 SVE 2	6.0 L-Non-Specified SC	-2.50	-1.23	3.65				SLC00097	44405	
R1308359-004.01	BLDG 5 SVE 3	6.0 L-Non-Specified SC	-2.30	-1.13	3.58				SLC00031	44405	

00017

Miscellaneous Items - received

Sample Collection Supplies



T019262

Order #: 44405
 Date Required: 11/4/13
 Project Chemist: Michael Perry
 Phone Number: 585-288-5380 x7469

Client: CB&I
 Project: Varian Beverly
 SDG Name: Varian Beverly Air Samples

P.O. Number: 821947

Shipped Date: 10/31/2013
 Shipping Cost: \$ 0.00

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.**

Grouped by Container Type

ID	Container	Shipped Pressure
4	6.0L-Non-Specified	
SLC00031	6.0 L-Non-Specified SC	-29.10
SLC00037	6.0 L-Non-Specified SC	-29.10
SLC00084	6.0 L-Non-Specified SC	-29.10
SLC00097	6.0 L-Non-Specified SC	-29.10

Grouped by Sample Template

Sample Template Number / Name	Expected Number of Samples	Containers	Number of Containers per Sample	Comments
001 / TO-15	4			
		6.0L-Non-Specified SC - TO-15	1	

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.



QC Certification

00019

ALS Environmental
1565 Jefferson Rd, Building 300
Suite 360
Rochester, NY 14623
Ph. 585-288-5380
Fax 585-288-8475

<u>Container IDs</u>	<u>Cleaned Date</u>	<u>Date Analyzed</u>	<u>QC Results</u>	<u>Comments</u>
SLC00031	9/13/13	9/17/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00037	10/14/13	10/17/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00084	10/14/13	10/17/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)
SLC00097	10/14/13	10/17/13	Pass w/ Conditions	EPA TO-15 (43 Cmpds. + TICs)

* QC Canister



Cooler Receipt and Preservation Check Form

Project/Client Alt CB+I Folder Number R13-8359

Cooler received on 11/6/13 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? ALS/ROC 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 CD on 11/6/13 at 1017
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: GMU 11/13/13

Cooler Breakdown: Date: 11/6/13 Time: 18:35 by: 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
≥12	NaOH									No = Samples were preserved at lab as listed
≤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)						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: mep 11/7/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



December 10, 2013

Service Request No: R1308560

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

Laboratory Results for: Varian Beverly/150151-03000000

Dear Mr. Cadorette:

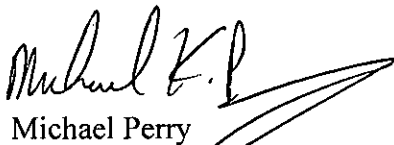
Enclosed are the results of the sample(s) submitted to our laboratory on November 13, 2013. For your reference, these analyses have been assigned our service request number **R1308560**.

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 22

CASE NARRATIVE

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1308560
Project Number: 150151-03000000
Date Received: 11/13/13

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 11/08/13 and received at ALS in good condition at cooler temperature of 4.8 °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

Two 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.

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes.

All Surrogate Standard recoveries were within QC limits.

The Blank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were all within QC limits.

All samples were analyzed within the required holding time of 14 days.

Modified RSK-175

Two water samples were analyzed for the hydrocarbon gases Methane, Ethane, and Ethene by modified RSK-175.

Sample OB24-DO (69') was reanalyzed at a dilution to bring target analytes within the calibration range of the method. Both dilutions have been reported.

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.

TOC Analyses

Two 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.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Columbia Analytical Services, Inc.

Project #: 150151-03000000

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1308560 - 001 - 002

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?	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
<p>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.</p>		
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 Director 000003

Printed Name: Michael K. Perry

Date: 12/10/13

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1308560

<u>Lab ID</u>	<u>Client ID</u>
R1308560-001	OB25-DO (69')
R1308560-002	AP30R-DO (35')

00004



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.
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 (>=100% Difference between two GC columns).
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.



Rochester Lab ID # for State Certifications¹

Table with 3 columns: State/Agency, ID #, and Certification details. Rows include: NELAP Accredited, Connecticut ID # PH0556, Delaware Accredited, DoD ELAP #65817, Florida ID # E87674, Illinois ID #200047, Maine ID #NY0032, Nebraska Accredited, Nevada ID # NY-00032, New Jersey ID # NY004, New York ID # 10145, New Hampshire ID # 294100 A/B, North Carolina #676, Pennsylvania ID# 68-786, Rhode Island ID # 158, Virginia #460167.

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water
 Sample Name: OB25-DO (69')
 Lab Code: R1308560-001

Service Request: R1308560
 Date Collected: 11/ 8/13 1030
 Date Received: 11/13/13

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	1.2	mg/L	1.0	1	NA	12/5/13 10:43	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1308560
 Date Collected: 11/ 8/13 1030
 Date Received: 11/13/13
 Date Analyzed: 11/21/13 15:37

Sample Name: OB25-DO (69')
 Lab Code: R1308560-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\112113\F4247.D\

Analysis Lot: 369654
 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)	460		100	
79-01-6	Trichloroethene (TCE)	8400		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	210		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	95	70-130	11/21/13 15:37	
Dibromofluoromethane	101	70-130	11/21/13 15:37	
Toluene-d8	98	70-130	11/21/13 15:37	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1308560
Date Collected: 11/ 8/13 1030
Date Received: 11/13/13
Date Analyzed: 11/14/13 09:38

Sample Name: OB25-DO (69')
Lab Code: R1308560-001

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1006.run

Analysis Lot: 368305
Instrument Name: R-GC-02
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	1.2	1.0	
74-85-1	Ethylene	1.0 U	1.0	
74-82-8	Methane	150 E	1.0	
74-98-6	Propane	1.0 U	1.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1308560
Date Collected: 11/ 8/13 1030
Date Received: 11/13/13
Date Analyzed: 11/14/13 09:48

Sample Name: OB25-DO (69')
Lab Code: R1308560-001
Run Type: Dilution

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1007.run

Analysis Lot: 368305
Instrument Name: R-GC-02
Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	2.0 U	2.0	
74-85-1	Ethylene	2.0 U	2.0	
74-82-8	Methane	150 D	2.0	
74-98-6	Propane	2.0 U	2.0	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: AP30R-DO (35')
Lab Code: R1308560-002

Service Request: R1308560
Date Collected: 11/ 8/13 1150
Date Received: 11/13/13

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	25		mg/L	20	20	NA	12/6/13 18:34	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1308560
 Date Collected: 11/ 8/13 1150
 Date Received: 11/13/13
 Date Analyzed: 11/21/13 16:09

Sample Name: AP30R-DO (35')
 Lab Code: R1308560-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\112113\F4248.D\

Analysis Lot: 369654
 Instrument Name: R-MS-10
 Dilution Factor: 20

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	700	40	
79-34-5	1,1,2,2-Tetrachloroethane	40 U	40	
79-00-5	1,1,2-Trichloroethane	71	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	2600	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	92	70-130	11/21/13 16:09
Dibromofluoromethane	101	70-130	11/21/13 16:09
Toluene-d8	97	70-130	11/21/13 16:09

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1308560
 Date Collected: 11/ 8/13 1150
 Date Received: 11/13/13
 Date Analyzed: 11/14/13 09:58

Sample Name: AP30R-DO (35')
 Lab Code: R1308560-002

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1008.run

Analysis Lot: 368305
 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	Ethylene	1.0 U	1.0	
74-82-8	Methane	3.7	1.0	
74-98-6	Propane	1.0 U	1.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1308560-MB1

Service Request: R1308560
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	12/5/13 03:47	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1308560-MB2

Service Request: R1308560
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	12/6/13 17:10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1308560
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/21/13 12:18

Sample Name: Method Blank
 Lab Code: RQ1315378-01

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\112113\F4241.D\

Analysis Lot: 369654
 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	95	70-130	11/21/13 12:18	
Dibromofluoromethane	101	70-130	11/21/13 12:18	
Toluene-d8	97	70-130	11/21/13 12:18	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1308560
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/14/13 08:52

Sample Name: Method Blank
 Lab Code: RQ1314427-03

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1002.run

Analysis Lot: 368305
 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	Ethylene	1.0 U	1.0	
74-82-8	Methane	1.0 U	1.0	
74-98-6	Propane	1.0 U	1.0	

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1308560
Date Analyzed: 12/ 5/13

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
R1308560-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.61	10.0	96	86 - 119

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
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1308560
 Date Analyzed: 12/6/13

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Lab Control Sample
 R1308560-LCS2

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.35	10.0	93	86 - 119

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
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1308560
 Date Analyzed: 11/21/13

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 369654

Analyte Name	Lab Control Sample RQ1315378-02			Duplicate Lab Control Sample RQ1315378-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	20.0	20.0	100	18.5	20.0	93	70 - 130	7	20
1,1,2,2-Tetrachloroethane	22.1	20.0	110	19.0	20.0	95	70 - 130	15	20
1,1,2-Trichloroethane	20.1	20.0	101	17.8	20.0	89	70 - 130	12	20
1,1-Dichloroethane (1,1-DCA)	20.6	20.0	103	19.0	20.0	95	70 - 130	8	20
1,1-Dichloroethene (1,1-DCE)	23.7	20.0	118	22.9	20.0	115	70 - 130	3	20
1,2-Dichloroethane	18.2	20.0	91	17.0	20.0	85	70 - 130	7	20
1,2-Dichloropropane	20.6	20.0	103	19.0	20.0	95	70 - 130	8	20
Acetone	25.6	20.0	128	21.6	20.0	108	40 - 160	17	20
Bromodichloromethane	20.1	20.0	101	18.2	20.0	91	70 - 130	10	20
Bromoform	20.0	20.0	100	18.4	20.0	92	70 - 130	9	20
Bromomethane	26.6	20.0	133	25.9	20.0	130	40 - 160	3	20
Carbon Tetrachloride	18.5	20.0	92	18.6	20.0	93	70 - 130	<1	20
Chlorobenzene	20.5	20.0	103	19.0	20.0	95	70 - 130	8	20
Chloroethane	20.7	20.0	104	19.7	20.0	99	70 - 130	5	20
Chloroform	20.8	20.0	104	19.8	20.0	99	70 - 130	5	20
Chloromethane	21.3	20.0	106	20.3	20.0	101	40 - 160	5	20
Dibromochloromethane	22.0	20.0	110	20.5	20.0	102	70 - 130	7	20
Methylene Chloride	21.1	20.0	106	20.5	20.0	103	70 - 130	3	20
Tetrachloroethene (PCE)	20.3	20.0	102	19.3	20.0	96	70 - 130	5	20
Trichloroethene (TCE)	19.1	20.0	96	18.3	20.0	92	70 - 130	4	20
Trichlorofluoromethane (CFC 11)	19.2	20.0	96	18.3	20.0	91	70 - 130	5	20
Vinyl Chloride	20.1	20.0	101	20.2	20.0	101	70 - 130	<1	20
cis-1,2-Dichloroethene	21.0	20.0	105	19.9	20.0	100	70 - 130	5	20
cis-1,3-Dichloropropene	20.1	20.0	101	18.4	20.0	92	70 - 130	9	20
trans-1,2-Dichloroethene	21.3	20.0	106	21.3	20.0	106	70 - 130	<1	20
trans-1,3-Dichloropropene	19.5	20.0	97	17.6	20.0	88	70 - 130	10	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.

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1308560
 Date Analyzed: 11/14/13

Lab Control Sample Summary
 Dissolved Gases by GC/FID

Analytical Method: RSK 175

Units: µg/L
 Basis: NA

Analysis Lot: 368305

Analyte Name	Lab Control Sample RQ1314427-01			Duplicate Lab Control Sample RQ1314427-02			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ethane	24.3	26.1	93	23.3	26.1	89	78 - 134	4	30
Ethylene	23.9	24.3	98	23.6	24.3	97	73 - 129	1	30
Methane	23.2	26.2	89	22.4	26.2	86	76 - 138	3	30
Propane	22.1	25.5	87	21.7	25.5	85	73 - 134	2	30

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 Beverly		Project Number 150151-03000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)														
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE														
Company/Address Shaw Environmental, A CB&I Company				NUMBER OF CONTAINERS	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> GC/MS VOA's 312 SPECIFIC <input type="checkbox"/> 8260 <input type="checkbox"/> 824 <input type="checkbox"/> CLP LIST <input type="checkbox"/> 8270 <input type="checkbox"/> 825 GC VOA's <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCB's <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS TOTAL (List in comments below) METALS DISSOLVED (List in comments below) METALS/ESTHANE TOC </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> 1 3 </div> </div>													
150 Royall Street																		
Canton, MA 02021																		
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com																
Sampler's Signature <i>Austin Magnant</i>		Sampler's Printed Name Austin Magnant		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 _____														
CLIENT SAMPLE ID		FOR OFFICE USE ONLY LAB ID	SAMPLING DATE													TIME	MATRIX	REMARKS/ ALTERNATE DESCRIPTION
OB 25-DO (69')			11-08-13		10:30	GW												
AP30R-DO(35')			11-08-13		11:50													
SPECIAL INSTRUCTIONS/COMMENTS Metals Site specific VOC list. Massachusetts CAM analyses reporting and QA/QC. Please email GISKey formatted EDD & PDF of report to: Catherine.Mainville@CBI.com.				TURNAROUND REQUIREMENTS 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				REPORT REQUIREMENTS <input type="checkbox"/> I. Results Only <input type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data Edata <input type="checkbox"/> Yes <input type="checkbox"/> No				INVOICE INFORMATION PO #: 873489 BILL TO: CB&I <div style="border: 1px solid black; padding: 5px; display: inline-block;"> R1308560 7 Y CB&I Environmental & Infrastructure Varian Beverly </div>						
																REQUESTED REPORT DATE		
STATE WHERE SAMPLES WERE COLLECTED:																		
RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY				
Signature <i>Austin Magnant</i>		Signature <i>Gregory O. Esmerlyan</i>		Signature		Signature		Signature		Signature		Signature		Signature				
Printed Name Austin Magnant		Printed Name Gregory O. Esmerlyan		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name		Printed Name				
Firm CB&I		Firm AL3		Firm		Firm		Firm		Firm		Firm		Firm				
Date/Time 11-08-13 15:00		Date/Time 11-13-13 9:25		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time				



Cooler Receipt and Preservation Check Form

Project/Client Shaw CBTI Folder Number 813-8560

Cooler received on 11-13-13 by: ME COURIER: ALS UPS FEDEX VELOCITY CLIENT

- Were custody seals on outside of cooler? YES NO
- Were custody papers properly filled out (ink, signed, etc.)? YES NO
- Did all bottles arrive in good condition (unbroken)? YES NO
- Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
- Were Ice or Ice packs present? YES NO
- Where did the bottles originate? ALS/ROO, CLIENT
- Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
- Temperature of cooler(s) upon receipt: 4.8°

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: 11-13-13 @ 09:42

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 ME on 11-13-13 at 09:45
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: [Signature]

Cooler Breakdown: Date: 11/13/13 Time: 1745 by: ohw

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated N/A

Explain any discrepancies:

pH	Reagent			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
		YES	NO							
≥12	NaOH									No = Samples were preserved at lab as listed
≤2	HNO ₃									
≤2	H ₂ SO ₄	✓		WC126060F	10/14					
<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	-	-							
	Zn Aceta	-	-							
	HCl	*	*	4112070	10/14					

*Not to be tested before analysis - pH tested and recorded by VOAs or GenChem on a separate worksheet

Bottle lot numbers: 3-212-002, 072215-113MC
Other Comments:

PC Secondary Review: [Signature] 12/10/13

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



January 20, 2014

Service Request No: R1400003

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

Laboratory Results for: Varian Beverly - Soil/150148

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on January 2, 2014. For your reference, these analyses have been assigned our service request number **R1400003**.

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 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.

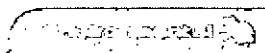
Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Janice Jaeger
Client Services Manager

Page 1 of 21



CASE NARRATIVE

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1400003
Project Number: 150148
Date Received: 01/02/14

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

Soil samples were collected on 12/30/13 and received at ALS in good condition at a cooler temperature of 1.7 °C as noted on the cooler receipt and preservation check form. The samples were stored in a freezer at 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

Three soil samples were analyzed for a site list of Volatile Organics by SW-846 Method 5035/8260C.

Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. Samples OB44-S (9-10) and OB44-S (17-18) 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.

All Blank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were within QC limits.

The method blanks were free of contamination except for a low level detection of Bromomethane on the 01/10/14 blank. All affected data has been flagged with a "B".

All samples were analyzed within the required holding time of 14 days.

00002rev

MassDEP Analytical Protocol Certification Form

Laboratory Name: ALS Environmental

Project #: 150148

Project Location: "Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R140003-001-003

Matrices: Groundwater/Surface Water 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	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?	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

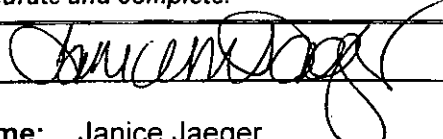
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	X Yes No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness 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?	X Yes No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	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: 
Printed Name: Janice Jaeger

Position: Client Services
Manager
Date: 01/20/14

000003

CASE NARRATIVE

This report contains analytical results for the following samples:

Service Request Number: R1400003

<u>Lab ID</u>	<u>Client ID</u>
R1400003-001	OB44-S (9-10)
R1400003-002	OB44-S (17-18)
R1400003-003	BLDG5-SV4 (6-7.5)

REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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.

Oscar C. Parcells

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

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 - Soil/150148
Sample Matrix: Soil
Sample Name: OB44-S (9-10)
Lab Code: R1400003-001

Service Request: R1400003
Date Collected: 12/30/13 1400
Date Received: 1/2/14

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	93.3	Percent	1.0	1	NA	1/2/14 09:19	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150148
 Sample Matrix: Soil

Service Request: R1400003
 Date Collected: 12/30/13 1400
 Date Received: 1/2/14
 Date Analyzed: 1/10/14 15:21

Sample Name: OB44-S (9-10)
 Lab Code: R1400003-001

Units: µg/Kg
 Basis: Dry
 Percent Solids: 93.3

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\011014\F5310.D\

Analysis Lot: 376058
 Instrument Name: R-MS-10
 Dilution Factor: 36.5

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	39 U	39	
79-34-5	1,1,2,2-Tetrachloroethane	39 U	39	
79-00-5	1,1,2-Trichloroethane	39 U	39	
75-34-3	1,1-Dichloroethane (1,1-DCA)	39 U	39	
75-35-4	1,1-Dichloroethene (1,1-DCE)	39 U	39	
107-06-2	1,2-Dichloroethane	39 U	39	
78-87-5	1,2-Dichloropropane	39 U	39	
67-64-1	Acetone	200 U	200	
75-27-4	Bromodichloromethane	39 U	39	
75-25-2	Bromoform	39 U	39	
74-83-9	Bromomethane	64 B	39	
56-23-5	Carbon Tetrachloride	39 U	39	
108-90-7	Chlorobenzene	39 U	39	
75-00-3	Chloroethane	39 U	39	
67-66-3	Chloroform	39 U	39	
74-87-3	Chloromethane	39 U	39	
124-48-1	Dibromochloromethane	39 U	39	
75-09-2	Methylene Chloride	39 U	39	
127-18-4	Tetrachloroethene (PCE)	10000 E	39	
79-01-6	Trichloroethene (TCE)	230	39	
75-69-4	Trichlorofluoromethane (CFC 11)	39 U	39	
75-01-4	Vinyl Chloride	39 U	39	
156-59-2	cis-1,2-Dichloroethene	39 U	39	
10061-01-5	cis-1,3-Dichloropropene	39 U	39	
156-60-5	trans-1,2-Dichloroethene	39 U	39	
10061-02-6	trans-1,3-Dichloropropene	39 U	39	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	107	85-122	1/10/14 15:21	
Dibromofluoromethane	104	89-119	1/10/14 15:21	
Toluene-d8	100	87-121	1/10/14 15:21	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150148
 Sample Matrix: Soil

Service Request: R1400003
 Date Collected: 12/30/13 1400
 Date Received: 1/2/14
 Date Analyzed: 1/10/14 16:53

Sample Name: OB44-S (9-10)
 Lab Code: R1400003-001
 Run Type: Dilution

Units: µg/Kg
 Basis: Dry
 Percent Solids: 93.3

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\011014\F5313.D\

Analysis Lot: 376058
 Instrument Name: R-MS-10
 Dilution Factor: 73

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	78 U	78	
79-34-5	1,1,2,2-Tetrachloroethane	78 U	78	
79-00-5	1,1,2-Trichloroethane	78 U	78	
75-34-3	1,1-Dichloroethane (1,1-DCA)	78 U	78	
75-35-4	1,1-Dichloroethene (1,1-DCE)	78 U	78	
107-06-2	1,2-Dichloroethane	78 U	78	
78-87-5	1,2-Dichloropropane	78 U	78	
67-64-1	Acetone	390 U	390	
75-27-4	Bromodichloromethane	78 U	78	
75-25-2	Bromoform	78 U	78	
74-83-9	Bromomethane	95 BD	78	
56-23-5	Carbon Tetrachloride	78 U	78	
108-90-7	Chlorobenzene	78 U	78	
75-00-3	Chloroethane	78 U	78	
67-66-3	Chloroform	78 U	78	
74-87-3	Chloromethane	78 U	78	
124-48-1	Dibromochloromethane	78 U	78	
75-09-2	Methylene Chloride	78 U	78	
127-18-4	Tetrachloroethene (PCE)	10000 D	78	
79-01-6	Trichloroethene (TCE)	270 D	78	
75-69-4	Trichlorofluoromethane (CFC 11)	78 U	78	
75-01-4	Vinyl Chloride	78 U	78	
156-59-2	cis-1,2-Dichloroethene	78 U	78	
10061-01-5	cis-1,3-Dichloropropene	78 U	78	
156-60-5	trans-1,2-Dichloroethene	78 U	78	
10061-02-6	trans-1,3-Dichloropropene	78 U	78	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
4-Bromofluorobenzene	113	85-122	1/10/14 16:53
Dibromofluoromethane	103	89-119	1/10/14 16:53
Toluene-d8	102	87-121	1/10/14 16:53

00011 rev

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150148
Sample Matrix: Soil
Sample Name: OB44-S (17-18)
Lab Code: R1400003-002

Service Request: R1400003
Date Collected: 12/30/13 1415
Date Received: 1/2/14

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	91.6	Percent	1.0	1	NA	1/2/14 09:19	

00012 rev

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150148
 Sample Matrix: Soil

Service Request: R1400003
 Date Collected: 12/30/13 1415
 Date Received: 1/2/14
 Date Analyzed: 1/10/14 15:52

Sample Name: OB44-S (17-18)
 Lab Code: R1400003-002

Units: µg/Kg
 Basis: Dry
 Percent Solids: 91.6

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUATA\msvoa10\data\011014\F5311.D\

Analysis Lot: 376058
 Instrument Name: R-MS-10
 Dilution Factor: 35

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	38	U	38	
79-34-5	1,1,2,2-Tetrachloroethane	38	U	38	
79-00-5	1,1,2-Trichloroethane	38	U	38	
75-34-3	1,1-Dichloroethane (1,1-DCA)	38	U	38	
75-35-4	1,1-Dichloroethene (1,1-DCE)	38	U	38	
107-06-2	1,2-Dichloroethane	38	U	38	
78-87-5	1,2-Dichloropropane	38	U	38	
67-64-1	Acetone	190	U	190	
75-27-4	Bromodichloromethane	38	U	38	
75-25-2	Bromoform	38	U	38	
74-83-9	Bromomethane	39	B	38	
56-23-5	Carbon Tetrachloride	38	U	38	
108-90-7	Chlorobenzene	38	U	38	
75-00-3	Chloroethane	38	U	38	
67-66-3	Chloroform	38	U	38	
74-87-3	Chloromethane	38	U	38	
124-48-1	Dibromochloromethane	38	U	38	
75-09-2	Methylene Chloride	38	U	38	
127-18-4	Tetrachloroethene (PCE)	14000	E	38	
79-01-6	Trichloroethene (TCE)	6200		38	
75-69-4	Trichlorofluoromethane (CFC 11)	38	U	38	
75-01-4	Vinyl Chloride	38	U	38	
156-59-2	cis-1,2-Dichloroethene	57		38	
10061-01-5	cis-1,3-Dichloropropene	38	U	38	
156-60-5	trans-1,2-Dichloroethene	38	U	38	
10061-02-6	trans-1,3-Dichloropropene	38	U	38	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	109	85-122	1/10/14 15:52	
Dibromofluoromethane	99	89-119	1/10/14 15:52	
Toluene-d8	101	87-121	1/10/14 15:52	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150148
 Sample Matrix: Soil

Service Request: R1400003
 Date Collected: 12/30/13 1415
 Date Received: 1/2/14
 Date Analyzed: 1/10/14 17:24

Sample Name: OB44-S (17-18)
 Lab Code: R1400003-002
 Run Type: Dilution

Units: µg/Kg
 Basis: Dry
 Percent Solids: 91.6

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\011014\F5314.D\

Analysis Lot: 376058
 Instrument Name: R-MS-10
 Dilution Factor: 140

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	150 U	150	
79-34-5	1,1,2,2-Tetrachloroethane	150 U	150	
79-00-5	1,1,2-Trichloroethane	150 U	150	
75-34-3	1,1-Dichloroethane (1,1-DCA)	150 U	150	
75-35-4	1,1-Dichloroethene (1,1-DCE)	150 U	150	
107-06-2	1,2-Dichloroethane	150 U	150	
78-87-5	1,2-Dichloropropane	150 U	150	
67-64-1	Acetone	760 U	760	
75-27-4	Bromodichloromethane	150 U	150	
75-25-2	Bromoform	150 U	150	
74-83-9	Bromomethane	150 U	150	
56-23-5	Carbon Tetrachloride	150 U	150	
108-90-7	Chlorobenzene	150 U	150	
75-00-3	Chloroethane	150 U	150	
67-66-3	Chloroform	150 U	150	
74-87-3	Chloromethane	150 U	150	
124-48-1	Dibromochloromethane	150 U	150	
75-09-2	Methylene Chloride	150 U	150	
127-18-4	Tetrachloroethene (PCE)	14000 D	150	
79-01-6	Trichloroethene (TCE)	6200 D	150	
75-69-4	Trichlorofluoromethane (CFC 11)	150 U	150	
75-01-4	Vinyl Chloride	150 U	150	
156-59-2	cis-1,2-Dichloroethene	150 U	150	
10061-01-5	cis-1,3-Dichloropropene	150 U	150	
156-60-5	trans-1,2-Dichloroethene	150 U	150	
10061-02-6	trans-1,3-Dichloropropene	150 U	150	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	110	85-122	1/10/14 17:24	
Dibromofluoromethane	103	89-119	1/10/14 17:24	
Toluene-d8	100	87-121	1/10/14 17:24	

00014rev

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150148
Sample Matrix: Soil
Sample Name: BLDG5-SV4 (6-7.5)
Lab Code: R1400003-003

Service Request: R1400003
Date Collected: 12/30/13 1430
Date Received: 1/2/14

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	92.0	Percent	1.0	1	NA	1/2/14 09:19	

00015 rev

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150148
 Sample Matrix: Soil

Service Request: R1400003
 Date Collected: 12/30/13 1430
 Date Received: 1/2/14
 Date Analyzed: 1/10/14 16:22

Sample Name: BLDG5-SV4 (6-7.5)
 Lab Code: R1400003-003

Units: µg/Kg
 Basis: Dry
 Percent Solids: 92.0

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa10\data\011014\F5312.D\

Analysis Lot: 376058
 Instrument Name: R-MS-10
 Dilution Factor: 47.5

CAS No.	Analyte Name	Result Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	52 U	52	
79-34-5	1,1,2,2-Tetrachloroethane	52 U	52	
79-00-5	1,1,2-Trichloroethane	52 U	52	
75-34-3	1,1-Dichloroethane (1,1-DCA)	52 U	52	
75-35-4	1,1-Dichloroethene (1,1-DCE)	52 U	52	
107-06-2	1,2-Dichloroethane	52 U	52	
78-87-5	1,2-Dichloropropane	52 U	52	
67-64-1	Acetone	260 U	260	
75-27-4	Bromodichloromethane	52 U	52	
75-25-2	Bromoform	52 U	52	
74-83-9	Bromomethane	78 B	52	
56-23-5	Carbon Tetrachloride	52 U	52	
108-90-7	Chlorobenzene	52 U	52	
75-00-3	Chloroethane	52 U	52	
67-66-3	Chloroform	52 U	52	
74-87-3	Chloromethane	52 U	52	
124-48-1	Dibromochloromethane	52 U	52	
75-09-2	Methylene Chloride	52 U	52	
127-18-4	Tetrachloroethene (PCE)	52 U	52	
79-01-6	Trichloroethene (TCE)	52 U	52	
75-69-4	Trichlorofluoromethane (CFC 11)	52 U	52	
75-01-4	Vinyl Chloride	52 U	52	
156-59-2	cis-1,2-Dichloroethene	52 U	52	
10061-01-5	cis-1,3-Dichloropropene	52 U	52	
156-60-5	trans-1,2-Dichloroethene	52 U	52	
10061-02-6	trans-1,3-Dichloropropene	52 U	52	

Surrogate Name	%Rec	Control Limits	Date Analyzed Q
4-Bromofluorobenzene	111	85-122	1/10/14 16:22
Dibromofluoromethane	106	89-119	1/10/14 16:22
Toluene-d8	102	87-121	1/10/14 16:22

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly - Soil/150148
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: R1400003-MB

Service Request: R1400003
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	1/2/14 09:19	

Analytical Report

Client: CB&I
 Project: Varian Beverly - Soil/150148
 Sample Matrix: Soil

Service Request: R1400003
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/10/14 13:18

Sample Name: Method Blank
 Lab Code: RQ1400395-01

Units: µg/Kg
 Basis: Dry

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\011014\F5306.D\

Analysis Lot: 376058
 Instrument Name: R-MS-10
 Dilution Factor: 50

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	77		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)	50	U	50	
79-01-6	Trichloroethene (TCE)	50	U	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	50	U	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	105	85-122	1/10/14 13:18	
Dibromofluoromethane	102	89-119	1/10/14 13:18	
Toluene-d8	101	87-121	1/10/14 13:18	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
 Project: Varian Beverly - Soil/150148
 Sample Matrix: Soil

Service Request: R1400003
 Date Analyzed: 1/10/14

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/Kg
 Basis: Dry

Analysis Lot: 376058

Analyte Name	Lab Control Sample RQ1400395-02			Duplicate Lab Control Sample RQ1400395-03			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	19.1	20.0	96	19.6	20.0	98	67 - 121	2	30
1,1,2,2-Tetrachloroethane	17.1	20.0	85	19.0	20.0	95	72 - 124	11	30
1,1,2-Trichloroethane	18.5	20.0	92	21.0	20.0	105	81 - 117	13	30
1,1-Dichloroethane (1,1-DCA)	19.2	20.0	96	19.8	20.0	99	76 - 128	3	30
1,1-Dichloroethene (1,1-DCE)	22.4	20.0	112	21.7	20.0	109	74 - 135	3	30
1,2-Dichloroethane	19.2	20.0	96	21.1	20.0	105	72 - 130	10	30
1,2-Dichloropropane	19.8	20.0	99	19.7	20.0	98	80 - 119	<1	30
Acetone	21.5	20.0	107	25.7	20.0	128	61 - 138	18	30
Bromodichloromethane	20.4	20.0	102	22.2	20.0	111	79 - 123	9	30
Bromoform	18.5	20.0	93	21.0	20.0	105	72 - 128	12	30
Bromomethane	26.3	20.0	132	24.1	20.0	121	46 - 157	9	30
Carbon Tetrachloride	18.6	20.0	93	19.1	20.0	96	64 - 129	3	30
Chlorobenzene	18.2	20.0	91	18.8	20.0	94	80 - 121	3	30
Chloroethane	20.3	20.0	101	19.1	20.0	96	69 - 128	6	30
Chloroform	20.1	20.0	100	21.6	20.0	108	75 - 123	7	30
Chloromethane	20.1	20.0	100	20.2	20.0	101	55 - 139	<1	30
Dibromochloromethane	19.8	20.0	99	22.3	20.0	112	78 - 127	12	30
Methylene Chloride	19.7	20.0	99	20.6	20.0	103	73 - 122	5	30
Tetrachloroethene (PCE)	17.9	20.0	90	17.6	20.0	88	71 - 127	2	30
Trichloroethene (TCE)	19.6	20.0	98	20.6	20.0	103	75 - 122	5	30
Trichlorofluoromethane (CFC 11)	19.9	20.0	100	18.4	20.0	92	64 - 134	8	30
Vinyl Chloride	18.9	20.0	95	18.1	20.0	90	68 - 139	5	30
cis-1,2-Dichloroethene	19.3	20.0	97	20.2	20.0	101	77 - 123	5	30
cis-1,3-Dichloropropene	19.2	20.0	96	20.7	20.0	104	77 - 125	7	30
trans-1,2-Dichloroethene	21.7	20.0	108	21.7	20.0	108	72 - 120	<1	30
trans-1,3-Dichloropropene	19.4	20.0	97	21.2	20.0	106	69 - 127	9	30

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 Beverly		Project Number 150148		ANALYSIS REQUESTED (Include Method Number and Container Preservative)														
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE 6														
Company/Address Shaw Environmental, A CB&I Company				NUMBER OF CONTAINERS	GC/MS VOA's <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> 824 <input type="checkbox"/> CLP GC/MS SVOA's <input type="checkbox"/> 8270 <input type="checkbox"/> 825 GC VOA's <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCB's <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) 75 160.3 (modified)												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 _____	
150 Royall Street																		
Canton, MA 02021																		
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com																
Sampler's Signature		Sampler's Printed Name		REMARKS/ ALTERNATE DESCRIPTION														
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE TIME		MATRIX														
1230-013445 (9-10)		12/30	14:00	S	2													
1230-013445 (17-18)		12/30	14:15	S	2													
1230-Bldg 5-Srv 4 (6-7.5)		12/30	14:30	S	2													

SPECIAL INSTRUCTIONS/COMMENTS Metals Site specific VOC list. Massachusetts CAM analyses reporting and QA/QC. Please email GISKey formatted EDD & PDF of report to: Catherine.Joe@CBI.com.	TURNAROUND REQUIREMENTS ___ RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day ___ 5 day <input checked="" type="checkbox"/> Standard	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 #: 882952 BILL TO: CB&I
	REQUESTED REPORT DATE _____	Edate <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No GISKey	R140003 7 Y CB&I Environmental & Infrastructure Varian Beverly - Soil

STATE WHERE SAMPLES WERE COLLECTED: **MA**

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: _____	Signature: _____	Signature: _____	Signature: _____
Printed Name: Paul Parley	Printed Name: Gregory O. Esmerian	Printed Name: _____	Printed Name: _____	Printed Name: _____	Printed Name: _____
Firm: CB&I	Firm: ALS	Firm: _____	Firm: _____	Firm: _____	Firm: _____
Date/Time: 12/30/13 18:50	Date/Time: 1-2-14 10:00	Date/Time: _____	Date/Time: _____	Date/Time: _____	Date/Time: _____



Cooler Receipt and Preservation Check Form

Project/Client CBI/shaw Folder Number R1400003

Cooler received on 1-2-14 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: 1.7

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: 1-2-14 @ 10:17

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	<u>R002</u>	by <u>KE</u>	on <u>1-2-14</u>	at <u>10:20</u>
5035 samples placed in storage location	<u>F-05</u>	by <u>KE</u>	on <u>1-2-14</u>	at <u>10:20</u>

PC Secondary Review: Y

Cooler Breakdown: Date: 1/2/13 Time: 1042 by: JFS

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			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:
		YES	NO							
≥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: 106713-18NS

Other Comments:

PC Secondary Review: YEP 1/2/14

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

Data Usability Worksheet

Project Name: Varian Medical Systems, Inc. **Job Number :** 150151.05
Prepared By: Dale Dailey **Date :** 2/10/2014
Matrix: Groundwater
Analyte Group: Volatile Organics **Analytical Method :** SW-846 8260C
Completed MADEP CAM Certification Form included: No **Laboratory ID No. :** R1400100
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
1/7/14	SW-846 8260C	14 days	30 days	1/13/2014

Sample temperature within QC limits: Yes, 4.40 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 : NA

Method Blank: 8260C 1/13/2014

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 2/12/14



January 23, 2014

Service Request No: R1400100

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 January 8, 2014. For your reference, these analyses have been assigned our service request number **R1400100**.

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 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 8



CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1400100

Lab ID
R1400100-001

Client ID
OB44-S

All samples were received in good condition unless otherwise noted on the cooler receipt and preservation check form located at the end of this report.

All samples were preserved in accordance with approved analytical methods.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.

All sampling activities performed by ALS personnel have been in accordance with "ALS Field Procedures and Measurements Manual" or by client specifications.



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.
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 (>=100% Difference between two GC columns).
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.



Rochester Lab ID # for State Certifications¹

Table with 3 columns: State/ID, Maine ID #NY0032, and New Hampshire ID # 294100 A/B. Rows include Connecticut, Delaware, DoD ELAP, Florida, Illinois, Nevada, New Jersey, New York, and Virginia.

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Water

Service Request: R1400100
 Date Collected: 1/7/14 1045
 Date Received: 1/8/14
 Date Analyzed: 1/13/14 18:51

Sample Name: OB44-S
 Lab Code: R1400100-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUATA\msvoa10\data\011314\F5342.D\

Analysis Lot: 376452
 Instrument Name: R-MS-10
 Dilution Factor: 500

CAS No.	Analyte Name	Result	Q	MRL	Note
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	
107-06-2	1,2-Dichloroethane	1000	U	1000	
78-87-5	1,2-Dichloropropane	1000	U	1000	
67-64-1	Acetone	5000	U	5000	
75-27-4	Bromodichloromethane	1000	U	1000	
75-25-2	Bromoform	1000	U	1000	
74-83-9	Bromomethane	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	
75-09-2	Methylene Chloride	1000	U	1000	
127-18-4	Tetrachloroethene (PCE)	47000		1000	
79-01-6	Trichloroethene (TCE)	24000		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	
156-60-5	trans-1,2-Dichloroethene	1000	U	1000	
10061-02-6	trans-1,3-Dichloropropene	1000	U	1000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	70-130	1/13/14 18:51	
Dibromofluoromethane	101	70-130	1/13/14 18:51	
Toluene-d8	96	70-130	1/13/14 18:51	

00004rev

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Water

Service Request: R1400100
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/13/14 16:15

Sample Name: Method Blank
 Lab Code: RQ1400410-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa10\data\011314\F5337.D\

Analysis Lot: 376452
 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	94	70-130	1/13/14 16:15	
Dibromofluoromethane	102	70-130	1/13/14 16:15	
Toluene-d8	98	70-130	1/13/14 16:15	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
 Project: Varian Beverly/150151
 Sample Matrix: Water

Service Request: R1400100
 Date Analyzed: 1/13/14

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 376452

Analyte Name	Lab Control Sample RQ1400410-03			Duplicate Lab Control Sample RQ1400410-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	20.0	20.0	100	21.3	20.0	107	70 - 130	6	20
1,1,2,2-Tetrachloroethane	19.0	20.0	95	22.0	20.0	110	70 - 130	15	20
1,1,2-Trichloroethane	17.3	20.0	87	19.9	20.0	99	70 - 130	14	20
1,1-Dichloroethane (1,1-DCA)	18.8	20.0	94	19.6	20.0	98	70 - 130	4	20
1,1-Dichloroethene (1,1-DCE)	22.9	20.0	115	24.3	20.0	121	70 - 130	6	20
1,2-Dichloroethane	17.8	20.0	89	20.1	20.0	101	70 - 130	12	20
1,2-Dichloropropane	18.5	20.0	92	20.1	20.0	100	70 - 130	8	20
Acetone	21.5	20.0	107	24.9	20.0	125	40 - 160	15	20
Bromodichloromethane	19.4	20.0	97	21.2	20.0	106	70 - 130	9	20
Bromoform	19.0	20.0	95	22.0	20.0	110	70 - 130	15	20
Bromomethane	24.3	20.0	121	24.6	20.0	123	40 - 160	1	20
Carbon Tetrachloride	18.6	20.0	93	21.1	20.0	105	70 - 130	12	20
Chlorobenzene	19.9	20.0	100	22.0	20.0	110	70 - 130	10	20
Chloroethane	19.6	20.0	98	20.2	20.0	101	70 - 130	3	20
Chloroform	19.6	20.0	98	21.1	20.0	106	70 - 130	8	20
Chloromethane	19.9	20.0	99	21.2	20.0	106	40 - 160	6	20
Dibromochloromethane	21.1	20.0	105	22.4	20.0	112	70 - 130	6	20
Methylene Chloride	18.3	20.0	92	19.9	20.0	100	70 - 130	8	20
Tetrachloroethene (PCE)	20.5	20.0	102	22.3	20.0	112	70 - 130	9	20
Trichloroethene (TCE)	20.0	20.0	100	21.3	20.0	106	70 - 130	6	20
Trichlorofluoromethane (CFC 11)	19.7	20.0	99	21.0	20.0	105	70 - 130	6	20
Vinyl Chloride	18.6	20.0	93	19.7	20.0	98	70 - 130	6	20
cis-1,2-Dichloroethene	20.2	20.0	101	21.0	20.0	105	70 - 130	4	20
cis-1,3-Dichloropropene	19.4	20.0	97	20.4	20.0	102	70 - 130	5	20
trans-1,2-Dichloroethene	20.7	20.0	103	21.7	20.0	108	70 - 130	5	20
trans-1,3-Dichloropropene	18.6	20.0	93	20.3	20.0	102	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.



Project Name <i>Varian</i>		Project Number <i>150151</i>		ANALYSIS REQUESTED (Include Method Number and Container Preservative)													
Project Manager <i>Raymond Cadorette</i>		Report CC		PRESERVATIVE	1												
Company/Address <i>CB&I</i> <i>150 Royall St</i> <i>Canton, MA 02021</i>				NUMBER OF CONTAINERS	GC/MS VOA's <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> CLP GC/MS SVOA's <input type="checkbox"/> 8270 <input type="checkbox"/> 625 GC VOA's <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCBs <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below)											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 _____	
Phone # <i>617-584-5327</i>		E-mail <i>raymond.cadorette@cb.com</i>															
Sampler's Signature <i>[Signature]</i>		Sampler's Printed Name <i>Dale Driley</i>															
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE TIME MATRIX		3	✓											REMARKS/ ALTERNATE DESCRIPTION	
<i>OB445(VOC)</i>		<i>11/7/14 1045 GW</i>															
SPECIAL INSTRUCTIONS/COMMENTS <i>Metals</i>				TURNAROUND REQUIREMENTS _____ RUSH (SURCHARGES APPLY) _____ 1 day _____ 2 day _____ 3 day _____ 4 day _____ 5 day <input checked="" type="checkbox"/> Standard REQUESTED REPORT DATE _____				REPORT REQUIREMENTS _____ I. Results Only _____ II. Results + OC Summaries (LCS, DUP, MSMSD as required) _____ III. Results + OC and Calibration Summaries _____ IV. Data Validation Report with Raw Data <i>See GIS Key</i> Edata _____ Yes _____ No				INVOICE INFORMATION PO #: <i>888952-000</i> BILL TO: <i>CB&I</i> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> R1400100 7 Y CB&I Environmental & Infrastructure Varian Beverly - Non-Bio Wells </div>					
See QAPP <input type="checkbox"/>				STATE WHERE SAMPLES WERE COLLECTED:													
RELINQUISHED BY <i>[Signature]</i>		RECEIVED BY <i>UPS</i>		RELINQUISHED BY		RECEIVED BY		RELINQUISHED BY		RECEIVED BY							
Signature <i>Dale Driley</i>		Signature <i>UPS</i>		Signature		Signature <i>[Signature]</i>		Signature		Signature							
Printed Name <i>CB&I</i>		Printed Name		Printed Name		Printed Name <i>[Name]</i>		Printed Name		Printed Name							
Firm <i>11/7/14 15:30</i>		Firm <i>11/7/14 15:30</i>		Firm		Firm <i>[Firm]</i>		Firm		Firm							
Date/Time		Date/Time		Date/Time		Date/Time <i>11/7/14 0920</i>		Date/Time		Date/Time							



Cooler Receipt and Preservation Check Form

Project/Client CB&I Folder Number R1400100

Cooler received on 1/8/14 by: AP COURIER: ALS UPS FEDEX VELOCITY CLIENT

- Were custody seals on outside of cooler? YES NO
- Were custody papers properly filled out (ink, signed, etc.)? YES NO
- Did all bottles arrive in good condition (unbroken)? YES NO
- Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles? YES NO N/A
- Were Ice or Ice packs present? YES NO
- Where did the bottles originate? ALS/RDC, CLIENT
- Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
- Temperature of cooler(s) upon receipt: 4.40

Is the temperature within 0° - 6° C?: N Y N Y N Y N Y N
If No, Explain Below Date/Time Temperatures Taken: 1/8/14 0950

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 AP on 1/8/14 at 0958
5035 samples placed in storage location by on at

PC Secondary Review: C1123119

Cooler Breakdown: Date: 1-10-14 Time: 16:20 by: KE

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- 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:
		YES	NO							
≥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	*	*	<u>4112120</u>	<u>12/14</u>					

Bottle lot numbers: 3-294-003
Other Comments:

PC Secondary Review: [Signature] 1/20/14

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Data Usability Worksheet

Project Name: Varian Medical Systems, Inc. **Job Number :** 150151.03
Prepared By: Dale Dailey **Date :** 2/10/2014
Matrix: Groundwater
Analyte Group: Volatile Organics **Analytical Method :** SW-846 8260C
 Hydrocarbon Gases RSK-175
 Total Organic Carbon SM20 5310C
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1400510
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
1/20, 1/21/14	SW-846 8260C	14 days	30 days	1/27, 1/28/14
1/20, 1/21/14	RSK-175	7 Days	7 Days	1/29, 1/30, 1/31/14
1/20, 1/21/14	SM20 5310C	28 Days	28 Days	1/28 & 1/30/14

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 ? Yes

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

Equipment Field Blank ID : EB-1
Trip Blank ID : TRIP BLANK
 1/27, 1/28, 1/30,
Method Blank: SM20 5310C 1/31/14
 RSK 175 1/29/2014
 8260C 1/27 & 1/28/2014

Were any compounds identified in the method, field, equipment or trip blank above detection limits ? Yes

If so, list Sample ID/Compound/Concentration/Units: Chloromethane was detected in EB-1 at a concentration of 13 ug/L. Chloromethane was not detected in samples and therefore no qualified was required.

Notes:

VOC and Modified RSK-175 Several samples were initially analyzed at dilutions to bring target analytes within the calibration range of the method. All compounds have been flagged with an "E" as being outside the calibration range of the instrument have been analyzed at a further dilution and both sets of data have been reported.

Modified RSK-175 AP23-DO (47.6'), AP33-DO (37.5'), AP34-DO (36'), RW-1 (37.1') and AP25-DO (46.8') were not received at a pH of less than 2 and were not analyzed within 7 days of collection. Data was qualified J or UJ for these samples,

Reviewed By: Pernilla Haley 2/12/14



February 03, 2014

Service Request No: R1400510

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

Laboratory Results for: Varian Beverly/150151-03000000

Dear Mr. Cadorette:

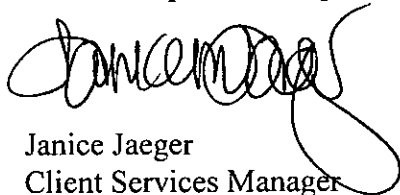
Enclosed are the results of the sample(s) submitted to our laboratory on January 22, 2014. For your reference, these analyses have been assigned our service request number **R1400510**.

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 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 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental


Janice Jaeger
Client Services Manager

Page 1 of 84

MassDEP Analytical Protocol Certification Form

Laboratory Name: ALS Environmental

Project #: 150151

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1400510-001-016

 Matrices: Groundwater/Surface Water 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	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?	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
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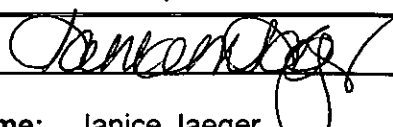
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	X Yes No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	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:



 Position: Client Services
Manager

 Printed Name: Janice Jaeger

 Date: 02/04/14

00002

CASE NARRATIVE

Client: CB&I
Project: Varian Beverly
Sample Matrix: Water

Service Request No.: R1400510
Project Number: 150151-03000000
Date Received: 01/22/14

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 01/20-21/14 and received at ALS in good condition at cooler temperatures of 0.5 – 1.8 °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

Fourteen 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. All compounds that have been flagged with an "E" as being outside the calibration range of the instrument have been analyzed at a further dilution and both sets of data have been reported.

All initial calibrations were compliant.

All the continuing calibration criteria were met for all analytes.

All Surrogate Standard recoveries were within QC limits.

The Blank Spike (LCS)/Blank Spike Duplicate (LCSD) recoveries were all within QC limits.

All samples were analyzed within the required holding time of 14 days.

Modified RSK-175

Thirteen 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. All compounds that have been flagged with an "E" as being outside the calibration range of the instrument have been analyzed at a further dilution and both sets of data have been reported.

All the initial and continuing calibration criteria were met for all analytes.

AP23-DO (47.6'), AP33-DO (37.5'), AP34-DO (36'), RW-1 (37.1') and AP25-DO (46.8') were not received at a pH of less than 2 and were not analyzed within 7 days of collection.

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.

TOC Analyses

Thirteen water samples were analyzed for TOC by method SM20 5310C.

Service Request #R1400510
Page 2

The initial and continuing calibration criteria were met for all analytes.

All Blank Spike (LCS) recoveries were within QC limits.

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1400510

<u>Lab ID</u>	<u>Client ID</u>
R1400510-001	AP23-DO (47.6')
R1400510-002	AP13-DO (41')
R1400510-003	AP24-DO (51.1')
R1400510-004	AP33-DO (37.5')
R1400510-005	AP34-DO (36')
R1400510-006	AP35-DO (35.8')
R1400510-007	RW-1 (37.1')
R1400510-008	AP25-DO (46.8')
R1400510-009	MW-9 (20.2')
R1400510-010	AP13-S (16')
R1400510-011	OB15-S (19.7')
R1400510-012	OB9-S (23.1')
R1400510-013	OB25-DO (50.5')
R1400510-014	AP30-R-DO (30')
R1400510-015	EB-1
R1400510-016	TRIP BLANK

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REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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

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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	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water
 Sample Name: AP23-DO (47.6')
 Lab Code: R1400510-001

Service Request: R1400510
 Date Collected: 1/20/14 1030
 Date Received: 1/22/14

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	2270		mg/L	400	400	NA	1/31/14 11:02	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1030
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 22:21

Sample Name: AP23-DO (47.6')
 Lab Code: R1400510-001

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J3008.D\

Analysis Lot: 377891
 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	23000		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)	4000		4000	
79-01-6	Trichloroethene (TCE)	39000		4000	
75-69-4	Trichlorofluoromethane (CFC 11)	4000	U	4000	
75-01-4	Vinyl Chloride	4700		4000	
156-59-2	cis-1,2-Dichloroethene	41000		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	1/27/14 22:21	
Dibromofluoromethane	97	70-130	1/27/14 22:21	
Toluene-d8	101	70-130	1/27/14 22:21	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: 1/20/14 1030
Date Received: 1/22/14
Date Analyzed: 1/29/14 09:59

Sample Name: AP23-DO (47.6')
Lab Code: R1400510-001

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1010.run

Analysis Lot: 378371
Instrument Name: R-GC-02
Dilution Factor: 10

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	17	10	
74-85-1	Ethylene	4900 E	10	
74-82-8	Methane	120	10	
74-98-6	Propane	10 U	10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1030
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 10:54

Sample Name: AP23-DO (47.6')
 Lab Code: R1400510-001
 Run Type: Dilution

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1014.run

Analysis Lot: 378371
 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	Ethylene	4700 D	100	
74-82-8	Methane	100 U	100	
74-98-6	Propane	100 U	100	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: AP13-DO (41')
Lab Code: R1400510-002

Service Request: R1400510
Date Collected: 1/20/14 1100
Date Received: 1/22/14

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	484		mg/L	40	40	NA	1/28/14 01:20	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1100
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 22:53

Sample Name: AP13-DO (41')
 Lab Code: R1400510-002

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J3009.D\

Analysis Lot: 377891
 Instrument Name: R-MS-12
 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	20000		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)	87000		4000	
79-01-6	Trichloroethene (TCE)	350000		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	7600		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	1/27/14 22:53	
Dibromofluoromethane	99	70-130	1/27/14 22:53	
Toluene-d8	101	70-130	1/27/14 22:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1100
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 10:11

Sample Name: AP13-DO (41')
 Lab Code: R1400510-002

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1011.run

Analysis Lot: 378371
 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	Ethylene	1.9	1.0	
74-82-8	Methane	1.0 U	1.0	
74-98-6	Propane	1.0 U	1.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water
 Sample Name: AP24-DO (51.1')
 Lab Code: R1400510-003

Service Request: R1400510
 Date Collected: 1/20/14 1140
 Date Received: 1/22/14

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	1520	mg/L	100	100	NA	1/28/14 01:41	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1140
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 23:25

Sample Name: AP24-DO (51.1')
 Lab Code: R1400510-003

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J3010.D\

Analysis Lot: 377891
 Instrument Name: R-MS-12
 Dilution Factor: 2000

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	21000		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	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)	27000		4000	
79-01-6	Trichloroethene (TCE)	280000		4000	
75-69-4	Trichlorofluoromethane (CFC 11)	4000	U	4000	
75-01-4	Vinyl Chloride	4200		4000	
156-59-2	cis-1,2-Dichloroethene	45000		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	1/27/14 23:25	
Dibromofluoromethane	99	70-130	1/27/14 23:25	
Toluene-d8	102	70-130	1/27/14 23:25	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: 1/20/14 1140
Date Received: 1/22/14
Date Analyzed: 1/29/14 11:40

Sample Name: AP24-DO (51.1')
Lab Code: R1400510-003

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1017.run

Analysis Lot: 378371
Instrument Name: R-GC-02
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	1.1	1.0	
74-85-1	Ethylene	100 E	1.0	
74-82-8	Methane	2.1	1.0	
74-98-6	Propane	1.0 U	1.0	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1140
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 11:14

Sample Name: AP24-DO (51.1')
 Lab Code: R1400510-003
 Run Type: Dilution

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1015.run

Analysis Lot: 378371
 Instrument Name: R-GC-02
 Dilution Factor: 2.5

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	2.5 U	2.5	
74-85-1	Ethylene	100 D	2.5	
74-82-8	Methane	2.5 U	2.5	
74-98-6	Propane	2.5 U	2.5	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: AP33-DO (37.5')
Lab Code: R1400510-004

Service Request: R1400510
Date Collected: 1/20/14 1215
Date Received: 1/22/14

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	3100		mg/L	400	400	NA	1/30/14 14:43	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 12:15
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 20:43

Sample Name: AP33-DO (37.5')
 Lab Code: R1400510-004

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQU\DATA\msvoa12\Data\012714\J3005.D\

Analysis Lot: 377891
 Instrument Name: R-MS-12
 Dilution Factor: 250

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	63000	E	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)	6200		500	
75-35-4	1,1-Dichloroethene (1,1-DCE)	710		500	
107-06-2	1,2-Dichloroethane	500	U	500	
78-87-5	1,2-Dichloropropane	500	U	500	
67-64-1	Acetone	2500	U	2500	
75-27-4	Bromodichloromethane	500	U	500	
75-25-2	Bromoform	500	U	500	
74-83-9	Bromomethane	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	
75-09-2	Methylene Chloride	500	U	500	
127-18-4	Tetrachloroethene (PCE)	89000	E	500	
79-01-6	Trichloroethene (TCE)	360000	E	500	
75-69-4	Trichlorofluoromethane (CFC 11)	500	U	500	
75-01-4	Vinyl Chloride	6000		500	
156-59-2	cis-1,2-Dichloroethene	140000	E	500	
10061-01-5	cis-1,3-Dichloropropene	500	U	500	
156-60-5	trans-1,2-Dichloroethene	500	U	500	
10061-02-6	trans-1,3-Dichloropropene	500	U	500	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	1/27/14 20:43	
Dibromofluoromethane	99	70-130	1/27/14 20:43	
Toluene-d8	100	70-130	1/27/14 20:43	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1215
 Date Received: 1/22/14
 Date Analyzed: 1/28/14 21:55

Sample Name: AP33-DO (37.5')
 Lab Code: R1400510-004
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012814\J3037.D\

Analysis Lot: 378124
 Instrument Name: R-MS-12
 Dilution Factor: 2500

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	75000	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)	7400	D	5000	
75-35-4	1,1-Dichloroethene (1,1-DCE)	5000	U	5000	
107-06-2	1,2-Dichloroethane	5000	U	5000	
78-87-5	1,2-Dichloropropane	5000	U	5000	
67-64-1	Acetone	25000	U	25000	
75-27-4	Bromodichloromethane	5000	U	5000	
75-25-2	Bromoform	5000	U	5000	
74-83-9	Bromomethane	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	
75-09-2	Methylene Chloride	5000	U	5000	
127-18-4	Tetrachloroethene (PCE)	99000	D	5000	
79-01-6	Trichloroethene (TCE)	400000	D	5000	
75-69-4	Trichlorofluoromethane (CFC 11)	5000	U	5000	
75-01-4	Vinyl Chloride	7000	D	5000	
156-59-2	cis-1,2-Dichloroethene	150000	D	5000	
10061-01-5	cis-1,3-Dichloropropene	5000	U	5000	
156-60-5	trans-1,2-Dichloroethene	5000	U	5000	
10061-02-6	trans-1,3-Dichloropropene	5000	U	5000	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	1/28/14 21:55	
Dibromofluoromethane	98	70-130	1/28/14 21:55	
Toluene-d8	100	70-130	1/28/14 21:55	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 12:15
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 12:17

Sample Name: AP33-DO (37.5')
 Lab Code: R1400510-004

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1018.run

Analysis Lot: 378371
 Instrument Name: R-GC-02
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	110 E	1.0	
74-85-1	Ethylene	1700 E	1.0	
74-82-8	Methane	61	1.0	
74-98-6	Propane	4.6	1.0	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 12:15
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 14:48

Sample Name: AP33-DO (37.5')
 Lab Code: R1400510-004
 Run Type: Dilution

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1030.run

Analysis Lot: 378372
 Instrument Name: R-GC-02
 Dilution Factor: 50

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	100	D	50	
74-85-1	Ethylene	4800	D	50	
74-82-8	Methane	71	D	50	
74-98-6	Propane	50	U	50	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: AP34-DO (36')
Lab Code: R1400510-005

Service Request: R1400510
Date Collected: 1/20/14 1240
Date Received: 1/22/14

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	1010	mg/L	100	100	NA	1/30/14 15:04	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1240
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 21:16

Sample Name: AP34-DO (36')
 Lab Code: R1400510-005

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J3006.D\

Analysis Lot: 377891
 Instrument Name: R-MS-12
 Dilution Factor: 250

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	7000		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)	1100		500	
75-35-4	1,1-Dichloroethene (1,1-DCE)	770		500	
107-06-2	1,2-Dichloroethane	500	U	500	
78-87-5	1,2-Dichloropropane	500	U	500	
67-64-1	Acetone	2500	U	2500	
75-27-4	Bromodichloromethane	500	U	500	
75-25-2	Bromoform	500	U	500	
74-83-9	Bromomethane	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	
75-09-2	Methylene Chloride	500	U	500	
127-18-4	Tetrachloroethene (PCE)	500	U	500	
79-01-6	Trichloroethene (TCE)	2400		500	
75-69-4	Trichlorofluoromethane (CFC 11)	500	U	500	
75-01-4	Vinyl Chloride	1100		500	
156-59-2	cis-1,2-Dichloroethene	46000		500	
10061-01-5	cis-1,3-Dichloropropene	500	U	500	
156-60-5	trans-1,2-Dichloroethene	500	U	500	
10061-02-6	trans-1,3-Dichloropropene	500	U	500	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	70-130	1/27/14 21:16	
Dibromofluoromethane	98	70-130	1/27/14 21:16	
Toluene-d8	101	70-130	1/27/14 21:16	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1240
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 12:28

Sample Name: AP34-DO (36')
 Lab Code: R1400510-005

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1019.run

Analysis Lot: 378371
 Instrument Name: R-GC-02
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	39	1.0	
74-85-1	Ethylene	230 E	1.0	
74-82-8	Methane	19	1.0	
74-98-6	Propane	5.4	1.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1240
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 12:38

Sample Name: AP34-DO (36')
 Lab Code: R1400510-005
 Run Type: Dilution

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1020.run

Analysis Lot: 378371
 Instrument Name: R-GC-02
 Dilution Factor: 5

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	40 D	5.0	
74-85-1	Ethylene	240 D	5.0	
74-82-8	Methane	19 D	5.0	
74-98-6	Propane	17 D	5.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: AP35-DO (35.8')
Lab Code: R1400510-006

Service Request: R1400510
Date Collected: 1/20/14 1310
Date Received: 1/22/14

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	1330	mg/L	100	100	NA	1/28/14 02:44	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1310
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 21:48

Sample Name: AP35-DO (35.8')
 Lab Code: R1400510-006

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J3007.D\

Analysis Lot: 377891
 Instrument Name: R-MS-12
 Dilution Factor: 1000

CAS No.	Analyte Name	Result	Q	MRL	Note
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	
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	2000	U	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)	2000	U	2000	
79-01-6	Trichloroethene (TCE)	6300		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	82000		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	96	70-130	1/27/14 21:48	
Dibromofluoromethane	99	70-130	1/27/14 21:48	
Toluene-d8	100	70-130	1/27/14 21:48	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1310
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 12:48

Sample Name: AP35-DO (35.8')
 Lab Code: R1400510-006

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1021.run

Analysis Lot: 378371
 Instrument Name: R-GC-02
 Dilution Factor: 1

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	4.3		1.0	
74-85-1	Ethylene	36		1.0	
74-82-8	Methane	24		1.0	
74-98-6	Propane	2.6		1.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: RW-1 (37.1')
Lab Code: R1400510-007

Service Request: R1400510
Date Collected: 1/20/14 1430
Date Received: 1/22/14

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	1040		mg/L	100	100	NA	1/28/14 03:05	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1430
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 18:01

Sample Name: RW-1 (37.1')
 Lab Code: R1400510-007

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQU\DATA\msvoa12\Data\012714\J3000.D\

Analysis Lot: 377891
 Instrument Name: R-MS-12
 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	5.7		5.0	
75-34-3	1,1-Dichloroethane (1,1-DCA)	14		5.0	
75-35-4	1,1-Dichloroethene (1,1-DCE)	25		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	11		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	6.3		5.0	
127-18-4	Tetrachloroethene (PCE)	580	E	5.0	
79-01-6	Trichloroethene (TCE)	1200	E	5.0	
75-69-4	Trichlorofluoromethane (CFC 11)	5.0	U	5.0	
75-01-4	Vinyl Chloride	670	E	5.0	
156-59-2	cis-1,2-Dichloroethene	6000	E	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	110		5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	70-130	1/27/14 18:01	
Dibromofluoromethane	99	70-130	1/27/14 18:01	
Toluene-d8	101	70-130	1/27/14 18:01	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1430
 Date Received: 1/22/14
 Date Analyzed: 1/28/14 20:19

Sample Name: RW-1 (37.1')
 Lab Code: R1400510-007
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012814\J3034.D\

Analysis Lot: 378124
 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)	530	D	100	
79-01-6	Trichloroethene (TCE)	1100	D	100	
75-69-4	Trichlorofluoromethane (CFC 11)	100	U	100	
75-01-4	Vinyl Chloride	800	D	100	
156-59-2	cis-1,2-Dichloroethene	8700	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	97	70-130	1/28/14 20:19	
Dibromofluoromethane	98	70-130	1/28/14 20:19	
Toluene-d8	100	70-130	1/28/14 20:19	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: 1/20/14 1430
Date Received: 1/22/14
Date Analyzed: 1/29/14 12:58

Sample Name: RW-1 (37.1')
Lab Code: R1400510-007

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1022.run

Analysis Lot: 378371
Instrument Name: R-GC-02
Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	1.4	1.0	
74-85-1	Ethylene	230 E	1.0	
74-82-8	Methane	53	1.0	
74-98-6	Propane	1.0 U	1.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: 1/20/14 1430
Date Received: 1/22/14
Date Analyzed: 1/29/14 13:09

Sample Name: RW-1 (37.1')
Lab Code: R1400510-007
Run Type: Dilution

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1023.run

Analysis Lot: 378371
Instrument Name: R-GC-02
Dilution Factor: 4

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	4.0 U	4.0	
74-85-1	Ethylene	230 D	4.0	
74-82-8	Methane	53 D	4.0	
74-98-6	Propane	4.0 U	4.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water
 Sample Name: AP25-DO (46.8')
 Lab Code: R1400510-008

Service Request: R1400510
 Date Collected: 1/20/14 1500
 Date Received: 1/22/14

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	3.3		mg/L	1.0	1	NA	1/28/14 03:26	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1500
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 20:11

Sample Name: AP25-DO (46.8')
 Lab Code: R1400510-008

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J3004.D\

Analysis Lot: 377891
 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)	100	U	100	
79-01-6	Trichloroethene (TCE)	100	U	100	
75-69-4	Trichlorofluoromethane (CFC 11)	100	U	100	
75-01-4	Vinyl Chloride	1500		100	
156-59-2	cis-1,2-Dichloroethene	6100		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	1/27/14 20:11	
Dibromofluoromethane	99	70-130	1/27/14 20:11	
Toluene-d8	102	70-130	1/27/14 20:11	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1500
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 15:09

Sample Name: AP25-DO (46.8')
 Lab Code: R1400510-008

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1032.run

Analysis Lot: 378372
 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	Ethylene	110 E	1.0	
74-82-8	Methane	13	1.0	
74-98-6	Propane	1.0 U	1.0	



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1500
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 15:20

Sample Name: AP25-DO (46.8')
 Lab Code: R1400510-008
 Run Type: Dilution

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1033.run

Analysis Lot: 378372
 Instrument Name: R-GC-02
 Dilution Factor: 2

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	2.0	U	2.0	
74-85-1	Ethylene	110	D	2.0	
74-82-8	Methane	13	D	2.0	
74-98-6	Propane	2.0	U	2.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: MW-9 (20.2')
Lab Code: R1400510-009

Service Request: R1400510
Date Collected: 1/20/14 1530
Date Received: 1/22/14

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	1370	mg/L	100	100	NA	1/28/14 04:29	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1530
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 18:34

Sample Name: MW-9 (20.2')
 Lab Code: R1400510-009

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J3001.D\

Analysis Lot: 377891
 Instrument Name: R-MS-12
 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)	15		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)	10	U	10	
75-69-4	Trichlorofluoromethane (CFC 11)	10	U	10	
75-01-4	Vinyl Chloride	1500	E	10	
156-59-2	cis-1,2-Dichloroethene	3400	E	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	98	70-130	1/27/14 18:34	
Dibromofluoromethane	99	70-130	1/27/14 18:34	
Toluene-d8	102	70-130	1/27/14 18:34	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14 1530
 Date Received: 1/22/14
 Date Analyzed: 1/28/14 19:46

Sample Name: MW-9 (20.2')
 Lab Code: R1400510-009
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012814\J3033.D\

Analysis Lot: 378124
 Instrument Name: R-MS-12
 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)	50	U	50	
79-01-6	Trichloroethene (TCE)	50	U	50	
75-69-4	Trichlorofluoromethane (CFC 11)	50	U	50	
75-01-4	Vinyl Chloride	1700	D	50	
156-59-2	cis-1,2-Dichloroethene	3000	D	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	1/28/14 19:46	
Dibromofluoromethane	100	70-130	1/28/14 19:46	
Toluene-d8	101	70-130	1/28/14 19:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: 1/20/14 1530
Date Received: 1/22/14
Date Analyzed: 1/29/14 15:42

Sample Name: MW-9 (20.2')
Lab Code: R1400510-009

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1035.run

Analysis Lot: 378372
Instrument Name: R-GC-02
Dilution Factor: 125

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	690	130	
74-85-1	Ethylene	4000	130	
74-82-8	Methane	12000	130	
74-98-6	Propane	130 U	130	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 0850
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 16:25

Sample Name: AP13-S (16')
 Lab Code: R1400510-010

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714J2997.D\

Analysis Lot: 377891
 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)	15		2.0	
79-01-6	Trichloroethene (TCE)	26		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	3.4		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	99	70-130	1/27/14 16:25	
Dibromofluoromethane	100	70-130	1/27/14 16:25	
Toluene-d8	101	70-130	1/27/14 16:25	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: OB15-S (19.7)
Lab Code: R1400510-011

Service Request: R1400510
Date Collected: 1/21/14 0915
Date Received: 1/22/14

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	59		mg/L	10	10	NA	1/28/14 05:52	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 09:15
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 16:58

Sample Name: OB15-S (19.7')
 Lab Code: R1400510-011

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J2998.D\

Analysis Lot: 377891
 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)	3.6		2.0	
75-69-4	Trichlorofluoromethane (CFC 11)	2.0	U	2.0	
75-01-4	Vinyl Chloride	95		2.0	
156-59-2	cis-1,2-Dichloroethene	5.8		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	1/27/14 16:58	
Dibromofluoromethane	99	70-130	1/27/14 16:58	
Toluene-d8	101	70-130	1/27/14 16:58	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 0915
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 16:04

Sample Name: OB15-S (19.7')
 Lab Code: R1400510-011

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1037.run

Analysis Lot: 378372
 Instrument Name: R-GC-02
 Dilution Factor: 125

CAS No.	Analyte Name	Result	Q	MRL	Note
74-84-0	Ethane	310		130	
74-85-1	Ethylene	210		130	
74-82-8	Methane	12000		130	
74-98-6	Propane	130	U	130	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: OB9-S (23.1')
Lab Code: R1400510-012

Service Request: R1400510
Date Collected: 1/21/14 0930
Date Received: 1/22/14

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	28.1		mg/L	4.0	4	NA	1/28/14 06:13	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 0930
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 17:30

Sample Name: OB9-S (23.1')
 Lab Code: R1400510-012

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714V2999.D\

Analysis Lot: 377891
 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	2.2		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	1/27/14 17:30	
Dibromofluoromethane	98	70-130	1/27/14 17:30	
Toluene-d8	101	70-130	1/27/14 17:30	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: 1/21/14 0930
Date Received: 1/22/14
Date Analyzed: 1/29/14 16:27

Sample Name: OB9-S (23.1')
Lab Code: R1400510-012

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1039.run

Analysis Lot: 378372
Instrument Name: R-GC-02
Dilution Factor: 125

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	170	130	
74-85-1	Ethylene	130 U	130	
74-82-8	Methane	15000 E	130	
74-98-6	Propane	130 U	130	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 0930
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 16:37

Sample Name: OB9-S (23.1')
 Lab Code: R1400510-012
 Run Type: Dilution

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1040.run

Analysis Lot: 378372
 Instrument Name: R-GC-02
 Dilution Factor: 250

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	250 U	250	
74-85-1	Ethylene	250 U	250	
74-82-8	Methane	16000 D	250	
74-98-6	Propane	250 U	250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: OB25-DO (50.5')
Lab Code: R1400510-013

Service Request: R1400510
Date Collected: 1/21/14 1000
Date Received: 1/22/14

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	1.8		mg/L	1.0	1	NA	1/28/14 06:34	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 1000
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 19:39

Sample Name: OB25-DO (50.5')
 Lab Code: R1400510-013

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J3003.D\

Analysis Lot: 377891
 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)	460		100	
79-01-6	Trichloroethene (TCE)	15000	E	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	590		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	96	70-130	1/27/14 19:39	
Dibromofluoromethane	98	70-130	1/27/14 19:39	
Toluene-d8	101	70-130	1/27/14 19:39	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 1000
 Date Received: 1/22/14
 Date Analyzed: 1/28/14 20:51

Sample Name: OB25-DO (50.5')
 Lab Code: R1400510-013
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\012814\J3035.D\

Analysis Lot: 378124
 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)	440	D	200	
79-01-6	Trichloroethene (TCE)	15000	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	590	D	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	1/28/14 20:51	
Dibromofluoromethane	101	70-130	1/28/14 20:51	
Toluene-d8	102	70-130	1/28/14 20:51	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: 1/21/14 1000
Date Received: 1/22/14
Date Analyzed: 1/29/14 16:47

Sample Name: OB25-DO (50.5')
Lab Code: R1400510-013

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1041.run

Analysis Lot: 378372
Instrument Name: R-GC-02
Dilution Factor: 2

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	2.0 U	2.0	
74-85-1	Ethylene	2.0 U	2.0	
74-82-8	Methane	270 E	2.0	
74-98-6	Propane	2.0 U	2.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: 1/21/14 1000
Date Received: 1/22/14
Date Analyzed: 1/29/14 16:56

Sample Name: OB25-DO (50.5')
Lab Code: R1400510-013
Run Type: Dilution

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1042.run

Analysis Lot: 378372
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	Ethylene	5.0 U	5.0	
74-82-8	Methane	270 D	5.0	
74-98-6	Propane	5.0 U	5.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water
 Sample Name: AP30-R-DO (30')
 Lab Code: R1400510-014

Service Request: R1400510
 Date Collected: 1/21/14 1030
 Date Received: 1/22/14

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	1/28/14 06:55	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 1030
 Date Received: 1/22/14
 Date Analyzed: 1/27/14 19:06

Sample Name: AP30-R-DO (30")
 Lab Code: R1400510-014

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUADATA\msvoa12\Data\012714VJ3002.D\

Analysis Lot: 377891
 Instrument Name: R-MS-12
 Dilution Factor: 20

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	670		40	
79-34-5	1,1,2,2-Tetrachloroethane	40	U	40	
79-00-5	1,1,2-Trichloroethane	67		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	560		40	
108-90-7	Chlorobenzene	40	U	40	
75-00-3	Chloroethane	40	U	40	
67-66-3	Chloroform	2100		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)	4100	E	40	
79-01-6	Trichloroethene (TCE)	19000	E	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	520		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	98	70-130	1/27/14 19:06	
Dibromofluoromethane	100	70-130	1/27/14 19:06	
Toluene-d8	101	70-130	1/27/14 19:06	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 1030
 Date Received: 1/22/14
 Date Analyzed: 1/28/14 21:23

Sample Name: AP30-R-DO (30')
 Lab Code: R1400510-014
 Run Type: Dilution

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012814\J3036.D\

Analysis Lot: 378124
 Instrument Name: R-MS-12
 Dilution Factor: 200

CAS No.	Analyte Name	Result	Q	MRL	Note
71-55-6	1,1,1-Trichloroethane (TCA)	670	D	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	610	D	400	
108-90-7	Chlorobenzene	400	U	400	
75-00-3	Chloroethane	400	U	400	
67-66-3	Chloroform	2300	D	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)	3900	D	400	
79-01-6	Trichloroethene (TCE)	17000	D	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	510	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	98	70-130	1/28/14 21:23	
Dibromofluoromethane	99	70-130	1/28/14 21:23	
Toluene-d8	101	70-130	1/28/14 21:23	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 1030
 Date Received: 1/22/14
 Date Analyzed: 1/29/14 17:06

Sample Name: AP30-R-DO (30')
 Lab Code: R1400510-014

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1043.run

Analysis Lot: 378372
 Instrument Name: R-GC-02
 Dilution Factor: 1

CAS No.	Analyte Name	Result Q	MRL	Note
74-84-0	Ethane	1.8	1.0	
74-85-1	Ethylene	1.0 U	1.0	
74-82-8	Methane	7.4	1.0	
74-98-6	Propane	1.0 U	1.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/21/14 1200
 Date Received: 1/22/14
 Date Analyzed: 1/28/14 14:25

Sample Name: EB-1
 Lab Code: R1400510-015

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012814J3023.D\

Analysis Lot: 378124
 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	13		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	1/28/14 14:25	
Dibromofluoromethane	98	70-130	1/28/14 14:25	
Toluene-d8	101	70-130	1/28/14 14:25	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: 1/20/14
 Date Received: 1/22/14
 Date Analyzed: 1/28/14 14:57

Sample Name: TRIP BLANK
 Lab Code: R1400510-016

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012814\J3024.D\

Analysis Lot: 378124
 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	97	70-130	1/28/14 14:57	
Dibromofluoromethane	99	70-130	1/28/14 14:57	
Toluene-d8	101	70-130	1/28/14 14:57	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1400510-MB1

Service Request: R1400510
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	1/27/14 17:10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1400510-MB2

Service Request: R1400510
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	1/28/14 05:10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1400510-MB3

Service Request: R1400510
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	1/30/14 11:51	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: R1400510-MB4

Service Request: R1400510
 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	1/31/14 10:20	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/27/14 14:12

Sample Name: Method Blank
 Lab Code: RQ1400875-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012714\J2993.D\

Analysis Lot: 377891
 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	99	70-130	1/27/14 14:12	
Dibromofluoromethane	98	70-130	1/27/14 14:12	
Toluene-d8	102	70-130	1/27/14 14:12	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/28/14 13:53

Sample Name: Method Blank
 Lab Code: RQ1400943-05

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260C
 Data File Name: I:\ACQUDATA\msvoa12\Data\012814V3022.D\

Analysis Lot: 378124
 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	97	70-130	1/28/14 13:53	
Dibromofluoromethane	99	70-130	1/28/14 13:53	
Toluene-d8	101	70-130	1/28/14 13:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly/150151-03000000
Sample Matrix: Water

Service Request: R1400510
Date Collected: NA
Date Received: NA
Date Analyzed: 1/29/14 08:38

Sample Name: Method Blank
Lab Code: RQ1400995-04

Units: µg/L
Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
Data File Name: 1002.run

Analysis Lot: 378371
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	Ethylene	1.0	U	1.0	
74-82-8	Methane	1.0	U	1.0	
74-98-6	Propane	1.0	U	1.0	

Analytical Report

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 1/29/14 14:19

Sample Name: Method Blank
 Lab Code: RQ1400997-03

Units: µg/L
 Basis: NA

Dissolved Gases by GC/FID

Analytical Method: RSK 175
 Data File Name: 1027.run

Analysis Lot: 378372
 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	Ethylene	1.0 U	1.0	
74-82-8	Methane	1.0 U	1.0	
74-98-6	Propane	1.0 U	1.0	

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Analyzed: 1/27/14

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Lab Control Sample
 R1400510-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.08	10.0	91	86 - 119

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
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Analyzed: 1/28/14

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1400510-LCS2			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	9.26	10.0	93	86 - 119

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
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Analyzed: 1/30/14

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1400510-LCS3			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	9.11	10.0	91	86 - 119

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
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Analyzed: 1/31/14

Lab Control Sample Summary
 General Chemistry Parameters

Units: mg/L
 Basis: NA

Analyte Name	Method	Lab Control Sample R1400510-LCS4			% Rec Limits
		Result	Spike Amount	% Rec	
Carbon, Total Organic (TOC)	SM20 5310 C	9.29	10.0	93	86 - 119

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/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Analyzed: 1/27/14

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 377891

Analyte Name	Lab Control Sample RQ1400875-03			Duplicate Lab Control Sample RQ1400875-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	18.9	20.0	94	19.4	20.0	97	70 - 130	3	20
1,1,2,2-Tetrachloroethane	20.0	20.0	100	20.9	20.0	105	70 - 130	5	20
1,1,2-Trichloroethane	19.0	20.0	95	19.6	20.0	98	70 - 130	3	20
1,1-Dichloroethane (1,1-DCA)	19.2	20.0	96	19.6	20.0	98	70 - 130	2	20
1,1-Dichloroethene (1,1-DCE)	20.7	20.0	104	22.0	20.0	110	70 - 130	6	20
1,2-Dichloroethane	17.8	20.0	89	18.6	20.0	93	70 - 130	4	20
1,2-Dichloropropane	18.7	20.0	93	19.8	20.0	99	70 - 130	6	20
Acetone	18.8	20.0	94	18.3	20.0	92	40 - 160	3	20
Bromodichloromethane	18.8	20.0	94	19.6	20.0	98	70 - 130	4	20
Bromoform	19.5	20.0	98	20.6	20.0	103	70 - 130	5	20
Bromomethane	17.2	20.0	86	17.5	20.0	88	40 - 160	2	20
Carbon Tetrachloride	18.0	20.0	90	18.8	20.0	94	70 - 130	4	20
Chlorobenzene	19.4	20.0	97	20.0	20.0	100	70 - 130	3	20
Chloroethane	19.3	20.0	97	20.5	20.0	103	70 - 130	6	20
Chloroform	19.9	20.0	100	20.5	20.0	103	70 - 130	3	20
Chloromethane	20.1	20.0	101	20.9	20.0	104	40 - 160	4	20
Dibromochloromethane	19.1	20.0	95	20.1	20.0	101	70 - 130	5	20
Methylene Chloride	19.1	20.0	96	19.9	20.0	99	70 - 130	4	20
Tetrachloroethene (PCE)	18.6	20.0	93	19.4	20.0	97	70 - 130	4	20
Trichloroethene (TCE)	18.7	20.0	93	19.4	20.0	97	70 - 130	4	20
Trichlorofluoromethane (CFC 11)	17.8	20.0	89	18.5	20.0	92	70 - 130	4	20
Vinyl Chloride	20.4	20.0	102	21.2	20.0	106	70 - 130	4	20
cis-1,2-Dichloroethene	18.5	20.0	93	19.3	20.0	96	70 - 130	4	20
cis-1,3-Dichloropropene	18.2	20.0	91	19.3	20.0	97	70 - 130	6	20
trans-1,2-Dichloroethene	19.2	20.0	96	19.9	20.0	99	70 - 130	4	20
trans-1,3-Dichloropropene	18.9	20.0	94	20.0	20.0	100	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.

Client: CB&I
 Project: Varian Beverly/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Analyzed: 1/28/14

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
 Basis: NA

Analysis Lot: 378124

Analyte Name	Lab Control Sample RQ1400943-03			Duplicate Lab Control Sample RQ1400943-04			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1,1-Trichloroethane (TCA)	20.0	20.0	100	19.9	20.0	99	70 - 130	<1	20
1,1,2,2-Tetrachloroethane	21.6	20.0	108	21.5	20.0	108	70 - 130	<1	20
1,1,2-Trichloroethane	19.9	20.0	100	19.6	20.0	98	70 - 130	2	20
1,1-Dichloroethane (1,1-DCA)	20.1	20.0	100	19.8	20.0	99	70 - 130	1	20
1,1-Dichloroethene (1,1-DCE)	21.5	20.0	108	22.0	20.0	110	70 - 130	2	20
1,2-Dichloroethane	19.4	20.0	97	19.0	20.0	95	70 - 130	2	20
1,2-Dichloropropane	20.2	20.0	101	19.9	20.0	100	70 - 130	1	20
Acetone	16.2	20.0	81	17.1	20.0	85	40 - 160	5	20
Bromodichloromethane	20.2	20.0	101	19.8	20.0	99	70 - 130	2	20
Bromoform	21.0	20.0	105	19.4	20.0	97	70 - 130	8	20
Bromomethane	19.0	20.0	95	18.5	20.0	92	40 - 160	3	20
Carbon Tetrachloride	19.3	20.0	97	18.6	20.0	93	70 - 130	4	20
Chlorobenzene	21.1	20.0	105	20.3	20.0	102	70 - 130	4	20
Chloroethane	21.0	20.0	105	21.4	20.0	107	70 - 130	2	20
Chloroform	21.1	20.0	106	20.9	20.0	104	70 - 130	1	20
Chloromethane	21.1	20.0	106	21.3	20.0	106	40 - 160	<1	20
Dibromochloromethane	20.4	20.0	102	20.2	20.0	101	70 - 130	1	20
Methylene Chloride	20.8	20.0	104	20.6	20.0	103	70 - 130	1	20
Tetrachloroethene (PCE)	20.4	20.0	102	19.6	20.0	98	70 - 130	4	20
Trichloroethene (TCE)	20.2	20.0	101	19.3	20.0	96	70 - 130	5	20
Trichlorofluoromethane (CFC 11)	18.9	20.0	94	19.5	20.0	97	70 - 130	3	20
Vinyl Chloride	21.5	20.0	108	21.7	20.0	109	70 - 130	1	20
cis-1,2-Dichloroethene	19.9	20.0	100	19.9	20.0	99	70 - 130	<1	20
cis-1,3-Dichloropropene	19.8	20.0	99	19.2	20.0	96	70 - 130	3	20
trans-1,2-Dichloroethene	20.6	20.0	103	20.3	20.0	101	70 - 130	1	20
trans-1,3-Dichloropropene	19.9	20.0	99	20.1	20.0	100	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/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Analyzed: 1/29/14

Lab Control Sample Summary
 Dissolved Gases by GC/FID

Analytical Method: RSK 175

Units: µg/L
 Basis: NA

Analysis Lot: 378371

Lab Control Sample
 RQ1400995-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Ethane	25.7	26.1	99	78 - 134
Ethylene	25.6	24.3	105	73 - 129
Methane	25.1	26.2	96	76 - 138
Propane	23.8	25.5	93	73 - 134

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/150151-03000000
 Sample Matrix: Water

Service Request: R1400510
 Date Analyzed: 1/29/14

Lab Control Sample Summary
 Dissolved Gases by GC/FID

Analytical Method: RSK 175

Units: µg/L
 Basis: NA

Analysis Lot: 378372

Analyte Name	Lab Control Sample RQ1400997-01			Duplicate Lab Control Sample RQ1400997-02			% Rec Limits	RPD	RPD Limit
	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ethane	25.6	26.1	98	25.6	26.1	98	78 - 134	<1	30
Ethylene	26.8	24.3	110	26.4	24.3	108	73 - 129	2	30
Methane	25.3	26.2	96	25.0	26.2	95	76 - 138	1	30
Propane	24.5	25.5	96	23.3	25.5	92	73 - 134	5	30

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 Beverly		Project Number 150151-03000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)															
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE 1 3															
Company/Address Shaw Environmental, A CB&I Company				NUMBER OF CONTAINERS	GC/MS VOA's <input type="checkbox"/> 8260 <input type="checkbox"/> 824 <input type="checkbox"/> CLP <input type="checkbox"/> VOC GC/MS SVOA's <input type="checkbox"/> 8270 <input type="checkbox"/> 825 GC VOA's <input type="checkbox"/> 8021 <input type="checkbox"/> 601/602 PESTICIDES <input type="checkbox"/> 8081 <input type="checkbox"/> 608 PCB's <input type="checkbox"/> 8082 <input type="checkbox"/> 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) METHANE, Ethane, Ethylene TOC												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 _____		
150 Royall Street																			
Canton, MA 02021																			
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com																	
Sampler's Signature		Sampler's Printed Name														REMARKS/ ALTERNATE DESCRIPTION			
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE TIME		MATRIX															
OB15-5 (19.1')		1/21/14	0915	GW	X													X	X
OB9-5 (23.1')		1/21/14	0930		X													X	X
OB25-DO (50.5')		1/21/14	1000		X													X	X
AP30-R-DO (30')		1/21/14	1030		X													X	X
↓																			
SPECIAL INSTRUCTIONS/COMMENTS Metals Site specific VOC list Massachusetts CAM analyses reporting and QA/QC. Please email GISKey formatted EDD & PDF to: Catherine.Joe@CBI.com.					TURNAROUND REQUIREMENTS ___ RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day ___ 5 day <input checked="" type="checkbox"/> Standard				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 #: 873489 BILL TO: CB&I						
					REQUESTED REPORT DATE				Edata <input checked="" type="checkbox"/> Yes ___ No				R1400510						
See QAPP <input type="checkbox"/>																			
STATE WHERE SAMPLES WERE COLLECTED:																			
RELINQUISHED BY Wayne Holt				RECEIVED BY				RELINQUISHED BY				RECEIVED BY							
Signature <i>Wayne Holt</i>				Signature <i>J. Seaward</i>				Signature				Signature							
Printed Name Wayne Holt				Printed Name J. Seaward				Printed Name				Printed Name							
Firm CBI				Firm ACS				Firm				Firm							
Date/Time 1-21-14 1200				Date/Time 1/22/14 9020				Date/Time				Date/Time							

Project Name Varian Beverly		Project Number 150151-03000000		ANALYSIS REQUESTED (Include Method Number and Container Preservative)																	
Project Manager Raymond Cadorette		Report CC		PRESERVATIVE																	
Company/Address Shaw Environmental, A CB&I Company				NUMBER OF CONTAINERS	GC/MS VOAs-SITK Specific EPA 8260 □ 824 □ CLP VOC GC/MS SVOAs □ 8270 □ 825 □ 8021 □ 601/602 PESTICIDES □ 8081 □ 608 PCBs □ 8082 □ 608 METALS, TOTAL (List in comments below) METALS, DISSOLVED (List in comments below) <i>Methyl, Ethanol, Ethene</i> <i>TOC</i>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
150 Royal Street																					
Canton, MA 02021																					
Phone # 617-589-6102		E-mail Raymond.Cadorette@CBI.com		Preservative Key 0. NONE 1. HCL 2. HNO ₃ 3. H ₂ SO ₄ 4. NaOH 5. Zn Acetate 6. MoOH 7. NaHSO ₄ 8. Other _____																	
Sampler's Signature		Sampler's Printed Name		REMARKS/ ALTERNATE DESCRIPTION																	

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	TIME	MATRIX																		
DB15-5 (19.17)		1/21/14	0915	GW	X																	
DB9-5 (23.1)		1/21/14	0930		X																	
DB25-00 (30.5)		1/21/14	1000		X																	
AP30-R-00 (30')		1/21/14	1030		X																	
EB-1		1/21/14	1200		X																	
Trip Blank					X																	

SPECIAL INSTRUCTIONS/COMMENTS Metals Site specific VOC list Massachusetts CAM analyses reporting and QA/QC. Please email GISKey formatted EDD & PDF to: Catherine.Joe@CBI.com	TURNAROUND REQUIREMENTS RUSH (SURCHARGES APPLY) ___ 1 day ___ 2 day ___ 3 day ___ 4 day ___ 5 day <input checked="" type="checkbox"/> Standard	REPORT REQUIREMENTS ___ I. Results Only ___ II. Results + OC Summaries (LCS, DUP, MS/MSD as required) ___ III. Results + OC end Calibration Summaries ___ IV. Data Validation Report w/	INVOICE INFORMATION PO #: 873489 BILL TO: CB&I
	REQUESTED REPORT DATE _____	Edate <input checked="" type="checkbox"/> Yes ___ No	R1400510 7 Y CB&I Environmental & Infrastructure Varian Beverly

STATE WHERE SAMPLES WERE COLLECTED:					
RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: <i>Wagner</i>	Signature: <i>[Signature]</i>	Signature:	Signature:	Signature:	Signature:
Printed Name: <i>Wagner</i>	Printed Name: <i>S. Sewer</i>	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: <i>CB&I</i>	Firm: <i>AS</i>	Firm:	Firm:	Firm:	Firm:
Date/Time: <i>1-21-14 13:00</i>	Date/Time: <i>1/22/14 10:20</i>	Date/Time:	Date/Time:	Date/Time:	Date/Time:



Cooler Receipt and Preservation Check Form

Project/Client CB&I Folder Number R4406510

Cooler received on 1/22/14 by: JFS 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. ~~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/ROE, CLIENT
7. Soil VOA samples received as: Bulk Jar Encore TerraCore Lab5035set N/A
8. Temperature of cooler(s) upon receipt: 1.8 0.5 _____

Is the temperature within 0° - 6° C?: YN YN Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: 1/22/14 1040

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 LOV by JFS on 1/22 at 1040
 5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: JMS 1/22/14

Cooler Breakdown: Date: 1/24/14 Time: 0949 by: @

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 see email
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			Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH	Yes = All samples OK
		YES	NO							
≥12	NaOH									No = Samples were preserved at lab as listed
≤2	HNO ₃									
≤2	H ₂ SO ₄	<input checked="" type="checkbox"/>		<u>recheck correct</u>						
<4	NaHSO ₄									
Residual Chlorine (-)	For TCN Phenol and 522	<input checked="" type="checkbox"/>		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>4/12/20</u>	<u>1/14</u>					

Bottle lot numbers: check correct

Other Comments: AP34-DO had 1 broken vial.
 * AW-1 had 1 VOA vial broken upon receipt
 * AP33-DO had 1 VOA vial broken upon receipt.
 * AP13-DO had 1 vial w/ sig. bubbles.

✓ 30 Lys Septa 1 vial MW-9.

Per Permitta Haley, do not worry about visual discrepancies in sample appearance.
JMS
1/22/14

PC Secondary Review: JMS 1/28/14 *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 :** 2/20/2014
Matrix: Air
Analyte Group: Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1400641
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
1/27/14	VOC TO-15		30 Days	1/28/14, 1/30/2014

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 1/28/2014

EPA TO-15 1/30/2014

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 3/5/14



February 10, 2014

Service Request No: R1400641

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

Laboratory Results for: Varian Beverly Air Samples/150148

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on January 28, 2014. For your reference, these analyses have been assigned our service request number **R1400641**.

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 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 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Janice Jaeger
Client Services Manager

Page 1 of 26

ALS Environmental

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

Service Request No.: R1400641
Project No.: 150148
Date Received: 01/28/14

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 01/27/14 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 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 %.

MassDEP Analytical Protocol Certification Form

Laboratory Name: ALS Environmental

Project #: 150148

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1400641-001-004

 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 type="checkbox"/> Yes <input checked="" 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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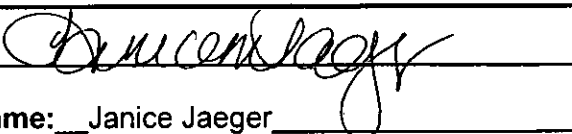
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

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)?	<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:



 Position: Client Services
Manager

 Printed Name: Janice Jaeger

 Date: 02/11/14


CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1400641

<u>Lab ID</u>	<u>Client ID</u>
R1400641-001	BLDG5-SVE1
R1400641-002	BLDG5-SVE2
R1400641-003	BLDG5-SVE3
R1400641-004	BLDG5-SVE INF

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REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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

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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 Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SVE1
 Lab Code: R1400641-001

Service Request: R1400641
 Date Collected: 1/27/14 1000
 Date Received: 1/28/14

Analytical Method: TO-15

Date Analyzed: 1/30/14 1523
 Canister Dilution Factor: 1.51

Initial Pressure (psig): -2.60 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
75-01-4	Vinyl Chloride	2.0	45	45	18	18	U
74-83-9	Bromomethane	2.0	320	320	84	84	U
67-64-1	Acetone	2.0	3800	3800	1600	1600	U
75-35-4	1,1-Dichloroethene	2.0	330	330	84	84	U
75-09-2	Methylene Chloride	2.0	290	290	83	83	U
156-60-5	trans-1,2-Dichloroethene	2.0	330	330	84	84	U
75-34-3	1,1-Dichloroethane	2.0	340	340	84	84	U
1634-04-4	Methyl tert-Butyl Ether	2.0	600	600	170	170	U
78-93-3	2-Butanone (MEK)	2.0	490	490	170	170	U
156-59-2	cis-1,2-Dichloroethene	2.0	430	330	110	84	
67-66-3	Chloroform	2.0	410	410	84	84	U
107-06-2	1,2-Dichloroethane	2.0	340	340	84	84	U
71-55-6	1,1,1-Trichloroethane (TCA)	2.0	450	450	83	83	U
71-43-2	Benzene	2.0	260	260	83	83	U
56-23-5	Carbon Tetrachloride	2.0	53	53	8.4	8.4	U
78-87-5	1,2-Dichloropropane	2.0	390	390	83	83	U
75-27-4	Bromodichloromethane	2.0	110	110	17	17	U
79-01-6	Trichloroethene (TCE)	2.0	35000	45	6500	8.4	
123-91-1	1,4-Dioxane	2.0	3800	3800	1000	1000	U
10061-01-5	cis-1,3-Dichloropropene	2.0	760	760	170	170	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0	680	680	170	170	U
10061-02-6	trans-1,3-Dichloropropene	2.0	380	380	83	83	U
79-00-5	1,1,2-Trichloroethane	2.0	450	450	83	83	U
108-88-3	Toluene	2.0	310	310	82	82	U
591-78-6	2-Hexanone	2.0	340	340	83	83	U
124-48-1	Dibromochloromethane	2.0	140	140	17	17	U
106-93-4	1,2-Dibromoethane (EDB)	2.0	130	130	17	17	U
127-18-4	Tetrachloroethene (PCE)	2.0	3900	60	580	8.9	
108-90-7	Chlorobenzene	2.0	390	390	84	84	U
100-41-4	Ethylbenzene	2.0	720	720	170	170	U
179601-23-1	m,p-Xylenes	2.0	1400	1400	330	330	U
75-25-2	Bromoform	2.0	860	860	83	83	U
100-42-5	Styrene	2.0	710	710	170	170	U
95-47-6	o-Xylene	2.0	720	720	170	170	U
79-34-5	1,1,2,2-Tetrachloroethane	2.0	110	110	16	16	U
541-73-1	1,3-Dichlorobenzene	2.0	1000	1000	170	170	U
106-46-7	1,4-Dichlorobenzene	2.0	1000	1000	170	170	U



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air
Sample Name: BLDG5-SVE1
Lab Code: R1400641-001

Service Request: R1400641
Date Collected: 1/27/14 1000
Date Received: 1/28/14

Analytical Method: TO-15

Date Analyzed: 1/30/14 1523
Canister Dilution Factor: 1.51

Initial Pressure (psig): -2.60 Final Pressure (psig): 3.62

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	2.0	1000	1000	170	170	U
91-20-3	Naphthalene	2.0	1500	1500	290	290	U
87-68-3	Hexachlorobutadiene	2.0	2300	2300	210	210	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	112	70-130	1/30/14 1523	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SVE2
 Lab Code: R1400641-002

Service Request: R1400641
 Date Collected: 1/27/14 1015
 Date Received: 1/28/14

Analytical Method: TO-15

Date Analyzed: 1/28/14 2040
 Canister Dilution Factor: 1.33

Initial Pressure (psig): -1.03 Final Pressure (psig): 3.54

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	160	1.7	0.50	0.65	0.20	
74-83-9	Bromomethane	160	3.6	3.6	0.92	0.92	U
67-64-1	Acetone	160	82	42	35	18	
75-35-4	1,1-Dichloroethene	160	3.7	3.7	0.92	0.92	U
75-09-2	Methylene Chloride	160	3.2	3.2	0.91	0.91	U
156-60-5	trans-1,2-Dichloroethene	160	3.7	3.7	0.92	0.92	U
75-34-3	1,1-Dichloroethane	160	3.7	3.7	0.92	0.92	U
1634-04-4	Methyl tert-Butyl Ether	160	6.6	6.6	1.8	1.8	U
78-93-3	2-Butanone (MEK)	160	53	5.4	18	1.8	
156-59-2	cis-1,2-Dichloroethene	160	68	3.7	17	0.92	
67-66-3	Chloroform	160	4.5	4.5	0.92	0.92	U
107-06-2	1,2-Dichloroethane	160	3.7	3.7	0.92	0.92	U
71-55-6	1,1,1-Trichloroethane (TCA)	160	7.8	5.0	1.4	0.91	
71-43-2	Benzene	160	2.9	2.9	0.91	0.91	U
56-23-5	Carbon Tetrachloride	160	0.58	0.58	0.093	0.093	U
78-87-5	1,2-Dichloropropane	160	4.2	4.2	0.92	0.92	U
75-27-4	Bromodichloromethane	160	1.2	1.2	0.19	0.19	U
79-01-6	Trichloroethene (TCE)	160	310	0.50	59	0.093	
123-91-1	1,4-Dioxane	160	42	42	12	12	U
10061-01-5	cis-1,3-Dichloropropene	160	8.3	8.3	1.8	1.8	U
108-10-1	4-Methyl-2-pentanone (MIBK)	160	7.5	7.5	1.8	1.8	U
10061-02-6	trans-1,3-Dichloropropene	160	4.2	4.2	0.92	0.92	U
79-00-5	1,1,2-Trichloroethane	160	5.0	5.0	0.91	0.91	U
108-88-3	Toluene	160	3.4	3.4	0.90	0.90	U
591-78-6	2-Hexanone	160	3.7	3.7	0.91	0.91	U
124-48-1	Dibromochloromethane	160	1.6	1.6	0.19	0.19	U
106-93-4	1,2-Dibromoethane (EDB)	160	1.4	1.4	0.18	0.18	U
127-18-4	Tetrachloroethene (PCE)	160	350	0.67	52	0.098	
108-90-7	Chlorobenzene	160	4.2	4.2	0.92	0.92	U
100-41-4	Ethylbenzene	160	7.9	7.9	1.8	1.8	U
179601-23-1	m,p-Xylenes	160	16	16	3.7	3.7	U
75-25-2	Bromoform	160	9.5	9.5	0.92	0.92	U
100-42-5	Styrene	160	7.8	7.8	1.8	1.8	U
95-47-6	o-Xylene	160	7.9	7.9	1.8	1.8	U
79-34-5	1,1,2,2-Tetrachloroethane	160	1.2	1.2	0.18	0.18	U
541-73-1	1,3-Dichlorobenzene	160	11	11	1.8	1.8	U
106-46-7	1,4-Dichlorobenzene	160	11	11	1.8	1.8	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air
Sample Name: BLDG5-SVE2
Lab Code: R1400641-002

Service Request: R1400641
Date Collected: 1/27/14 1015
Date Received: 1/28/14

Analytical Method: TO-15

Date Analyzed: 1/28/14 2040
Canister Dilution Factor: 1.33

Initial Pressure (psig): -1.03 Final Pressure (psig): 3.54

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
95-50-1	1,2-Dichlorobenzene	160	11	11	1.8	1.8	U
91-20-3	Naphthalene	160	17	17	3.2	3.2	U
87-68-3	Hexachlorobutadiene	160	25	25	2.3	2.3	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	110	70-130	1/28/14 2040	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SVE3
 Lab Code: R1400641-003

Service Request: R1400641
 Date Collected: 1/27/14 1030
 Date Received: 1/28/14

Analytical Method: TO-15

Date Analyzed: 1/28/14 2207
 Canister Dilution Factor: 1.33

Initial Pressure (psig): -0.79 Final Pressure (psig): 3.78

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	65	1.2	1.2	0.48	0.48	U
74-83-9	Bromomethane	65	8.8	8.8	2.3	2.3	U
67-64-1	Acetone	65	330	100	140	43	
75-35-4	1,1-Dichloroethene	65	9.0	9.0	2.3	2.3	U
75-09-2	Methylene Chloride	65	7.8	7.8	2.2	2.2	U
156-60-5	trans-1,2-Dichloroethene	65	9.0	9.0	2.3	2.3	U
75-34-3	1,1-Dichloroethane	65	9.2	9.2	2.3	2.3	U
1634-04-4	Methyl tert-Butyl Ether	65	16	16	4.5	4.5	U
78-93-3	2-Butanone (MEK)	65	130	13	43	4.5	
156-59-2	cis-1,2-Dichloroethene	65	9.0	9.0	2.3	2.3	U
67-66-3	Chloroform	65	11	11	2.3	2.3	U
107-06-2	1,2-Dichloroethane	65	9.2	9.2	2.3	2.3	U
71-55-6	1,1,1-Trichloroethane (TCA)	65	12	12	2.3	2.3	U
71-43-2	Benzene	65	7.2	7.2	2.2	2.2	U
56-23-5	Carbon Tetrachloride	65	1.4	1.4	0.23	0.23	U
78-87-5	1,2-Dichloropropane	65	10	10	2.3	2.3	U
75-27-4	Bromodichloromethane	65	3.1	3.1	0.46	0.46	U
79-01-6	Trichloroethene (TCE)	65	430	1.2	80	0.23	
123-91-1	1,4-Dioxane	65	100	100	28	28	U
10061-01-5	cis-1,3-Dichloropropene	65	20	20	4.5	4.5	U
108-10-1	4-Methyl-2-pentanone (MIBK)	65	18	18	4.5	4.5	
10061-02-6	trans-1,3-Dichloropropene	65	10	10	2.3	2.3	U
79-00-5	1,1,2-Trichloroethane	65	12	12	2.3	2.3	U
108-88-3	Toluene	65	8.4	8.4	2.2	2.2	U
591-78-6	2-Hexanone	65	9.2	9.2	2.2	2.2	U
124-48-1	Dibromochloromethane	65	3.9	3.9	0.46	0.46	U
106-93-4	1,2-Dibromoethane (EDB)	65	3.5	3.5	0.45	0.45	U
127-18-4	Tetrachloroethene (PCE)	65	160	1.6	24	0.24	
108-90-7	Chlorobenzene	65	10	10	2.3	2.3	U
100-41-4	Ethylbenzene	65	19	19	4.5	4.5	U
179601-23-1	m,p-Xylenes	65	39	39	9.0	9.0	U
75-25-2	Bromoform	65	23	23	2.3	2.3	U
100-42-5	Styrene	65	19	19	4.5	4.5	U
95-47-6	o-Xylene	65	19	19	4.5	4.5	U
79-34-5	1,1,2,2-Tetrachloroethane	65	3.1	3.1	0.45	0.45	U
541-73-1	1,3-Dichlorobenzene	65	27	27	4.5	4.5	U
106-46-7	1,4-Dichlorobenzene	65	27	27	4.5	4.5	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SVE3
 Lab Code: R1400641-003

Service Request: R1400641
 Date Collected: 1/27/14 1030
 Date Received: 1/28/14

Analytical Method: TO-15

Date Analyzed: 1/28/14 2207
 Canister Dilution Factor: 1.33

Initial Pressure (psig): -0.79 Final Pressure (psig): 3.78

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
95-50-1	1,2-Dichlorobenzene	65	27	27	4.5	4.5	U
91-20-3	Naphthalene	65	41	41	7.8	7.8	U
87-68-3	Hexachlorobutadiene	65	61	61	5.8	5.8	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	108	70-130	1/28/14 2207	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SVE INF
 Lab Code: R1400641-004

Service Request: R1400641
 Date Collected: 1/27/14 1100
 Date Received: 1/28/14

Analytical Method: TO-15

Date Analyzed: 1/30/14 1656
 Canister Dilution Factor: 1.46

Initial Pressure (psig): -2.11 Final Pressure (psig): 3.71

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	37	2.4	2.4	0.93	0.93	U
74-83-9	Bromomethane	37	17	17	4.4	4.4	U
67-64-1	Acetone	37	240	200	99	83	
75-35-4	1,1-Dichloroethene	37	17	17	4.4	4.4	U
75-09-2	Methylene Chloride	37	15	15	4.3	4.3	U
156-60-5	trans-1,2-Dichloroethene	37	17	17	4.4	4.4	U
75-34-3	1,1-Dichloroethane	37	18	18	4.4	4.4	U
1634-04-4	Methyl tert-Butyl Ether	37	31	31	8.6	8.6	U
78-93-3	2-Butanone (MEK)	37	78	26	26	8.7	
156-59-2	cis-1,2-Dichloroethene	37	42	17	11	4.4	
67-66-3	Chloroform	37	21	21	4.4	4.4	U
107-06-2	1,2-Dichloroethane	37	18	18	4.4	4.4	U
71-55-6	1,1,1-Trichloroethane (TCA)	37	24	24	4.3	4.3	U
71-43-2	Benzene	37	14	14	4.3	4.3	U
56-23-5	Carbon Tetrachloride	37	2.8	2.8	0.44	0.44	U
78-87-5	1,2-Dichloropropane	37	20	20	4.4	4.4	U
75-27-4	Bromodichloromethane	37	5.9	5.9	0.88	0.88	U
79-01-6	Trichloroethene (TCE)	37	1300	2.4	230	0.44	
123-91-1	1,4-Dioxane	37	200	200	55	55	U
10061-01-5	cis-1,3-Dichloropropene	37	39	39	8.7	8.7	U
108-10-1	4-Methyl-2-pentanone (MIBK)	37	36	36	8.7	8.7	U
10061-02-6	trans-1,3-Dichloropropene	37	20	20	4.3	4.3	U
79-00-5	1,1,2-Trichloroethane	37	24	24	4.3	4.3	U
108-88-3	Toluene	37	16	16	4.3	4.3	U
591-78-6	2-Hexanone	37	18	18	4.3	4.3	U
124-48-1	Dibromochloromethane	37	7.5	7.5	0.88	0.88	U
106-93-4	1,2-Dibromoethane (EDB)	37	6.7	6.7	0.87	0.87	U
127-18-4	Tetrachloroethene (PCE)	37	320	3.2	48	0.47	
108-90-7	Chlorobenzene	37	20	20	4.4	4.4	U
100-41-4	Ethylbenzene	37	37	37	8.6	8.6	U
179601-23-1	m,p-Xylenes	37	75	75	17	17	U
75-25-2	Bromoform	37	45	45	4.4	4.4	U
100-42-5	Styrene	37	37	37	8.7	8.7	U
95-47-6	o-Xylene	37	37	37	8.6	8.6	U
79-34-5	1,1,2,2-Tetrachloroethane	37	5.9	5.9	0.86	0.86	U
541-73-1	1,3-Dichlorobenzene	37	52	52	8.7	8.7	U
106-46-7	1,4-Dichlorobenzene	37	52	52	8.7	8.7	U

00015

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5-SVE INF
 Lab Code: R1400641-004

Service Request: R1400641
 Date Collected: 1/27/14 1100
 Date Received: 1/28/14

Analytical Method: TO-15

Date Analyzed: 1/30/14 1656
 Canister Dilution Factor: 1.46

Initial Pressure (psig): -2.11 Final Pressure (psig): 3.71

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	37	52	52	8.7	8.7	U
91-20-3	Naphthalene	37	79	79	15	15	U
87-68-3	Hexachlorobutadiene	37	120	120	11	11	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	1/30/14 1656	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1401171-01

Service Request: R1400641
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 1/28/14 1123

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	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	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	1000	0.45	0.45	0.11	0.11	U
1634-04-4	Methyl tert-Butyl Ether	1000	0.79	0.79	0.22	0.22	U
78-93-3	2-Butanone (MEK)	1000	0.65	0.65	0.22	0.22	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
71-43-2	Benzene	1000	0.35	0.35	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
123-91-1	1,4-Dioxane	1000	5.0	5.0	1.4	1.4	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1000	0.90	0.90	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
108-88-3	Toluene	1000	0.41	0.41	0.11	0.11	U
591-78-6	2-Hexanone	1000	0.45	0.45	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
106-93-4	1,2-Dibromoethane (EDB)	1000	0.17	0.17	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
100-42-5	Styrene	1000	0.94	0.94	0.22	0.22	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
541-73-1	1,3-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
106-46-7	1,4-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1401171-01

Service Request: R1400641
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 1/28/14 1123

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
95-50-1	1,2-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
91-20-3	Naphthalene	1000	2.0	2.0	0.38	0.38	U
87-68-3	Hexachlorobutadiene	1000	3.0	3.0	0.28	0.28	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	111	70-130	1/28/14 1123	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1401181-01

Service Request: R1400641
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 1/30/14 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
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	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	1000	0.45	0.45	0.11	0.11	U
1634-04-4	Methyl tert-Butyl Ether	1000	0.79	0.79	0.22	0.22	U
78-93-3	2-Butanone (MEK)	1000	0.65	0.65	0.22	0.22	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
71-43-2	Benzene	1000	0.35	0.35	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
123-91-1	1,4-Dioxane	1000	5.0	5.0	1.4	1.4	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1000	0.90	0.90	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
108-88-3	Toluene	1000	0.41	0.41	0.11	0.11	U
591-78-6	2-Hexanone	1000	0.45	0.45	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
106-93-4	1,2-Dibromoethane (EDB)	1000	0.17	0.17	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
100-42-5	Styrene	1000	0.94	0.94	0.22	0.22	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
541-73-1	1,3-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
106-46-7	1,4-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1401181-01

Service Request: R1400641
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 1/30/14 1008

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
95-50-1	1,2-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
91-20-3	Naphthalene	1000	2.0	2.0	0.38	0.38	U
87-68-3	Hexachlorobutadiene	1000	3.0	3.0	0.28	0.28	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	108	70-130	1/30/14 1008	

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air

Service Request: R1400641

Date Analyzed: 1/28/14

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: 379047

Lab Control Sample
 RQ1401171-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	6.25	6.58	95	70 - 130
Bromomethane	9.66	9.89	98	70 - 130
Acetone	5.48	6.47	85	50 - 150
1,1-Dichloroethene	9.33	10.4	90	70 - 130
Methylene Chloride	7.93	9.03	88	70 - 130
trans-1,2-Dichloroethene	9.02	10.4	87	70 - 130
1,1-Dichloroethane	9.02	10.5	86	70 - 130
Methyl tert-Butyl Ether	8.66	9.64	90	70 - 130
2-Butanone (MEK)	6.28	7.89	80	70 - 130
cis-1,2-Dichloroethene	9.12	10.5	87	70 - 130
Chloroform	11.7	13.2	89	70 - 130
1,2-Dichloroethane	10.2	10.6	96	70 - 130
1,1,1-Trichloroethane (TCA)	13.8	14.3	97	70 - 130
Benzene	7.51	8.38	90	70 - 130
Carbon Tetrachloride	15.6	15.9	98	70 - 130
1,2-Dichloropropane	10.3	12.1	85	70 - 130
Bromodichloromethane	16.5	17.4	95	70 - 130
Trichloroethene (TCE)	12.9	14.0	93	70 - 130
1,4-Dioxane	8.56	9.37	91	50 - 150
cis-1,3-Dichloropropene	11.3	12.3	92	70 - 130
4-Methyl-2-pentanone (MIBK)	9.01	10.5	85	70 - 130
trans-1,3-Dichloropropene	9.79	11.0	89	70 - 130
1,1,2-Trichloroethane	12.9	14.6	88	70 - 130
Toluene	8.77	10.1	87	70 - 130
2-Hexanone	9.09	11.4	80	70 - 130
Dibromochloromethane	22.4	23.4	95	70 - 130
1,2-Dibromoethane (EDB)	17.8	20.0	89	70 - 130
Tetrachloroethene (PCE)	17.2	18.0	96	70 - 130
Chlorobenzene	10.9	12.3	89	70 - 130
Ethylbenzene	10.3	11.5	90	70 - 130
m,p-Xylenes	20.3	22.4	91	70 - 130
Bromoform	26.5	26.6	100	70 - 130
Styrene	9.85	11.2	88	70 - 130
o-Xylene	10.2	11.9	86	70 - 130
1,1,2,2-Tetrachloroethane	14.9	18.9	79	70 - 130
1,3-Dichlorobenzene	13.0	15.0	87	70 - 130
1,4-Dichlorobenzene	12.7	15.0	84	70 - 130
1,2-Dichlorobenzene	12.4	15.0	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.

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air

Service Request: R1400641
Date Analyzed: 1/28/14

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: 379047

Lab Control Sample
RQI401171-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Naphthalene	6.34	12.3	51	50 - 150
Hexachlorobutadiene	21.8	24.5	89	50 - 150

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/150148
 Sample Matrix: Air

Service Request: R1400641
 Date Analyzed: 1/30/14

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: 379069

Lab Control Sample
 RQ1401181-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	6.53	6.58	99	70 - 130
Bromomethane	10.1	9.89	102	70 - 130
Acetone	5.56	6.47	86	50 - 150
1,1-Dichloroethene	9.60	10.4	92	70 - 130
Methylene Chloride	8.13	9.03	90	70 - 130
trans-1,2-Dichloroethene	9.30	10.4	89	70 - 130
1,1-Dichloroethane	9.30	10.5	88	70 - 130
Methyl tert-Butyl Ether	8.46	9.64	88	70 - 130
2-Butanone (MEK)	6.09	7.89	77	70 - 130
cis-1,2-Dichloroethene	9.36	10.5	89	70 - 130
Chloroform	12.1	13.2	91	70 - 130
1,2-Dichloroethane	10.7	10.6	101	70 - 130
1,1,1-Trichloroethane (TCA)	14.3	14.3	100	70 - 130
Benzene	7.64	8.38	91	70 - 130
Carbon Tetrachloride	16.2	15.9	102	70 - 130
1,2-Dichloropropane	10.3	12.1	85	70 - 130
Bromodichloromethane	17.0	17.4	97	70 - 130
Trichloroethene (TCE)	13.3	14.0	95	70 - 130
1,4-Dioxane	7.76	9.37	83	50 - 150
cis-1,3-Dichloropropene	11.4	12.3	93	70 - 130
4-Methyl-2-pentanone (MIBK)	8.79	10.5	83	70 - 130
trans-1,3-Dichloropropene	9.79	11.0	89	70 - 130
1,1,2-Trichloroethane	12.9	14.6	89	70 - 130
Toluene	8.86	10.1	88	70 - 130
2-Hexanone	8.81	11.4	78	70 - 130
Dibromochloromethane	22.9	23.4	98	70 - 130
1,2-Dibromoethane (EDB)	18.1	20.0	91	70 - 130
Tetrachloroethene (PCE)	17.8	18.0	99	70 - 130
Chlorobenzene	11.3	12.3	92	70 - 130
Ethylbenzene	10.5	11.5	91	70 - 130
m,p-Xylenes	20.6	22.4	92	70 - 130
Bromoform	27.4	26.6	103	70 - 130
Styrene	9.99	11.2	89	70 - 130
o-Xylene	10.3	11.9	87	70 - 130
1,1,2,2-Tetrachloroethane	15.0	18.9	79	70 - 130
1,3-Dichlorobenzene	13.3	15.0	88	70 - 130
1,4-Dichlorobenzene	12.8	15.0	85	70 - 130
1,2-Dichlorobenzene	12.7	15.0	84	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/150148
 Sample Matrix: Air

Service Request: R1400641
 Date Analyzed: 1/30/14

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: 379069

Lab Control Sample
 RQ1401181-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Naphthalene	7.25	12.3	59	50 - 150
Hexachlorobutadiene	23.6	24.5	96	50 - 150

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

	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	CAS Contact:
----------------------------------	--	--------------

Address: 150 Royall Street	Project Number: 150148	Analysis Method and/or Analytes
--------------------------------------	----------------------------------	--

City, State, Zip: Canton, MA 02021	P.O. #/Billing Information: 876613	TO15 (Site List)
--	--	---------------------

Project Manager: Raymond Cadorette		Comments Specific Instructions
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				
BLDG 5 - SVE 1		1-27-14	1000	SLC00232	---				
BLDG 5 - SVE 2		1-27-14	1015	SLC00185	---				
BLDG 5 - SVE 3		1-27-14	1030	SLC00261	---				
BLDG 5 - SVE INF		1-27-14	1100	SLC00140	---				

R1400641 7 Y

CB&I Environmental & Infrastructure
Varian Beverly Air Samples

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 III (CLP Forms Only) ___ Tier II (Results + QC) ___ Tier IV (Data Validation) ___		EDD required: YES / NO Type: GISKey EDD Units: ug/m3 & ppmv	
Relinquished by: (Signature) <i>Wane Holt</i>	Date: 1-27-14	Time: 1130	Received by: (Signature) <i>Lucy</i>
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)

QA/QC: MADEP CAM

Complete a 2nd run to achieve lowest detection limits on VOC's



Cooler Receipt and Preservation Check Form

Project/Client CB + I Folder Number R14-641

Cooler received on 1/28/14 by: AP 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

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 SMO by AP on 1/28/14 at 0908
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: NMSJ 1/28/14

Cooler Breakdown: Date: 1/28/14 Time: 1325 by: AP

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	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: _____
		YES	NO						
≥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: NMSJ 1/30/14

*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 :** 2/20/2014
Matrix: Air
Analyte Group: Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1400688
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
1/27/14	VOC TO-15		30 Days	1/31/14, 2/3/14

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 1/31/2014

EPA TO-15 2/3/2014

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. All initial and continuing calibrations were compliant.

(2) All surrogate standard recoveries were compliant. The LCS recoveries were all within QC limits of 70-130%

Reviewed By: Pernilla Haley 4/1/14



February 10, 2014

Service Request No: R1400688

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

Laboratory Results for: Varian Beverly Air Samples/150148

Dear Mr. Cadorette:

Enclosed are the results of the sample(s) submitted to our laboratory on January 29, 2014. For your reference, these analyses have been assigned our service request number **R1400688**.

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 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 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental


Janice Jaeger
Client Services Manager

Page 1 of 44

ALS Environmental

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

Service Request No.: R1400688
Project No.: 150148
Date Received: 01/29/14

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 01/27/14 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

Nine 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 %.

MassDEP Analytical Protocol Certification Form

Laboratory Name: ALS Environmental

Project #: 150148

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1400688-001-009

 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?	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?	X	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

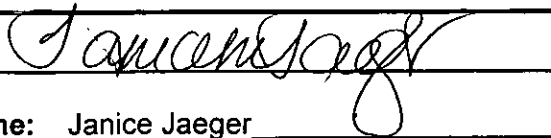
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	X	Yes	No ¹
----------	---	---	-----	-----------------

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)?	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: 
Printed Name: Janice Jaeger

Position: Client Services Manager

Date: 02/11/14

00003

CASE NARRATIVE

This report contains analytical results for the following samples:

Service Request Number: R1400688

<u>Lab ID</u>	<u>Client ID</u>
R1400688-001	BLDG 5-1
R1400688-002	BLDG 5-2
R1400688-003	BLDG 5-3
R1400688-004	BLDG5 SV-1
R1400688-005	BLDG5 SV-2
R1400688-006	BLDG5 SV-3
R1400688-007	BLDG5 SV-4
R1400688-008	BLDG5 SV-5
R1400688-009	BLDG5 SV-6

00004

REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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

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 385.1
PHOSPHORUS, TOTAL	EPA 385.1
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/150148
 Sample Matrix: Air
 Sample Name: BLDG 5-1
 Lab Code: R1400688-001

Service Request: R1400688
 Date Collected: 1/27/14 1656
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1503
 Canister Dilution Factor: 1.57

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

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	57	1.7	1.7	0.65	0.65	U
74-83-9	Bromomethane	57	12	12	3.1	3.1	U
67-64-1	Acetone	57	270	140	110	58	D
75-35-4	1,1-Dichloroethene	57	12	12	3.1	3.1	U
75-09-2	Methylene Chloride	57	10	10	3.0	3.0	U
156-60-5	trans-1,2-Dichloroethene	57	12	12	3.1	3.1	U
75-34-3	1,1-Dichloroethane	57	12	12	3.1	3.1	U
1634-04-4	Methyl tert-Butyl Ether	57	22	22	6.0	6.0	U
78-93-3	2-Butanone (MEK)	57	72	18	24	6.1	D
156-59-2	cis-1,2-Dichloroethene	57	12	12	3.1	3.1	U
67-66-3	Chloroform	57	15	15	3.0	3.0	U
107-06-2	1,2-Dichloroethane	57	12	12	3.1	3.1	U
71-55-6	1,1,1-Trichloroethane (TCA)	57	17	17	3.0	3.0	U
71-43-2	Benzene	57	9.6	9.6	3.0	3.0	U
56-23-5	Carbon Tetrachloride	57	1.9	1.9	0.31	0.31	U
78-87-5	1,2-Dichloropropane	57	14	14	3.0	3.0	U
75-27-4	Bromodichloromethane	57	4.1	4.1	0.62	0.62	U
79-01-6	Trichloroethene (TCE)	57	2.2	1.7	0.40	0.31	D
123-91-1	1,4-Dioxane	57	140	140	38	38	U
10061-01-5	cis-1,3-Dichloropropene	57	28	28	6.1	6.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	57	25	25	6.1	6.1	U
10061-02-6	trans-1,3-Dichloropropene	57	14	14	3.0	3.0	U
79-00-5	1,1,2-Trichloroethane	57	17	17	3.0	3.0	U
108-88-3	Toluene	57	11	11	3.0	3.0	U
591-78-6	2-Hexanone	57	12	12	3.0	3.0	U
124-48-1	Dibromochloromethane	57	5.2	5.2	0.61	0.61	U
106-93-4	1,2-Dibromoethane (EDB)	57	4.7	4.7	0.61	0.61	U
127-18-4	Tetrachloroethene (PCE)	57	2.2	2.2	0.33	0.33	U
108-90-7	Chlorobenzene	57	14	14	3.1	3.1	U
100-41-4	Ethylbenzene	57	26	26	6.0	6.0	U
179601-23-1	m,p-Xylenes	57	53	53	12	12	U
75-25-2	Bromoform	57	31	31	3.0	3.0	U
100-42-5	Styrene	57	26	26	6.1	6.1	U
95-47-6	o-Xylene	57	26	26	6.0	6.0	U
79-34-5	1,1,2,2-Tetrachloroethane	57	4.1	4.1	0.60	0.60	U
541-73-1	1,3-Dichlorobenzene	57	36	36	6.0	6.0	U
106-46-7	1,4-Dichlorobenzene	57	36	36	6.0	6.0	U



ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5-1
 Lab Code: R1400688-001

Service Request: R1400688
 Date Collected: 1/27/14 1656
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1503
 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
95-50-1	1,2-Dichlorobenzene	57	36	36	6.0	6.0	U
91-20-3	Naphthalene	57	55	55	11	11	U
87-68-3	Hexachlorobutadiene	57	83	83	7.7	7.7	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	103	70-130	1/31/14 1503	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5-1
 Lab Code: R1400688-001
 Run Type: Dilution

Service Request: R1400688
 Date Collected: 1/27/14 1656
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1849
 Canister Dilution Factor: 1.57

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

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	200	0.47	0.47	0.18	0.18	U
74-83-9	Bromomethane	200	3.4	3.4	0.87	0.87	U
67-64-1	Acetone	200	280	39	120	17	E
75-35-4	1,1-Dichloroethene	200	3.5	3.5	0.87	0.87	U
75-09-2	Methylene Chloride	200	3.0	3.0	0.86	0.86	U
156-60-5	trans-1,2-Dichloroethene	200	3.5	3.5	0.87	0.87	U
75-34-3	1,1-Dichloroethane	200	3.5	3.5	0.87	0.87	U
1634-04-4	Methyl tert-Butyl Ether	200	6.2	6.2	1.7	1.7	U
78-93-3	2-Butanone (MEK)	200	76	5.1	26	1.7	U
156-59-2	cis-1,2-Dichloroethene	200	3.5	3.5	0.87	0.87	U
67-66-3	Chloroform	200	4.2	4.2	0.87	0.87	U
107-06-2	1,2-Dichloroethane	200	3.5	3.5	0.87	0.87	U
71-55-6	1,1,1-Trichloroethane (TCA)	200	4.7	4.7	0.86	0.86	U
71-43-2	Benzene	200	2.7	2.7	0.86	0.86	U
56-23-5	Carbon Tetrachloride	200	0.55	0.55	0.087	0.087	U
78-87-5	1,2-Dichloropropane	200	4.0	4.0	0.87	0.87	U
75-27-4	Bromodichloromethane	200	1.2	1.2	0.18	0.18	U
79-01-6	Trichloroethene (TCE)	200	2.2	0.47	0.41	0.088	U
123-91-1	1,4-Dioxane	200	39	39	11	11	U
10061-01-5	cis-1,3-Dichloropropene	200	7.9	7.9	1.7	1.7	U
108-10-1	4-Methyl-2-pentanone (MIBK)	200	14	7.1	3.3	1.7	U
10061-02-6	trans-1,3-Dichloropropene	200	3.9	3.9	0.86	0.86	U
79-00-5	1,1,2-Trichloroethane	200	4.7	4.7	0.86	0.86	U
108-88-3	Toluene	200	3.2	3.2	0.85	0.85	U
591-78-6	2-Hexanone	200	3.5	3.5	0.86	0.86	U
124-48-1	Dibromochloromethane	200	1.5	1.5	0.18	0.18	U
106-93-4	1,2-Dibromoethane (EDB)	200	1.3	1.3	0.17	0.17	U
127-18-4	Tetrachloroethene (PCE)	200	1.2	0.63	0.18	0.093	U
108-90-7	Chlorobenzene	200	4.0	4.0	0.87	0.87	U
100-41-4	Ethylbenzene	200	7.5	7.5	1.7	1.7	U
179601-23-1	m,p-Xylenes	200	15	15	3.5	3.5	U
75-25-2	Bromoform	200	8.9	8.9	0.87	0.87	U
100-42-5	Styrene	200	7.4	7.4	1.7	1.7	U
95-47-6	o-Xylene	200	7.5	7.5	1.7	1.7	U
79-34-5	1,1,2,2-Tetrachloroethane	200	1.2	1.2	0.17	0.17	U
541-73-1	1,3-Dichlorobenzene	200	10	10	1.7	1.7	U
106-46-7	1,4-Dichlorobenzene	200	10	10	1.7	1.7	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5-1
 Lab Code: R1400688-001
 Run Type: Dilution

Service Request: R1400688
 Date Collected: 1/27/14 1656
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1849
 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
95-50-1	1,2-Dichlorobenzene	200	10	10	1.7	1.7	U
91-20-3	Naphthalene	200	16	16	3.0	3.0	U
87-68-3	Hexachlorobutadiene	200	24	24	2.2	2.2	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	109	70-130	1/31/14 1849	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5-2
 Lab Code: R1400688-002

Service Request: R1400688
 Date Collected: 1/27/14 1655
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1933
 Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.85 Final Pressure (psig): 3.65

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	150	0.62	0.62	0.24	0.24	U
74-83-9	Bromomethane	150	4.4	4.4	1.1	1.1	U
67-64-1	Acetone	150	180	52	77	22	U
75-35-4	1,1-Dichloroethene	150	4.5	4.5	1.1	1.1	U
75-09-2	Methylene Chloride	150	3.9	3.9	1.1	1.1	U
156-60-5	trans-1,2-Dichloroethene	150	4.5	4.5	1.1	1.1	U
75-34-3	1,1-Dichloroethane	150	4.7	4.7	1.1	1.1	U
1634-04-4	Methyl tert-Butyl Ether	150	8.2	8.2	2.3	2.3	U
78-93-3	2-Butanone (MEK)	150	92	6.7	31	2.3	U
156-59-2	cis-1,2-Dichloroethene	150	4.5	4.5	1.1	1.1	U
67-66-3	Chloroform	150	5.6	5.6	1.1	1.1	U
107-06-2	1,2-Dichloroethane	150	4.7	4.7	1.1	1.1	U
71-55-6	1,1,1-Trichloroethane (TCA)	150	6.2	6.2	1.1	1.1	U
71-43-2	Benzene	150	3.6	3.6	1.1	1.1	U
56-23-5	Carbon Tetrachloride	150	0.72	0.72	0.12	0.12	U
78-87-5	1,2-Dichloropropane	150	5.3	5.3	1.1	1.1	U
75-27-4	Bromodichloromethane	150	1.6	1.6	0.23	0.23	U
79-01-6	Trichloroethene (TCE)	150	4.0	0.62	0.74	0.12	U
123-91-1	1,4-Dioxane	150	52	52	14	14	U
10061-01-5	cis-1,3-Dichloropropene	150	10	10	2.3	2.3	U
108-10-1	4-Methyl-2-pentanone (MIBK)	150	16	9.3	3.9	2.3	U
10061-02-6	trans-1,3-Dichloropropene	150	5.2	5.2	1.1	1.1	U
79-00-5	1,1,2-Trichloroethane	150	6.2	6.2	1.1	1.1	U
108-88-3	Toluene	150	4.2	4.2	1.1	1.1	U
591-78-6	2-Hexanone	150	4.7	4.7	1.1	1.1	U
124-48-1	Dibromochloromethane	150	2.0	2.0	0.23	0.23	U
106-93-4	1,2-Dibromoethane (EDB)	150	1.8	1.8	0.23	0.23	U
127-18-4	Tetrachloroethene (PCE)	150	2.7	0.83	0.40	0.12	U
108-90-7	Chlorobenzene	150	5.3	5.3	1.1	1.1	U
100-41-4	Ethylbenzene	150	9.8	9.8	2.3	2.3	U
179601-23-1	m,p-Xylenes	150	20	20	4.5	4.5	U
75-25-2	Bromoform	150	12	12	1.1	1.1	U
100-42-5	Styrene	150	9.7	9.7	2.3	2.3	U
95-47-6	o-Xylene	150	9.8	9.8	2.3	2.3	U
79-34-5	1,1,2,2-Tetrachloroethane	150	1.6	1.6	0.23	0.23	U
541-73-1	1,3-Dichlorobenzene	150	14	14	2.3	2.3	U
106-46-7	1,4-Dichlorobenzene	150	14	14	2.3	2.3	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5-2
 Lab Code: R1400688-002

Service Request: R1400688
 Date Collected: 1/27/14 1655
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1933
 Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.85 Final Pressure (psig): 3.65

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	150	14	14	2.3	2.3	U
91-20-3	Naphthalene	150	21	21	3.9	3.9	U
87-68-3	Hexachlorobutadiene	150	31	31	2.9	2.9	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	111	70-130	1/31/14 1933	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG 5-3
 Lab Code: R1400688-003

Service Request: R1400688
 Date Collected: 1/27/14 1654
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1628
 Canister Dilution Factor: 1.60

Initial Pressure (psig): -3.24

Final Pressure (psig): 3.64

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	53	1.8	1.8	0.71	0.71	U
74-83-9	Bromomethane	53	13	13	3.3	3.3	U
67-64-1	Acetone	53	330	150	140	64	D
75-35-4	1,1-Dichloroethene	53	13	13	3.4	3.4	U
75-09-2	Methylene Chloride	53	11	11	3.3	3.3	U
156-60-5	trans-1,2-Dichloroethene	53	13	13	3.4	3.4	U
75-34-3	1,1-Dichloroethane	53	14	14	3.4	3.4	U
1634-04-4	Methyl tert-Butyl Ether	53	24	24	6.6	6.6	U
78-93-3	2-Butanone (MEK)	53	91	20	31	6.7	D
156-59-2	cis-1,2-Dichloroethene	53	13	13	3.4	3.4	U
67-66-3	Chloroform	53	16	16	3.3	3.3	U
107-06-2	1,2-Dichloroethane	53	14	14	3.4	3.4	U
71-55-6	1,1,1-Trichloroethane (TCA)	53	18	18	3.3	3.3	U
71-43-2	Benzene	53	11	11	3.3	3.3	U
56-23-5	Carbon Tetrachloride	53	2.1	2.1	0.34	0.34	U
78-87-5	1,2-Dichloropropane	53	15	15	3.3	3.3	U
75-27-4	Bromodichloromethane	53	4.5	4.5	0.68	0.68	U
79-01-6	Trichloroethene (TCE)	53	2.0	1.8	0.38	0.34	D
123-91-1	1,4-Dioxane	53	150	150	42	42	U
10061-01-5	cis-1,3-Dichloropropene	53	30	30	6.7	6.7	U
108-10-1	4-Methyl-2-pentanone (MIBK)	53	27	27	6.6	6.6	U
10061-02-6	trans-1,3-Dichloropropene	53	15	15	3.3	3.3	U
79-00-5	1,1,2-Trichloroethane	53	18	18	3.3	3.3	U
108-88-3	Toluene	53	12	12	3.3	3.3	U
591-78-6	2-Hexanone	53	14	14	3.3	3.3	U
124-48-1	Dibromochloromethane	53	5.7	5.7	0.67	0.67	U
106-93-4	1,2-Dibromoethane (EDB)	53	5.1	5.1	0.67	0.67	U
127-18-4	Tetrachloroethene (PCE)	53	2.4	2.4	0.36	0.36	U
108-90-7	Chlorobenzene	53	15	15	3.3	3.3	U
100-41-4	Ethylbenzene	53	29	29	6.6	6.6	U
179601-23-1	m,p-Xylenes	53	58	58	13	13	U
75-25-2	Bromoform	53	34	34	3.3	3.3	U
100-42-5	Styrene	53	28	28	6.7	6.7	U
95-47-6	o-Xylene	53	29	29	6.6	6.6	U
79-34-5	1,1,2,2-Tetrachloroethane	53	4.5	4.5	0.66	0.66	U
541-73-1	1,3-Dichlorobenzene	53	40	40	6.6	6.6	U
106-46-7	1,4-Dichlorobenzene	53	40	40	6.6	6.6	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air
Sample Name: BLDG 5-3
Lab Code: R1400688-003

Service Request: R1400688
Date Collected: 1/27/14 1654
Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1628
Canister Dilution Factor: 1.60

Initial Pressure (psig): -3.24 Final Pressure (psig): 3.64

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	53	40	40	6.6	6.6	U
91-20-3	Naphthalene	53	60	60	12	12	U
87-68-3	Hexachlorobutadiene	53	91	91	8.5	8.5	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	103	70-130	1/31/14 1628	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air

Service Request: R1400688
 Date Collected: 1/27/14 1654
 Date Received: 1/29/14

Sample Name: BLDG 5-3
 Lab Code: R1400688-003
 Run Type: Dilution

Analytical Method: TO-15

Date Analyzed: 1/31/14 2101
 Canister Dilution Factor: 1.60

Initial Pressure (psig): -3.24 Final Pressure (psig): 3.64

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	300	0.32	0.32	0.13	0.13	U
74-83-9	Bromomethane	300	2.3	2.3	0.59	0.59	U
67-64-1	Acetone	300	350	27	150	11	E
75-35-4	1,1-Dichloroethene	300	2.3	2.3	0.59	0.59	U
75-09-2	Methylene Chloride	300	2.0	2.0	0.58	0.58	U
156-60-5	trans-1,2-Dichloroethene	300	2.3	2.3	0.59	0.59	U
75-34-3	1,1-Dichloroethane	300	2.4	2.4	0.59	0.59	U
1634-04-4	Methyl tert-Butyl Ether	300	4.2	4.2	1.2	1.2	U
78-93-3	2-Butanone (MEK)	300	97	3.5	33	1.2	
156-59-2	cis-1,2-Dichloroethene	300	2.3	2.3	0.59	0.59	U
67-66-3	Chloroform	300	2.9	2.9	0.59	0.59	U
107-06-2	1,2-Dichloroethane	300	2.4	2.4	0.59	0.59	U
71-55-6	1,1,1-Trichloroethane (TCA)	300	3.2	3.2	0.59	0.59	U
71-43-2	Benzene	300	1.9	1.9	0.58	0.58	U
56-23-5	Carbon Tetrachloride	300	0.54	0.37	0.086	0.059	
78-87-5	1,2-Dichloropropane	300	2.7	2.7	0.59	0.59	U
75-27-4	Bromodichloromethane	300	0.80	0.80	0.12	0.12	U
79-01-6	Trichloroethene (TCE)	300	2.1	0.32	0.38	0.060	
123-91-1	1,4-Dioxane	300	27	27	7.4	7.4	U
10061-01-5	cis-1,3-Dichloropropene	300	5.3	5.3	1.2	1.2	U
108-10-1	4-Methyl-2-pentanone (MIBK)	300	25	4.8	6.1	1.2	
10061-02-6	trans-1,3-Dichloropropene	300	2.7	2.7	0.59	0.59	U
79-00-5	1,1,2-Trichloroethane	300	3.2	3.2	0.59	0.59	U
108-88-3	Toluene	300	2.2	2.2	0.58	0.58	U
591-78-6	2-Hexanone	300	2.4	2.4	0.59	0.59	U
124-48-1	Dibromochloromethane	300	1.0	1.0	0.12	0.12	U
106-93-4	1,2-Dibromoethane (EDB)	300	0.91	0.91	0.12	0.12	U
127-18-4	Tetrachloroethene (PCE)	300	0.90	0.43	0.13	0.063	
108-90-7	Chlorobenzene	300	2.7	2.7	0.59	0.59	U
100-41-4	Ethylbenzene	300	5.1	5.1	1.2	1.2	U
179601-23-1	m,p-Xylenes	300	10	10	2.3	2.3	U
75-25-2	Bromoform	300	6.1	6.1	0.59	0.59	U
100-42-5	Styrene	300	5.0	5.0	1.2	1.2	U
95-47-6	o-Xylene	300	5.1	5.1	1.2	1.2	U
79-34-5	1,1,2,2-Tetrachloroethane	300	0.80	0.80	0.12	0.12	U
541-73-1	1,3-Dichlorobenzene	300	7.0	7.0	1.2	1.2	U
106-46-7	1,4-Dichlorobenzene	300	7.0	7.0	1.2	1.2	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air
Sample Name: BLDG 5-3
Lab Code: R1400688-003
Run Type: Dilution

Service Request: R1400688
Date Collected: 1/27/14 1654
Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 2101
Canister Dilution Factor: 1.60

Initial Pressure (psig): -3.24

Final Pressure (psig): 3.64

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
95-50-1	1,2-Dichlorobenzene	300	7.0	7.0	1.2	1.2	U
91-20-3	Naphthalene	300	11	11	2.0	2.0	U
87-68-3	Hexachlorobutadiene	300	16	16	1.5	1.5	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	114	70-130	1/31/14 2101	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-1
 Lab Code: R1400688-004

Service Request: R1400688
 Date Collected: 1/27/14 1341
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 2150
 Canister Dilution Factor: 1.60

Initial Pressure (psig): -2.90

Final Pressure (psig): 4.17

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	800	0.12	0.12	0.047	0.047	U
74-83-9	Bromomethane	800	0.86	0.86	0.22	0.22	U
67-64-1	Acetone	800	40	10	17	4.2	
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	800	0.90	0.90	0.22	0.22	U
1634-04-4	Methyl tert-Butyl Ether	800	1.6	1.6	0.44	0.44	U
78-93-3	2-Butanone (MEK)	800	22	1.3	7.4	0.44	
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
71-43-2	Benzene	800	0.70	0.70	0.22	0.22	U
56-23-5	Carbon Tetrachloride	800	0.52	0.14	0.082	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	2.4	0.12	0.46	0.022	
123-91-1	1,4-Dioxane	800	10	10	2.8	2.8	U
10061-01-5	cis-1,3-Dichloropropene	800	2.0	2.0	0.44	0.44	U
108-10-1	4-Methyl-2-pentanone (MIBK)	800	4.8	1.8	1.2	0.44	
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
108-88-3	Toluene	800	3.1	0.82	0.82	0.22	
591-78-6	2-Hexanone	800	2.3	0.90	0.56	0.22	
124-48-1	Dibromochloromethane	800	0.38	0.38	0.045	0.045	U
106-93-4	1,2-Dibromoethane (EDB)	800	0.34	0.34	0.044	0.044	U
127-18-4	Tetrachloroethene (PCE)	800	2.0	0.16	0.30	0.024	
108-90-7	Chlorobenzene	800	1.0	1.0	0.22	0.22	U
100-41-4	Ethylbenzene	800	1.9	1.9	0.44	0.44	U
179601-23-1	m,p-Xylenes	800	4.5	3.8	1.0	0.88	
75-25-2	Bromoform	800	2.3	2.3	0.22	0.22	U
100-42-5	Styrene	800	1.9	1.9	0.44	0.44	U
95-47-6	o-Xylene	800	1.9	1.9	0.44	0.44	U
79-34-5	1,1,2,2-Tetrachloroethane	800	0.30	0.30	0.044	0.044	U
541-73-1	1,3-Dichlorobenzene	800	2.6	2.6	0.44	0.44	U
106-46-7	1,4-Dichlorobenzene	800	2.6	2.6	0.44	0.44	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-1
 Lab Code: R1400688-004

Service Request: R1400688
 Date Collected: 1/27/14 1341
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 2150
 Canister Dilution Factor: 1.60

Initial Pressure (psig): -2.90 Final Pressure (psig): 4.17

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
95-50-1	1,2-Dichlorobenzene	800	2.6	2.6	0.44	0.44	U
91-20-3	Naphthalene	800	4.0	4.0	0.76	0.76	U
87-68-3	Hexachlorobutadiene	800	6.0	6.0	0.56	0.56	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	115	70-130	1/31/14 2150	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-2
 Lab Code: R1400688-005

Service Request: R1400688
 Date Collected: 1/27/14 1340
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 2240
 Canister Dilution Factor: 1.46

Initial Pressure (psig): -2.26 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
75-01-4	Vinyl Chloride	800	0.11	0.11	0.043	0.043	U
74-83-9	Bromomethane	800	0.78	0.78	0.20	0.20	U
67-64-1	Acetone	800	39	9.1	17	3.8	
75-35-4	1,1-Dichloroethene	800	0.80	0.80	0.20	0.20	U
75-09-2	Methylene Chloride	800	0.69	0.69	0.20	0.20	U
156-60-5	trans-1,2-Dichloroethene	800	0.80	0.80	0.20	0.20	U
75-34-3	1,1-Dichloroethane	800	0.82	0.82	0.20	0.20	U
1634-04-4	Methyl tert-Butyl Ether	800	1.4	1.4	0.40	0.40	U
78-93-3	2-Butanone (MEK)	800	68	1.2	23	0.40	E
156-59-2	cis-1,2-Dichloroethene	800	0.84	0.80	0.21	0.20	
67-66-3	Chloroform	800	0.99	0.99	0.20	0.20	U
107-06-2	1,2-Dichloroethane	800	0.82	0.82	0.20	0.20	U
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.1	1.1	0.20	0.20	U
71-43-2	Benzene	800	0.64	0.64	0.20	0.20	U
56-23-5	Carbon Tetrachloride	800	0.59	0.13	0.094	0.020	
78-87-5	1,2-Dichloropropane	800	0.93	0.93	0.20	0.20	U
75-27-4	Bromodichloromethane	800	0.27	0.27	0.041	0.041	U
79-01-6	Trichloroethene (TCE)	800	73	0.11	14	0.020	
123-91-1	1,4-Dioxane	800	9.1	9.1	2.5	2.5	U
10061-01-5	cis-1,3-Dichloropropene	800	1.8	1.8	0.40	0.40	U
108-10-1	4-Methyl-2-pentanone (MIBK)	800	63	1.6	15	0.40	
10061-02-6	trans-1,3-Dichloropropene	800	0.91	0.91	0.20	0.20	U
79-00-5	1,1,2-Trichloroethane	800	1.1	1.1	0.20	0.20	U
108-88-3	Toluene	800	9.4	0.75	2.5	0.20	
591-78-6	2-Hexanone	800	6.8	0.82	1.7	0.20	
124-48-1	Dibromochloromethane	800	0.35	0.35	0.041	0.041	U
106-93-4	1,2-Dibromoethane (EDB)	800	0.31	0.31	0.040	0.040	U
127-18-4	Tetrachloroethene (PCE)	800	25	0.15	3.7	0.022	
108-90-7	Chlorobenzene	800	0.93	0.93	0.20	0.20	U
100-41-4	Ethylbenzene	800	3.1	1.7	0.71	0.40	
179601-23-1	m,p-Xylenes	800	11	3.5	2.6	0.80	
75-25-2	Bromoform	800	2.1	2.1	0.20	0.20	U
100-42-5	Styrene	800	1.7	1.7	0.40	0.40	U
95-47-6	o-Xylene	800	4.1	1.7	0.93	0.40	
79-34-5	1,1,2,2-Tetrachloroethane	800	0.27	0.27	0.040	0.040	U
541-73-1	1,3-Dichlorobenzene	800	2.4	2.4	0.40	0.40	U
106-46-7	1,4-Dichlorobenzene	800	2.4	2.4	0.40	0.40	U

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Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air
Sample Name: BLDG5 SV-2
Lab Code: R1400688-005

Service Request: R1400688
Date Collected: 1/27/14 1340
Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 2240
Canister Dilution Factor: 1.46

Initial Pressure (psig): -2.26 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
95-50-1	1,2-Dichlorobenzene	800	2.4	2.4	0.40	0.40	U
91-20-3	Naphthalene	800	3.7	3.7	0.70	0.70	U
87-68-3	Hexachlorobutadiene	800	5.5	5.5	0.51	0.51	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	121	70-130	1/31/14 2240	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-2
 Lab Code: R1400688-005
 Run Type: Dilution

Service Request: R1400688
 Date Collected: 1/27/14 1340
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 2/3/14 1657
 Canister Dilution Factor: 1.46

Initial Pressure (psig): -2.26 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	500	0.18	0.18	0.069	0.069	U
74-83-9	Bromomethane	500	1.3	1.3	0.32	0.32	U
67-64-1	Acetone	500	39	15	17	6.1	D
75-35-4	1,1-Dichloroethene	500	1.3	1.3	0.32	0.32	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	0.32	0.32	U
75-34-3	1,1-Dichloroethane	500	1.3	1.3	0.32	0.32	U
1634-04-4	Methyl tert-Butyl Ether	500	2.3	2.3	0.64	0.64	U
78-93-3	2-Butanone (MEK)	500	65	1.9	22	0.64	D
156-59-2	cis-1,2-Dichloroethene	500	1.3	1.3	0.32	0.32	U
67-66-3	Chloroform	500	1.6	1.6	0.32	0.32	U
107-06-2	1,2-Dichloroethane	500	1.3	1.3	0.32	0.32	U
71-55-6	1,1,1-Trichloroethane (TCA)	500	1.8	1.8	0.32	0.32	U
71-43-2	Benzene	500	1.0	1.0	0.32	0.32	U
56-23-5	Carbon Tetrachloride	500	0.55	0.20	0.087	0.033	D
78-87-5	1,2-Dichloropropane	500	1.5	1.5	0.32	0.32	U
75-27-4	Bromodichloromethane	500	0.44	0.44	0.065	0.065	U
79-01-6	Trichloroethene (TCE)	500	72	0.18	13	0.033	D
123-91-1	1,4-Dioxane	500	15	15	4.1	4.1	U
10061-01-5	cis-1,3-Dichloropropene	500	2.9	2.9	0.64	0.64	U
108-10-1	4-Methyl-2-pentanone (MIBK)	500	60	2.6	15	0.64	D
10061-02-6	trans-1,3-Dichloropropene	500	1.5	1.5	0.32	0.32	U
79-00-5	1,1,2-Trichloroethane	500	1.8	1.8	0.32	0.32	U
108-88-3	Toluene	500	9.1	1.2	2.4	0.32	D
591-78-6	2-Hexanone	500	6.4	1.3	1.6	0.32	D
124-48-1	Dibromochloromethane	500	0.55	0.55	0.065	0.065	U
106-93-4	1,2-Dibromoethane (EDB)	500	0.50	0.50	0.065	0.065	U
127-18-4	Tetrachloroethene (PCE)	500	24	0.23	3.5	0.034	D
108-90-7	Chlorobenzene	500	1.5	1.5	0.32	0.32	U
100-41-4	Ethylbenzene	500	3.1	2.8	0.70	0.64	D
179601-23-1	m,p-Xylenes	500	11	5.6	2.6	1.3	D
75-25-2	Bromoform	500	3.3	3.3	0.32	0.32	U
100-42-5	Styrene	500	2.7	2.7	0.64	0.64	U
95-47-6	o-Xylene	500	4.0	2.8	0.91	0.64	D
79-34-5	1,1,2,2-Tetrachloroethane	500	0.44	0.44	0.064	0.064	U
541-73-1	1,3-Dichlorobenzene	500	3.9	3.9	0.64	0.64	U
106-46-7	1,4-Dichlorobenzene	500	3.9	3.9	0.64	0.64	U

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Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-2
 Lab Code: R1400688-005
 Run Type: Dilution

Service Request: R1400688
 Date Collected: 1/27/14 1340
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 2/3/14 1657
 Canister Dilution Factor: 1.46

Initial Pressure (psig): -2.26 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
95-50-1	1,2-Dichlorobenzene	500	3.9	3.9	0.64	0.64	U
91-20-3	Naphthalene	500	5.8	5.8	1.1	1.1	U
87-68-3	Hexachlorobutadiene	500	8.8	8.8	0.82	0.82	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	120	70-130	2/3/14 1657	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-3
 Lab Code: R1400688-006

Service Request: R1400688
 Date Collected: 1/27/14 1359
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 2323
 Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.57

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	160	0.58	0.58	0.23	0.23	U
74-83-9	Bromomethane	160	4.2	4.2	1.1	1.1	U
67-64-1	Acetone	160	95	48	40	20	
75-35-4	1,1-Dichloroethene	160	4.3	4.3	1.1	1.1	U
75-09-2	Methylene Chloride	160	3.7	3.7	1.1	1.1	U
156-60-5	trans-1,2-Dichloroethene	160	4.3	4.3	1.1	1.1	U
75-34-3	1,1-Dichloroethane	160	4.4	4.4	1.1	1.1	U
1634-04-4	Methyl tert-Butyl Ether	160	7.7	7.7	2.1	2.1	U
78-93-3	2-Butanone (MEK)	160	12	6.3	4.2	2.1	
156-59-2	cis-1,2-Dichloroethene	160	4.3	4.3	1.1	1.1	U
67-66-3	Chloroform	160	5.2	5.2	1.1	1.1	U
107-06-2	1,2-Dichloroethane	160	4.4	4.4	1.1	1.1	U
71-55-6	1,1,1-Trichloroethane (TCA)	160	5.8	5.8	1.1	1.1	U
71-43-2	Benzene	160	3.4	3.4	1.1	1.1	U
56-23-5	Carbon Tetrachloride	160	0.68	0.68	0.11	0.11	U
78-87-5	1,2-Dichloropropane	160	4.9	4.9	1.1	1.1	U
75-27-4	Bromodichloromethane	160	1.5	1.5	0.22	0.22	U
79-01-6	Trichloroethene (TCE)	160	820	0.58	150	0.11	E
123-91-1	1,4-Dioxane	160	48	48	13	13	U
10061-01-5	cis-1,3-Dichloropropene	160	9.7	9.7	2.1	2.1	U
108-10-1	4-Methyl-2-pentanone (MIBK)	160	8.7	8.7	2.1	2.1	U
10061-02-6	trans-1,3-Dichloropropene	160	4.8	4.8	1.1	1.1	U
79-00-5	1,1,2-Trichloroethane	160	5.8	5.8	1.1	1.1	U
108-88-3	Toluene	160	16	4.0	4.2	1.1	
591-78-6	2-Hexanone	160	4.4	4.4	1.1	1.1	U
124-48-1	Dibromochloromethane	160	1.8	1.8	0.22	0.22	U
106-93-4	1,2-Dibromoethane (EDB)	160	1.6	1.6	0.21	0.21	U
127-18-4	Tetrachloroethene (PCE)	160	170	0.78	25	0.11	
108-90-7	Chlorobenzene	160	4.9	4.9	1.1	1.1	U
100-41-4	Ethylbenzene	160	9.2	9.2	2.1	2.1	U
179601-23-1	m,p-Xylenes	160	19	19	4.3	4.3	U
75-25-2	Bromoform	160	11	11	1.1	1.1	U
100-42-5	Styrene	160	9.1	9.1	2.1	2.1	U
95-47-6	o-Xylene	160	9.2	9.2	2.1	2.1	U
79-34-5	1,1,2,2-Tetrachloroethane	160	1.5	1.5	0.21	0.21	U
541-73-1	1,3-Dichlorobenzene	160	13	13	2.1	2.1	U
106-46-7	1,4-Dichlorobenzene	160	13	13	2.1	2.1	U

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Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-3
 Lab Code: R1400688-006

Service Request: R1400688
 Date Collected: 1/27/14 1359
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 2323
 Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.57

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	160	13	13	2.1	2.1	U
91-20-3	Naphthalene	160	19	19	3.7	3.7	U
87-68-3	Hexachlorobutadiene	160	29	29	2.7	2.7	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	116	70-130	1/31/14 2323	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-3
 Lab Code: R1400688-006
 Run Type: Dilution

Service Request: R1400688
 Date Collected: 1/27/14 1359
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 2/3/14 1739
 Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.90

Final Pressure (psig): 3.57

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	60	1.6	1.6	0.61	0.61	U
74-83-9	Bromomethane	60	11	11	2.9	2.9	U
67-64-1	Acetone	60	130	130	54	54	U
75-35-4	1,1-Dichloroethene	60	11	11	2.9	2.9	U
75-09-2	Methylene Chloride	60	9.8	9.8	2.8	2.8	U
156-60-5	trans-1,2-Dichloroethene	60	11	11	2.9	2.9	U
75-34-3	1,1-Dichloroethane	60	12	12	2.9	2.9	U
1634-04-4	Methyl tert-Butyl Ether	60	20	20	5.7	5.7	U
78-93-3	2-Butanone (MEK)	60	17	17	5.7	5.7	U
156-59-2	cis-1,2-Dichloroethene	60	11	11	2.9	2.9	U
67-66-3	Chloroform	60	14	14	2.9	2.9	U
107-06-2	1,2-Dichloroethane	60	12	12	2.9	2.9	U
71-55-6	1,1,1-Trichloroethane (TCA)	60	16	16	2.8	2.8	U
71-43-2	Benzene	60	9.0	9.0	2.8	2.8	U
56-23-5	Carbon Tetrachloride	60	1.8	1.8	0.29	0.29	U
78-87-5	1,2-Dichloropropane	60	13	13	2.9	2.9	U
75-27-4	Bromodichloromethane	60	3.9	3.9	0.58	0.58	U
79-01-6	Trichloroethene (TCE)	60	850	1.6	160	0.29	D
123-91-1	1,4-Dioxane	60	130	130	36	36	U
10061-01-5	cis-1,3-Dichloropropene	60	26	26	5.7	5.7	U
108-10-1	4-Methyl-2-pentanone (MIBK)	60	23	23	5.7	5.7	U
10061-02-6	trans-1,3-Dichloropropene	60	13	13	2.8	2.8	U
79-00-5	1,1,2-Trichloroethane	60	16	16	2.8	2.8	U
108-88-3	Toluene	60	16	11	4.3	2.8	D
591-78-6	2-Hexanone	60	12	12	2.8	2.8	U
124-48-1	Dibromochloromethane	60	4.9	4.9	0.58	0.58	U
106-93-4	1,2-Dibromoethane (EDB)	60	4.4	4.4	0.57	0.57	U
127-18-4	Tetrachloroethene (PCE)	60	170	2.1	26	0.30	D
108-90-7	Chlorobenzene	60	13	13	2.9	2.9	U
100-41-4	Ethylbenzene	60	25	25	5.7	5.7	U
179601-23-1	m,p-Xylenes	60	49	49	11	11	U
75-25-2	Bromoform	60	29	29	2.8	2.8	U
100-42-5	Styrene	60	24	24	5.7	5.7	U
95-47-6	o-Xylene	60	25	25	5.7	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	60	3.9	3.9	0.56	0.56	U
541-73-1	1,3-Dichlorobenzene	60	34	34	5.7	5.7	U
106-46-7	1,4-Dichlorobenzene	60	34	34	5.7	5.7	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-3
 Lab Code: R1400688-006
 Run Type: Dilution

Service Request: R1400688
 Date Collected: 1/27/14 1359
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 2/3/14 1739
 Canister Dilution Factor: 1.55

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.57

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
95-50-1	1,2-Dichlorobenzene	60	34	34	5.7	5.7	U
91-20-3	Naphthalene	60	52	52	9.9	9.9	U
87-68-3	Hexachlorobutadiene	60	78	78	7.3	7.3	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	114	70-130	2/3/14 1739	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-4
 Lab Code: R1400688-007

Service Request: R1400688
 Date Collected: 1/27/14 1401
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 2/3/14 1833
 Canister Dilution Factor: 1.49

Initial Pressure (psig): -2.06 Final Pressure (psig): 4.14

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	1000	0.089	0.089	0.035	0.035	U
74-83-9	Bromomethane	1000	0.64	0.64	0.17	0.17	U
67-64-1	Acetone	1000	7.5	7.5	3.1	3.1	U
75-35-4	1,1-Dichloroethene	1000	0.66	0.66	0.17	0.17	U
75-09-2	Methylene Chloride	1000	0.57	0.57	0.16	0.16	U
156-60-5	trans-1,2-Dichloroethene	1000	0.66	0.66	0.17	0.17	U
75-34-3	1,1-Dichloroethane	1000	1.3	0.67	0.33	0.17	U
1634-04-4	Methyl tert-Butyl Ether	1000	1.2	1.2	0.33	0.33	U
78-93-3	2-Butanone (MEK)	1000	8.0	0.97	2.7	0.33	U
156-59-2	cis-1,2-Dichloroethene	1000	16	0.66	4.1	0.17	U
67-66-3	Chloroform	1000	5.6	0.80	1.1	0.16	U
107-06-2	1,2-Dichloroethane	1000	0.67	0.67	0.17	0.17	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.89	0.89	0.16	0.16	U
71-43-2	Benzene	1000	0.52	0.52	0.16	0.16	U
56-23-5	Carbon Tetrachloride	1000	0.50	0.10	0.080	0.017	U
78-87-5	1,2-Dichloropropane	1000	0.76	0.76	0.16	0.16	U
75-27-4	Bromodichloromethane	1000	0.23	0.22	0.034	0.033	U
79-01-6	Trichloroethene (TCE)	1000	29	0.089	5.4	0.017	U
123-91-1	1,4-Dioxane	1000	7.5	7.5	2.1	2.1	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.5	1.5	0.33	0.33	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1000	1.3	1.3	0.33	0.33	U
10061-02-6	trans-1,3-Dichloropropene	1000	0.75	0.75	0.16	0.16	U
79-00-5	1,1,2-Trichloroethane	1000	0.89	0.89	0.16	0.16	U
108-88-3	Toluene	1000	3.1	0.61	0.83	0.16	U
591-78-6	2-Hexanone	1000	0.91	0.67	0.22	0.16	U
124-48-1	Dibromochloromethane	1000	0.28	0.28	0.033	0.033	U
106-93-4	1,2-Dibromoethane (EDB)	1000	0.25	0.25	0.033	0.033	U
127-18-4	Tetrachloroethene (PCE)	1000	18	0.12	2.7	0.018	U
108-90-7	Chlorobenzene	1000	0.76	0.76	0.17	0.17	U
100-41-4	Ethylbenzene	1000	1.4	1.4	0.33	0.33	U
179601-23-1	m,p-Xylenes	1000	4.3	2.8	0.98	0.66	U
75-25-2	Bromoform	1000	1.7	1.7	0.16	0.16	U
100-42-5	Styrene	1000	1.4	1.4	0.33	0.33	U
95-47-6	o-Xylene	1000	1.9	1.4	0.45	0.33	U
79-34-5	1,1,2,2-Tetrachloroethane	1000	0.22	0.22	0.033	0.033	U
541-73-1	1,3-Dichlorobenzene	1000	2.0	2.0	0.33	0.33	U
106-46-7	1,4-Dichlorobenzene	1000	2.0	2.0	0.33	0.33	U

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Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air
Sample Name: BLDG5 SV-4
Lab Code: R1400688-007

Service Request: R1400688
Date Collected: 1/27/14 1401
Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 2/3/14 1833
Canister Dilution Factor: 1.49

Initial Pressure (psig): -2.06 Final Pressure (psig): 4.14

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
95-50-1	1,2-Dichlorobenzene	1000	2.0	2.0	0.33	0.33	U
91-20-3	Naphthalene	1000	3.0	3.0	0.57	0.57	U
87-68-3	Hexachlorobutadiene	1000	4.5	4.5	0.42	0.42	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	117	70-130	2/3/14 1833	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-5
 Lab Code: R1400688-008

Service Request: R1400688
 Date Collected: 1/27/14 1403
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 2/3/14 1921
 Canister Dilution Factor: 1.49

Initial Pressure (psig): -2.31 Final Pressure (psig): 3.73

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	650	0.16	0.14	0.063	0.054	
74-83-9	Bromomethane	650	0.99	0.99	0.25	0.25	U
67-64-1	Acetone	650	35	11	15	4.8	
75-35-4	1,1-Dichloroethene	650	1.0	1.0	0.25	0.25	U
75-09-2	Methylene Chloride	650	0.87	0.87	0.25	0.25	U
156-60-5	trans-1,2-Dichloroethene	650	1.0	1.0	0.25	0.25	U
75-34-3	1,1-Dichloroethane	650	1.0	1.0	0.25	0.25	U
1634-04-4	Methyl tert-Butyl Ether	650	1.8	1.8	0.50	0.50	U
78-93-3	2-Butanone (MEK)	650	20	1.5	6.9	0.51	
156-59-2	cis-1,2-Dichloroethene	650	1.0	1.0	0.25	0.25	U
67-66-3	Chloroform	650	1.2	1.2	0.25	0.25	U
107-06-2	1,2-Dichloroethane	650	1.0	1.0	0.25	0.25	U
71-55-6	1,1,1-Trichloroethane (TCA)	650	1.4	1.4	0.25	0.25	U
71-43-2	Benzene	650	2.0	0.80	0.62	0.25	
56-23-5	Carbon Tetrachloride	650	0.59	0.16	0.094	0.026	
78-87-5	1,2-Dichloropropane	650	1.2	1.2	0.25	0.25	U
75-27-4	Bromodichloromethane	650	0.34	0.34	0.051	0.051	U
79-01-6	Trichloroethene (TCE)	650	5.1	0.14	0.95	0.026	
123-91-1	1,4-Dioxane	650	11	11	3.2	3.2	U
10061-01-5	cis-1,3-Dichloropropene	650	2.3	2.3	0.51	0.51	U
108-10-1	4-Methyl-2-pentanone (MIBK)	650	6.8	2.1	1.7	0.50	
10061-02-6	trans-1,3-Dichloropropene	650	1.1	1.1	0.25	0.25	U
79-00-5	1,1,2-Trichloroethane	650	1.4	1.4	0.25	0.25	U
108-88-3	Toluene	650	26	0.94	6.8	0.25	
591-78-6	2-Hexanone	650	3.2	1.0	0.78	0.25	
124-48-1	Dibromochloromethane	650	0.44	0.44	0.051	0.051	U
106-93-4	1,2-Dibromoethane (EDB)	650	0.39	0.39	0.051	0.051	U
127-18-4	Tetrachloroethene (PCE)	650	89	0.18	13	0.027	
108-90-7	Chlorobenzene	650	1.2	1.2	0.25	0.25	U
100-41-4	Ethylbenzene	650	11	2.2	2.5	0.50	
179601-23-1	m,p-Xylenes	650	34	4.4	7.9	1.0	
75-25-2	Bromoform	650	2.6	2.6	0.25	0.25	U
100-42-5	Styrene	650	11	2.2	2.5	0.51	
95-47-6	o-Xylene	650	14	2.2	3.3	0.50	
79-34-5	1,1,2,2-Tetrachloroethane	650	0.34	0.34	0.050	0.050	U
541-73-1	1,3-Dichlorobenzene	650	3.0	3.0	0.50	0.50	U
106-46-7	1,4-Dichlorobenzene	650	3.0	3.0	0.50	0.50	U

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Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-5
 Lab Code: R1400688-008

Service Request: R1400688
 Date Collected: 1/27/14 1403
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 2/3/14 1921
 Canister Dilution Factor: 1.49

Initial Pressure (psig): -2.31 Final Pressure (psig): 3.73

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	650	3.0	3.0	0.50	0.50	U
91-20-3	Naphthalene	650	4.6	4.6	0.87	0.87	U
87-68-3	Hexachlorobutadiene	650	6.9	6.9	0.64	0.64	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	119	70-130	2/3/14 1921	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: BLDG5 SV-6
 Lab Code: R1400688-009

Service Request: R1400688
 Date Collected: 1/27/14 1403
 Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1805
 Canister Dilution Factor: 1.51

Initial Pressure (psig): -2.60 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	15.4	130	5.9	53	2.3	
74-83-9	Bromomethane	15.4	42	42	11	11	U
67-64-1	Acetone	15.4	490	490	210	210	U
75-35-4	1,1-Dichloroethene	15.4	690	43	180	11	
75-09-2	Methylene Chloride	15.4	37	37	11	11	U
156-60-5	trans-1,2-Dichloroethene	15.4	43	43	11	11	U
75-34-3	1,1-Dichloroethane	15.4	3100	44	770	11	
1634-04-4	Methyl tert-Butyl Ether	15.4	77	77	21	21	U
78-93-3	2-Butanone (MEK)	15.4	64	64	22	22	U
156-59-2	cis-1,2-Dichloroethene	15.4	1900	43	490	11	
67-66-3	Chloroform	15.4	53	53	11	11	U
107-06-2	1,2-Dichloroethane	15.4	44	44	11	11	U
71-55-6	1,1,1-Trichloroethane (TCA)	15.4	1900	59	360	11	
71-43-2	Benzene	15.4	34	34	11	11	U
56-23-5	Carbon Tetrachloride	15.4	6.9	6.9	1.1	1.1	U
78-87-5	1,2-Dichloropropane	15.4	50	50	11	11	U
75-27-4	Bromodichloromethane	15.4	15	15	2.2	2.2	U
79-01-6	Trichloroethene (TCE)	15.4	1900	5.9	350	1.1	
123-91-1	1,4-Dioxane	15.4	490	490	140	140	U
10061-01-5	cis-1,3-Dichloropropene	15.4	98	98	22	22	U
108-10-1	4-Methyl-2-pentanone (MIBK)	15.4	88	88	22	22	U
10061-02-6	trans-1,3-Dichloropropene	15.4	49	49	11	11	U
79-00-5	1,1,2-Trichloroethane	15.4	59	59	11	11	U
108-88-3	Toluene	15.4	40	40	11	11	U
591-78-6	2-Hexanone	15.4	44	44	11	11	U
124-48-1	Dibromochloromethane	15.4	19	19	2.2	2.2	U
106-93-4	1,2-Dibromoethane (EDB)	15.4	17	17	2.2	2.2	U
127-18-4	Tetrachloroethene (PCE)	15.4	640	7.8	94	1.2	
108-90-7	Chlorobenzene	15.4	50	50	11	11	U
100-41-4	Ethylbenzene	15.4	93	93	21	21	U
179601-23-1	m,p-Xylenes	15.4	190	190	43	43	U
75-25-2	Bromoform	15.4	110	110	11	11	U
100-42-5	Styrene	15.4	92	92	22	22	U
95-47-6	o-Xylene	15.4	93	93	21	21	U
79-34-5	1,1,2,2-Tetrachloroethane	15.4	15	15	2.1	2.1	U
541-73-1	1,3-Dichlorobenzene	15.4	130	130	22	22	U
106-46-7	1,4-Dichlorobenzene	15.4	130	130	22	22	U

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Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air
Sample Name: BLDG5 SV-6
Lab Code: R1400688-009

Service Request: R1400688
Date Collected: 1/27/14 1403
Date Received: 1/29/14

Analytical Method: TO-15

Date Analyzed: 1/31/14 1805
Canister Dilution Factor: 1.51

Initial Pressure (psig): -2.60 Final Pressure (psig): 3.54

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	15.4	130	130	22	22	U
91-20-3	Naphthalene	15.4	200	200	37	37	U
87-68-3	Hexachlorobutadiene	15.4	290	290	28	28	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	102	70-130	1/31/14 1805	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1401249-01

Service Request: R1400688
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 1/31/14 1030

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
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	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	1000	0.45	0.45	0.11	0.11	U
1634-04-4	Methyl tert-Butyl Ether	1000	0.79	0.79	0.22	0.22	U
78-93-3	2-Butanone (MEK)	1000	0.65	0.65	0.22	0.22	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
71-43-2	Benzene	1000	0.35	0.35	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
123-91-1	1,4-Dioxane	1000	5.0	5.0	1.4	1.4	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1000	0.90	0.90	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
108-88-3	Toluene	1000	0.41	0.41	0.11	0.11	U
591-78-6	2-Hexanone	1000	0.45	0.45	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
106-93-4	1,2-Dibromoethane (EDB)	1000	0.17	0.17	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
100-42-5	Styrene	1000	0.94	0.94	0.22	0.22	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
541-73-1	1,3-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
106-46-7	1,4-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1401249-01

Service Request: R1400688
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 1/31/14 1030

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
91-20-3	Naphthalene	1000	2.0	2.0	0.38	0.38	U
87-68-3	Hexachlorobutadiene	1000	3.0	3.0	0.28	0.28	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	108	70-130	1/31/14 1030	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air
 Sample Name: Method Blank
 Lab Code: RQ1401252-01

Service Request: R1400688
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 2/3/14 1610

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	0.060	0.060	0.023	0.023	U
74-83-9	Bromomethane	1000	0.43	0.43	0.11	0.11	U
67-64-1	Acetone	1000	5.0	5.0	2.1	2.1	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	1000	0.45	0.45	0.11	0.11	U
1634-04-4	Methyl tert-Butyl Ether	1000	0.79	0.79	0.22	0.22	U
78-93-3	2-Butanone (MEK)	1000	0.65	0.65	0.22	0.22	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
71-43-2	Benzene	1000	0.35	0.35	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
123-91-1	1,4-Dioxane	1000	5.0	5.0	1.4	1.4	U
10061-01-5	cis-1,3-Dichloropropene	1000	1.0	1.0	0.22	0.22	U
108-10-1	4-Methyl-2-pentanone (MIBK)	1000	0.90	0.90	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
108-88-3	Toluene	1000	0.41	0.41	0.11	0.11	U
591-78-6	2-Hexanone	1000	0.45	0.45	0.11	0.11	U
124-48-1	Dibromochloromethane	1000	0.19	0.19	0.022	0.022	U
106-93-4	1,2-Dibromoethane (EDB)	1000	0.17	0.17	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
100-42-5	Styrene	1000	0.94	0.94	0.22	0.22	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
541-73-1	1,3-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
106-46-7	1,4-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air
Sample Name: Method Blank
Lab Code: RQ1401252-01

Service Request: R1400688
Date Collected: NA
Date Received: NA

Analytical Method: TO-15

Date Analyzed: 2/3/14 1610

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
95-50-1	1,2-Dichlorobenzene	1000	1.3	1.3	0.22	0.22	U
91-20-3	Naphthalene	1000	2.0	2.0	0.38	0.38	U
87-68-3	Hexachlorobutadiene	1000	3.0	3.0	0.28	0.28	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	116	70-130	2/3/14 1610	

Client: CB&I
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air

Service Request: R1400688
 Date Analyzed: 1/31/14

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: 379302

Lab Control Sample
 RQ1401249-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	6.36	6.58	97	70 - 130
Bromomethane	9.92	9.89	100	70 - 130
Acetone	5.80	6.47	90	50 - 150
1,1-Dichloroethene	9.53	10.4	92	70 - 130
Methylene Chloride	8.02	9.03	89	70 - 130
trans-1,2-Dichloroethene	9.20	10.4	88	70 - 130
1,1-Dichloroethane	9.20	10.5	87	70 - 130
Methyl tert-Butyl Ether	8.78	9.64	91	70 - 130
2-Butanone (MEK)	7.01	7.89	89	70 - 130
cis-1,2-Dichloroethene	9.37	10.5	89	70 - 130
Chloroform	12.1	13.2	92	70 - 130
1,2-Dichloroethane	11.2	10.6	105	70 - 130
1,1,1-Trichloroethane (TCA)	15.0	14.3	105	70 - 130
Benzene	7.86	8.38	94	70 - 130
Carbon Tetrachloride	17.0	15.9	107	70 - 130
1,2-Dichloropropane	10.6	12.1	88	70 - 130
Bromodichloromethane	17.7	17.4	101	70 - 130
Trichloroethene (TCE)	13.5	14.0	96	70 - 130
1,4-Dioxane	9.33	9.37	100	50 - 150
cis-1,3-Dichloropropene	11.7	12.3	96	70 - 130
4-Methyl-2-pentanone (MIBK)	9.25	10.5	88	70 - 130
trans-1,3-Dichloropropene	10.2	11.0	93	70 - 130
1,1,2-Trichloroethane	13.4	14.6	92	70 - 130
Toluene	9.21	10.1	91	70 - 130
2-Hexanone	9.26	11.4	81	70 - 130
Dibromochloromethane	23.6	23.4	101	70 - 130
1,2-Dibromoethane (EDB)	18.8	20.0	94	70 - 130
Tetrachloroethene (PCE)	18.4	18.0	102	70 - 130
Chlorobenzene	11.6	12.3	94	70 - 130
Ethylbenzene	11.0	11.5	96	70 - 130
m,p-Xylenes	21.6	22.4	97	70 - 130
Bromoform	28.7	26.6	108	70 - 130
Styrene	10.5	11.2	94	70 - 130
o-Xylene	10.9	11.9	92	70 - 130
1,1,2,2-Tetrachloroethane	15.7	18.9	83	70 - 130
1,3-Dichlorobenzene	13.7	15.0	91	70 - 130
1,4-Dichlorobenzene	13.3	15.0	88	70 - 130
1,2-Dichlorobenzene	13.2	15.0	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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: CB&I
Project: Varian Beverly Air Samples/150148
Sample Matrix: Air

Service Request: R1400688
Date Analyzed: 1/31/14

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: 379302

Lab Control Sample
RQ1401249-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Naphthalene	6.41	12.3	52	50 - 150
Hexachlorobutadiene	23.7	24.5	97	50 - 150

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
 Project: Varian Beverly Air Samples/150148
 Sample Matrix: Air

Service Request: R1400688

Date Analyzed: 2/3/14

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: 379306

Lab Control Sample
 RQ1401252-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	5.90	6.58	90	70 - 130
Bromomethane	9.31	9.89	94	70 - 130
Acetone	5.43	6.47	84	50 - 150
1,1-Dichloroethene	9.20	10.4	88	70 - 130
Methylene Chloride	7.84	9.03	87	70 - 130
trans-1,2-Dichloroethene	8.90	10.4	86	70 - 130
1,1-Dichloroethane	9.04	10.5	86	70 - 130
Methyl tert-Butyl Ether	8.92	9.64	93	70 - 130
2-Butanone (MEK)	6.30	7.89	80	70 - 130
cis-1,2-Dichloroethene	9.22	10.5	88	70 - 130
Chloroform	12.0	13.2	91	70 - 130
1,2-Dichloroethane	10.8	10.6	102	70 - 130
1,1,1-Trichloroethane (TCA)	14.6	14.3	102	70 - 130
Benzene	7.52	8.38	90	70 - 130
Carbon Tetrachloride	16.7	15.9	105	70 - 130
1,2-Dichloropropane	10.2	12.1	84	70 - 130
Bromodichloromethane	17.0	17.4	98	70 - 130
Trichloroethene (TCE)	13.2	14.0	94	70 - 130
1,4-Dioxane	8.61	9.37	92	50 - 150
cis-1,3-Dichloropropene	11.4	12.3	93	70 - 130
4-Methyl-2-pentanone (MIBK)	9.15	10.5	87	70 - 130
trans-1,3-Dichloropropene	10.2	11.0	92	70 - 130
1,1,2-Trichloroethane	13.3	14.6	91	70 - 130
Toluene	9.10	10.1	90	70 - 130
2-Hexanone	9.28	11.4	82	70 - 130
Dibromochloromethane	23.5	23.4	100	70 - 130
1,2-Dibromoethane (EDB)	18.5	20.0	93	70 - 130
Tetrachloroethene (PCE)	18.2	18.0	102	70 - 130
Chlorobenzene	11.4	12.3	93	70 - 130
Ethylbenzene	10.8	11.5	94	70 - 130
m,p-Xylenes	21.3	22.4	95	70 - 130
Bromoform	28.6	26.6	107	70 - 130
Styrene	10.4	11.2	93	70 - 130
o-Xylene	10.9	11.9	91	70 - 130
1,1,2,2-Tetrachloroethane	15.5	18.9	82	70 - 130
1,3-Dichlorobenzene	14.1	15.0	94	70 - 130
1,4-Dichlorobenzene	13.8	15.0	92	70 - 130
1,2-Dichlorobenzene	13.4	15.0	89	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/150148
 Sample Matrix: Air

Service Request: R1400688
 Date Analyzed: 2/3/14

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: 379306

Lab Control Sample
 RQ1401252-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Naphthalene	7.61	12.3	62	50 - 150
Hexachlorobutadiene	25.9	24.5	106	50 - 150

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

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		CAS Contact:														
City, State, Zip: Canton, MA 02021		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">Analysis Method and/or Analytes</th> <th rowspan="3">Comments Specific Instructions</th> </tr> <tr> <td style="width:15%; text-align:center; vertical-align:middle;">TO15 (Site List)</td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> </tr> <tr> <td> </td><td> </td><td> </td><td> </td> </tr> </table>		Analysis Method and/or Analytes				Comments Specific Instructions	TO15 (Site List)							
Analysis Method and/or Analytes				Comments Specific Instructions												
TO15 (Site List)																
Project Manager: Raymond Cadorette		Project Number: 150148														
Phone: 617-589-6102		P.O. #/Billing Information: 876613														
Fax: 617-589-5495		Sampler (Print & Sign): <i>Paul Hedrick</i>														
Email (for result reporting): Raymond.Cadorette@Shawgrp.com																
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID											
<i>Bldg 5-1</i>		<i>1-27-14</i>	<i>1656</i>	<i>SLC00155</i>	<i>FC00754</i>	<i>1</i>										
<i>Bldg 5-2</i>			<i>1657</i>	<i>SLC00172</i>	<i>FC00745</i>	<i>1</i>										
<i>Bldg 5-3</i>			<i>1654</i>	<i>SLC00199</i>	<i>FC00774</i>	<i>1</i>										
<i>Bldg 5 SV-1</i>			<i>1341</i>	<i>SLC00151</i>	<i>FC00846</i>	<i>1</i>										
<i>Bldg 5 SV-2</i>			<i>1340</i>	<i>SLC00183</i>	<i>FC00858</i>	<i>1</i>										
<i>Bldg 5 SV-3</i>			<i>1359</i>	<i>SLC00024</i>	<i>FC00862</i>	<i>1</i>										
<i>Bldg 5 SV-4</i>			<i>1401</i>	<i>SLC00157</i>	<i>FC00848</i>	<i>1</i>										
<i>Bldg 5 SV-5</i>			<i>1403</i>	<i>SLC00145</i>	<i>FC00850</i>	<i>1</i>										
<i>Bldg 5 SV-6</i>			<i>1403</i>	<i>SLC00168</i>	<i>FC00863</i>	<i>1</i>										
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			QA/QC: MADEP CAM <i>Complete 2nd Run To Achieve lowest detection limits on VOC</i>										
Relinquished by: (Signature) <i>Raymond Cadorette</i>		Date: <i>1-27-14</i>	Time: <i>1730</i>	Received by: (Signature) <i>[Signature]</i>					Date: <i>1-29-14</i>	Time: <i>09:30</i>						
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)					Date:	Time:						
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Date:	Time:									

R1400688 **7 Y**
 CB&I Environmental & Infrastructure
 Varian Beverly Air Samples



Cooler Receipt and Preservation Check Form

Project/Client CBI Folder Number R14-688

Cooler received on 1/29/14 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 Y N Y N Y N Y N

If No, Explain Below Date/Time Temperatures Taken: N/A 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	<u>SMD</u>	by	<u>ME</u>	on	<u>1/29/14</u>	at	<u>09:35</u>
5035 samples placed in storage location		by		on		at	

PC Secondary Review: [Signature] / 2/9/14

Cooler Breakdown: Date: 1/29/14 Time: 1356 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
≥12	NaOH									No = Samples were preserved at lab as listed
≤2	HNO ₃									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									PM OK to Adjust:
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: [Signature] 2/5/14 *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: Dale Dailey **Date :** 4/8/2014
Matrix: Air
Analyte Group : Volatile Organics **Analytical Method :** EPA Method TO-15
Completed MADEP CAM Certification Form included: Yes **Laboratory ID No. :** R1400929
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
2/6/14	VOC TO-15		30 Days	2/13, 2/14/14

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 2/13/2014

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.

(2) All initial and continuing calibrations were compliant.

Reviewed By: Pernilla Haley 4/14/14



February 17, 2014

Service Request No: R1400929

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 February 7, 2014. For your reference, these analyses have been assigned our service request number **R1400929**.

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 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 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Janice Jaeger
Client Services Manager

Page 1 of 18

ALS Environmental

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

Service Request No.: R1400929
Project No.: 146898
Date Received: 02/07/14

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 02/06/14 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 %.

MassDEP Analytical Protocol Certification Form

Laboratory Name: ALS Environmental

Project #: 146898

Project Location: Varian Beverly

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
R1400929-001-006

 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?	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?	X	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
----------	---	---	-----	-----------------

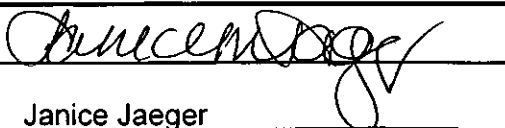
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

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)?	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:



 Position: Client Services
Manager

00003

 Printed Name: Janice Jaeger

 Date: 02/17/14

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1400929

<u>Lab ID</u>	<u>Client ID</u>
R1400929-001	32 Tozer-SV3
R1400929-002	32 Tozer-SV4
R1400929-003	32 Tozer-SV5
R1400929-004	32 Tozer-1
R1400929-005	32 Tozer-2
R1400929-006	32 Tozer-3

00004

REPORT QUALIFIERS AND DEFINITIONS

- | | |
|---|--|
| <p>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.</p> <p>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).</p> <p>B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p>E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p>E Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p>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> <p>* 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.</p> <p>H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p># Spike was diluted out.</p> | <p>+ Correlation coefficient for MSA is <0.995.</p> <p>N Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p>N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p>S Concentration has been determined using Method of Standard Additions (MSA).</p> <p>W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.</p> <p>P Concentration >40% (25% for CLP) difference between the two GC columns.</p> <p>C Confirmed by GC/MS</p> <p>Q DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).</p> <p>X See Case Narrative for discussion.</p> <p>MRL Method Reporting Limit. Also known as:</p> <p>LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p>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).</p> <p>LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p>ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|---|--|

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: LARRY LEWIS

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 "David C. Jacobs".

Director, Division of Environmental Analysis

Issued: 08 JAN 2014

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/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer-SV3
 Lab Code: R1400929-001

Service Request: R1400929
 Date Collected: 2/ 6/14 1204
 Date Received: 2/ 7/14

Analytical Method: TO-15

Date Analyzed: 2/13/14 1745
 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
75-01-4	Vinyl Chloride	8.5	11	11	4.2	4.2	U
75-35-4	1,1-Dichloroethene	8.5	79	79	20	20	U
156-60-5	trans-1,2-Dichloroethene	8.5	79	79	20	20	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	8.5	80	80	20	20	U
156-59-2	cis-1,2-Dichloroethene	8.5	4300	79	1100	20	
71-55-6	1,1,1-Trichloroethane (TCA)	8.5	110	110	20	20	U
79-01-6	Trichloroethene (TCE)	8.5	1900	11	350	2.0	
127-18-4	Tetrachloroethene (PCE)	8.5	7600	14	1100	2.1	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	97	70-130	2/13/14 1745	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer-SV4
 Lab Code: R1400929-002

Service Request: R1400929
 Date Collected: 2/6/14 1207
 Date Received: 2/7/14

Analytical Method: TO-15

Date Analyzed: 2/13/14 1910
 Canister Dilution Factor: 1.50

Initial Pressure (psig): -2.55 Final Pressure (psig): 3.52

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	125	2.2	0.72	0.85	0.28	
75-35-4	1,1-Dichloroethene	125	5.3	5.3	1.3	1.3	U
156-60-5	trans-1,2-Dichloroethene	125	5.3	5.3	1.3	1.3	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	125	5.4	5.4	1.3	1.3	U
156-59-2	cis-1,2-Dichloroethene	125	83	5.3	21	1.3	
71-55-6	1,1,1-Trichloroethane (TCA)	125	7.2	7.2	1.3	1.3	U
79-01-6	Trichloroethene (TCE)	125	70	0.72	13	0.13	
127-18-4	Tetrachloroethene (PCE)	125	460	0.96	68	0.14	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	100	70-130	2/13/14 1910	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer-SV5
 Lab Code: R1400929-003

Service Request: R1400929
 Date Collected: 2/ 6/14 1148
 Date Received: 2/ 7/14

Analytical Method: TO-15

Date Analyzed: 2/13/14 2042
 Canister Dilution Factor: 1.54

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	800	0.12	0.12	0.045	0.045	U
75-35-4	1,1-Dichloroethene	800	0.85	0.85	0.21	0.21	U
156-60-5	trans-1,2-Dichloroethene	800	0.85	0.85	0.21	0.21	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	800	0.87	0.87	0.21	0.21	U
156-59-2	cis-1,2-Dichloroethene	800	0.85	0.85	0.21	0.21	U
71-55-6	1,1,1-Trichloroethane (TCA)	800	1.2	1.2	0.21	0.21	U
79-01-6	Trichloroethene (TCE)	800	0.45	0.12	0.083	0.022	
127-18-4	Tetrachloroethene (PCE)	800	1.3	0.15	0.19	0.023	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	105	70-130	2/13/14 2042	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer-1
 Lab Code: R1400929-004

Service Request: R1400929
 Date Collected: 2/ 6/14 1609
 Date Received: 2/ 7/14

Analytical Method: TO-15

Date Analyzed: 2/13/14 2134
 Canister Dilution Factor: 1.58

Initial Pressure (psig): -3.19 Final Pressure (psig): 3.50

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	1000	0.095	0.095	0.037	0.037	U
75-35-4	1,1-Dichloroethene	1000	0.70	0.70	0.18	0.18	U
156-60-5	trans-1,2-Dichloroethene	1000	0.70	0.70	0.18	0.18	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.71	0.71	0.18	0.18	U
156-59-2	cis-1,2-Dichloroethene	1000	1.3	0.70	0.33	0.18	
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.95	0.95	0.17	0.17	U
79-01-6	Trichloroethene (TCE)	1000	0.81	0.095	0.15	0.018	
127-18-4	Tetrachloroethene (PCE)	1000	6.6	0.13	0.97	0.019	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	96	70-130	2/13/14 2134	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer-2
 Lab Code: R1400929-005

Service Request: R1400929
 Date Collected: 2/ 6/14 1520
 Date Received: 2/ 7/14

Analytical Method: TO-15

Date Analyzed: 2/14/14 1013
 Canister Dilution Factor: 1.65

Initial Pressure (psig): -3.63 Final Pressure (psig): 3.60

CAS #	Analyte Name	Sample Amount mL	Result µg/m³	MRL µg/m³	Result ppbv	MRL ppbv	Data Qualifier
75-01-4	Vinyl Chloride	1000	0.099	0.099	0.039	0.039	U
75-35-4	1,1-Dichloroethene	1000	0.73	0.73	0.18	0.18	U
156-60-5	trans-1,2-Dichloroethene	1000	0.73	0.73	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	1.1	0.73	0.27	0.18	
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.99	0.99	0.18	0.18	U
79-01-6	Trichloroethene (TCE)	1000	0.29	0.099	0.054	0.018	
127-18-4	Tetrachloroethene (PCE)	1000	1.3	0.13	0.18	0.019	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	96	70-130	2/14/14 1013	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air
 Sample Name: 32 Tozer-3
 Lab Code: R1400929-006

Service Request: R1400929
 Date Collected: 2/ 6/14 1555
 Date Received: 2/ 7/14

Analytical Method: TO-15

Date Analyzed: 2/13/14 2315
 Canister Dilution Factor: 1.53

Initial Pressure (psig): -2.75 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	0.092	0.092	0.036	0.036	U
75-35-4	1,1-Dichloroethene	1000	0.67	0.67	0.17	0.17	U
156-60-5	trans-1,2-Dichloroethene	1000	0.67	0.67	0.17	0.17	U
75-34-3	1,1-Dichloroethane (1,1-DCA)	1000	0.69	0.69	0.17	0.17	U
156-59-2	cis-1,2-Dichloroethene	1000	0.67	0.67	0.17	0.17	U
71-55-6	1,1,1-Trichloroethane (TCA)	1000	0.92	0.92	0.17	0.17	U
79-01-6	Trichloroethene (TCE)	1000	0.092	0.092	0.017	0.017	
127-18-4	Tetrachloroethene (PCE)	1000	0.25	0.12	0.037	0.018	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	95	70-130	2/13/14 2315	

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: RQ1401482-01

Service Request: R1400929
 Date Collected: NA
 Date Received: NA

Analytical Method: TO-15

Date Analyzed: 2/13/14 1658

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	100	70-130	2/13/14 1658	

Client: CB&I
 Project: Varian Beverly Air Samples/146898
 Sample Matrix: Air

Service Request: R1400929

Date Analyzed: 2/13/14

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: 380170

Lab Control Sample
 RQ1401482-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	6.19	6.58	94	70 - 130
1,1-Dichloroethene	9.59	10.3	93	70 - 130
trans-1,2-Dichloroethene	9.94	10.4	96	70 - 130
1,1-Dichloroethane (1,1-DCA)	10.1	10.4	97	70 - 130
cis-1,2-Dichloroethene	9.86	10.4	95	70 - 130
1,1,1-Trichloroethane (TCA)	13.4	14.3	94	70 - 130
Trichloroethene (TCE)	13.5	14.0	96	70 - 130
Tetrachloroethene (PCE)	17.5	18.0	97	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.

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																					
Address: 150 Royall Dr.		CAS Contact:																					
City, State, Zip: Canton, MA 02021		Project Number: 146848																					
Project Manager: Raymond Cadorette		Analysis Method and/or Analytes <i>1,1,1-TEA, 1,1,1-DCA 1,1-DCB, PCE, TCE, Vinyl Chloride, cis-1,2-DCE, trans-1,2-DCE</i>																					
P.O. #/Billing Information: 853583																							
Phone: 617-589-6102 Fax:																							
Email (for result reporting): raymond.cadorette@cbi.com		Sampler (Print & Sign): Dale Daily <i>[Signature]</i>																					
Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID	Flow Controller ID	Comments Specific Instructions																	
32 Tozer-SV3		2/6/14	12:04	5L00114	FL00861			Comments Specific Instructions															
32 Tozer-SV4		2/6/14	12:07	5L00159	FL00864					Comments Specific Instructions													
32 Tozer-SV5		2/6/14	11:48	5L00054	FL00860							Comments Specific Instructions											
32 Tozer-1		2/6/14	4:09	5L00053	FL00749									Comments Specific Instructions									
32 Tozer-2		2/6/14	3:20	5L00174	FL00761											Comments Specific Instructions							
32 Tozer-3		2/6/14	3:55	5L00162	FL00753													Comments Specific Instructions					
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										Comments Specific Instructions													

R1400929 **7 Y**
 CB&I Environmental & Infrastructure
 Varian Beverly Air Samples



What State were samples collected in: MA		Project Requirements (MRLs, QAPP, etc.) 1) 150-15 Specific List 2) QA/QC 3) MADEP CAM ONLY: 1,1,1-TEA, 1,1,1-DCA, 1,1-DCE, PCE, TCE, vinyl chloride, cis-1,2-DCE, trans-1,2-DCE	
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: GIS Key EDD Units: _____			
Relinquished by: (Signature) <i>[Signature]</i>	Date: 2/6/14 Time: 4:30p	Received by: (Signature) Fedex	Date: 2-6-14 Time: 4:30p
Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: 2/7/14 Time: 0825
Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:



Cooler Receipt and Preservation Check Form

Project/Client CB2/I Folder Number R44-929

Cooler received on 2/7/14 by: JFS 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: _____

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: 2/7/14 0829

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 2/7/14 at 0829
5035 samples placed in storage location by _____ on _____ at _____

PC Secondary Review:

Cooler Breakdown: Date: 2/7/14 Time: 1212 by: JFS

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									
≤2	H ₂ SO ₄									
<4	NaHSO ₄									No = Samples were preserved at lab as listed
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	-	-							PM OK to Adjust: _____
	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: _____

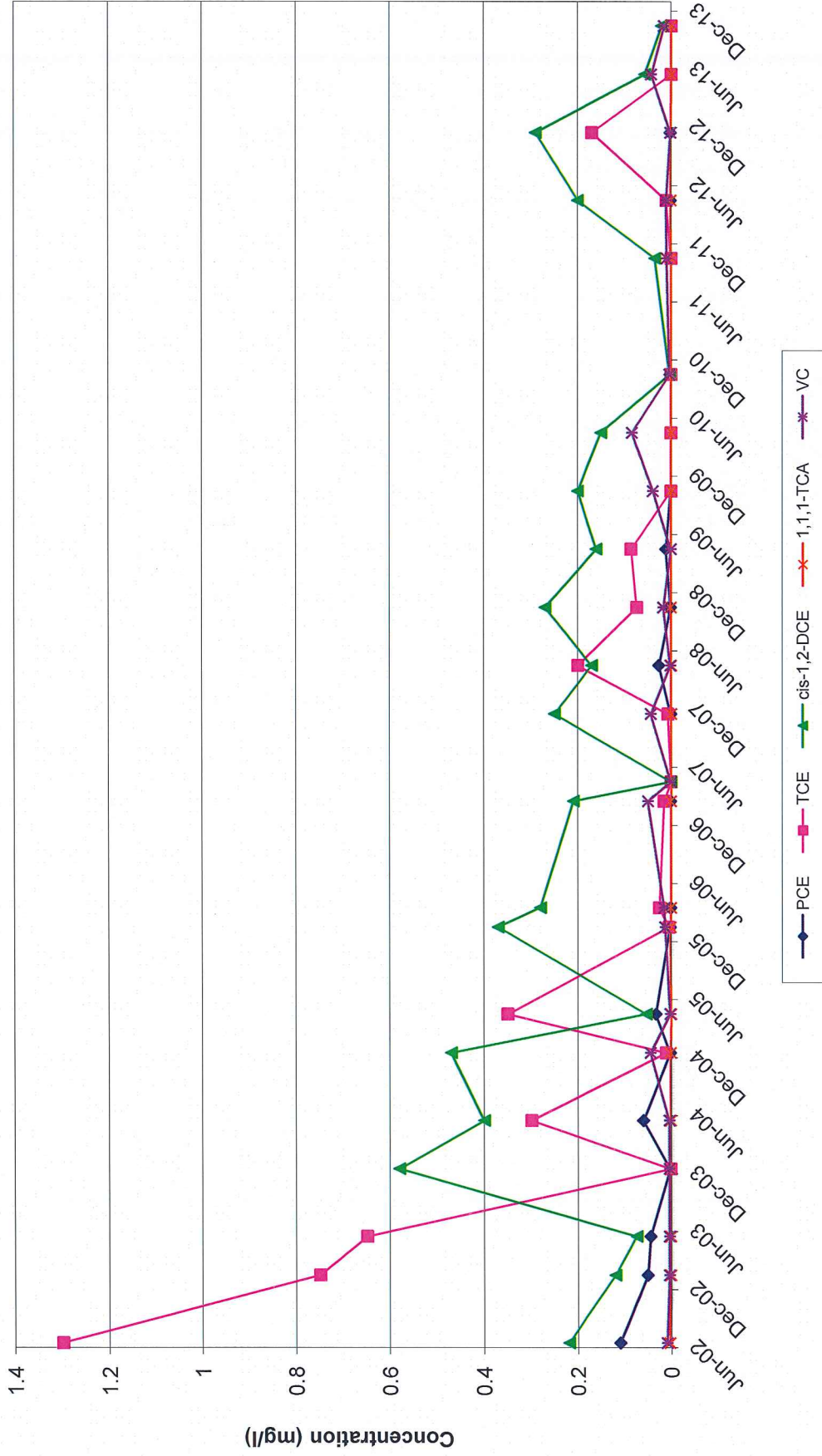
PC Secondary Review: JFS 2/14/14 *significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

APPENDIX D

GROUNDWATER VOC CONCENTRATION TREND GRAPHS

TOZER ROAD NORTH OF ROUTE 128

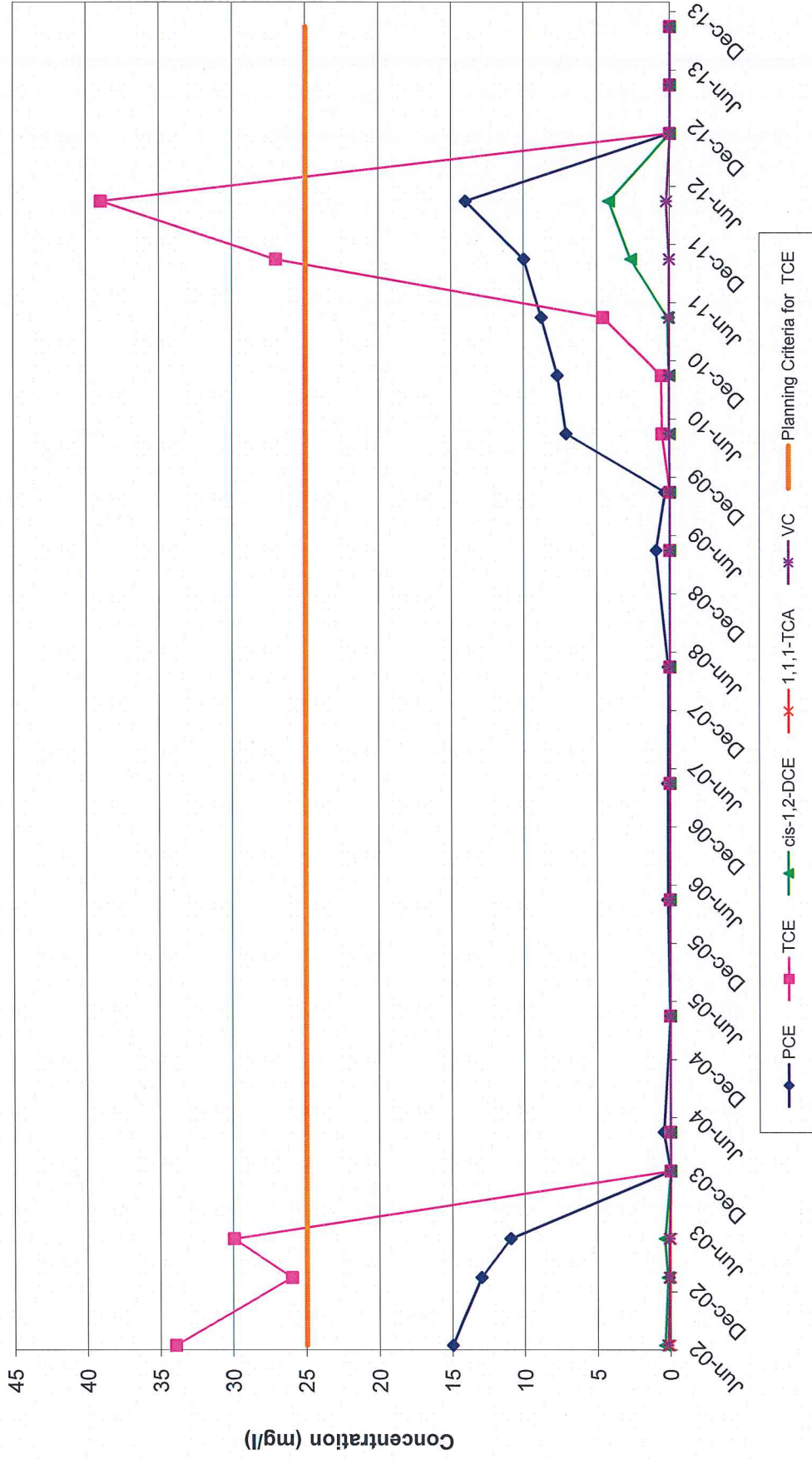
VOC Trends in Well CL02-BR
Former Varian Facility Site
Beverly, Massachusetts



Notes: CL02-BR is a bedrock well north of Route 128 at 16 Tozer Road.
See end of appendix for additional notes.

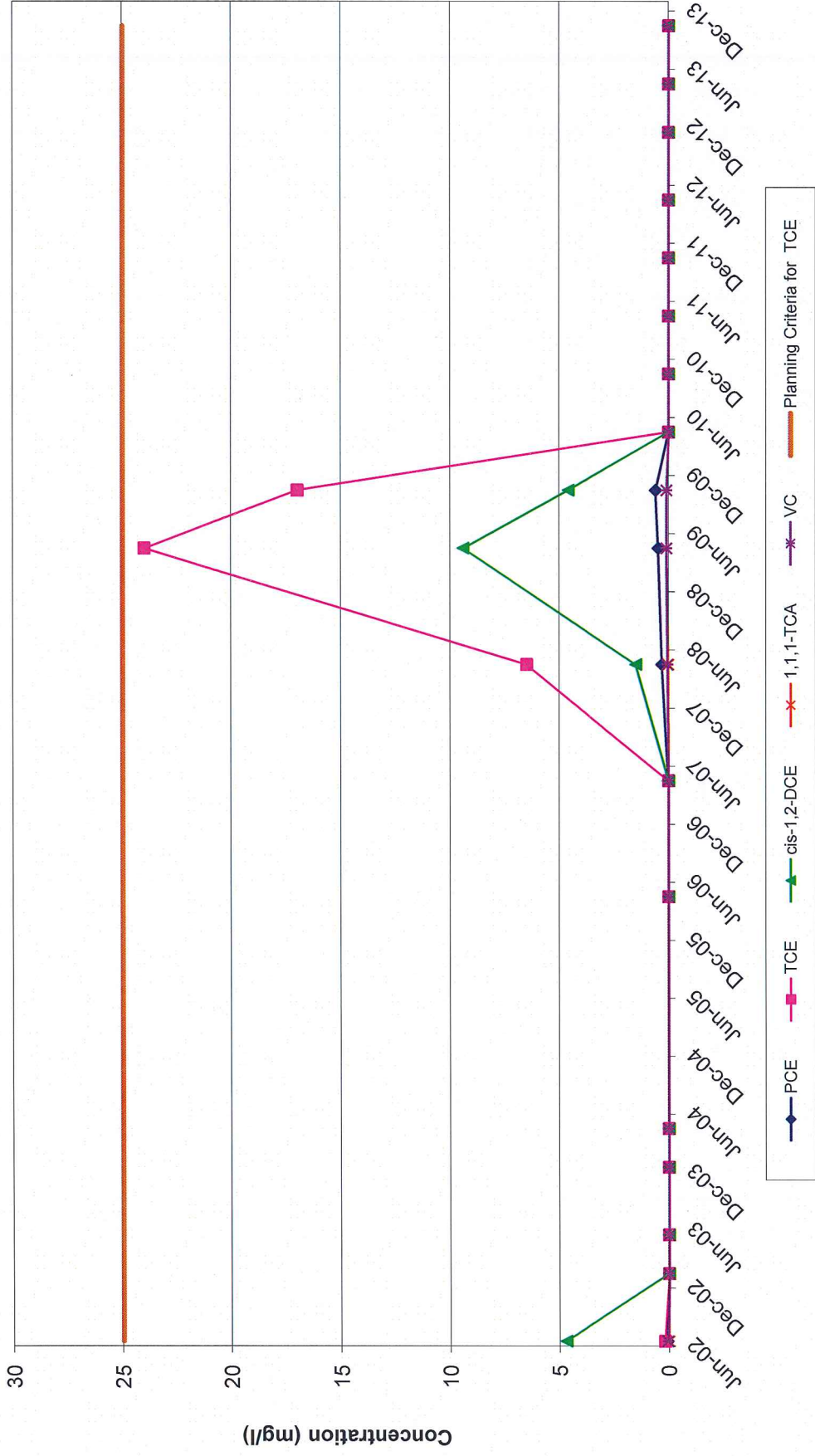
BUILDING 3/6 TREATMENT AREA

VOC Trends in Well AP-12-DO
Former Varian Facility Site
Beverly, Massachusetts



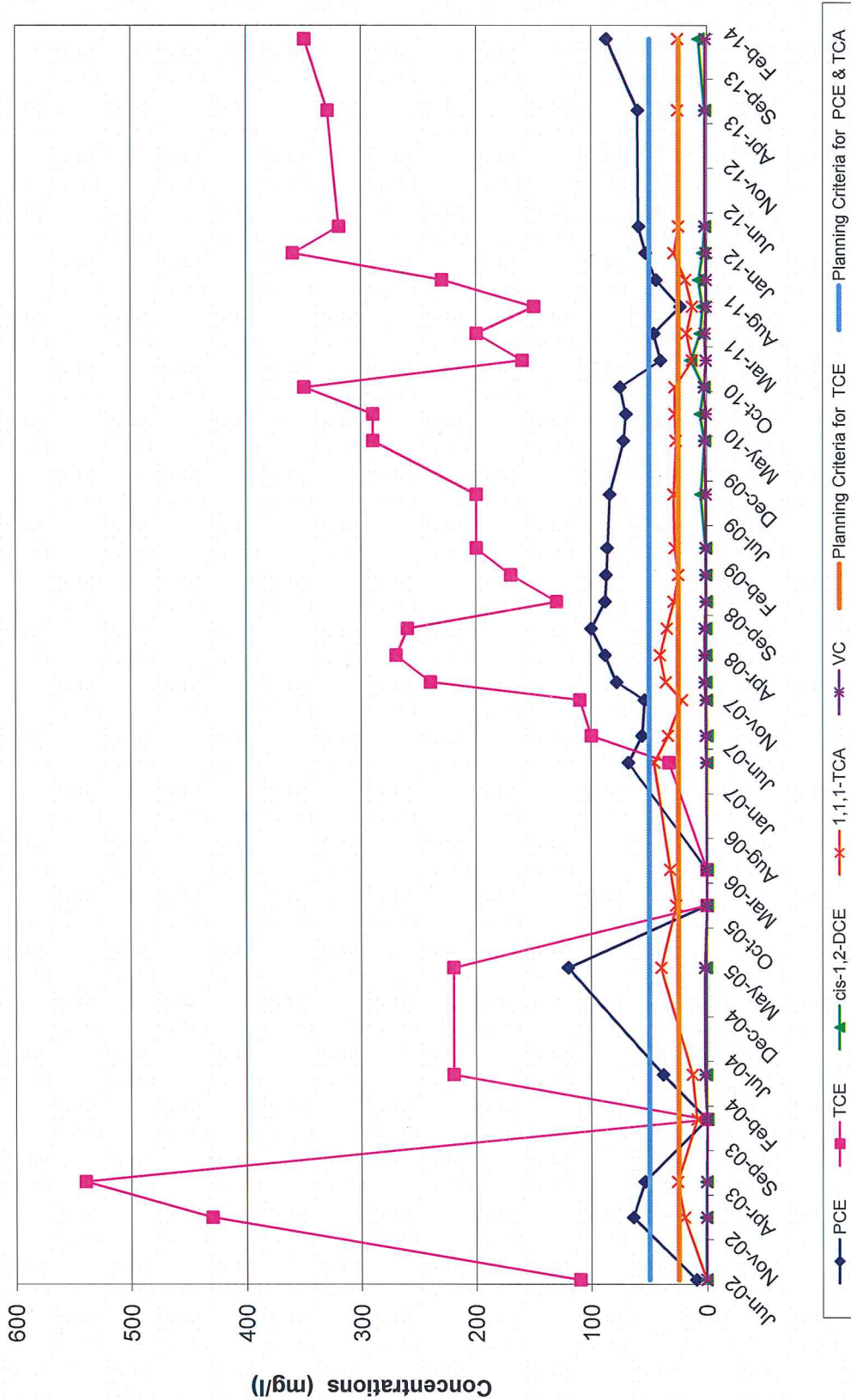
Notes: AP-12-DO is a deep overburden well adjacent to Building 6 where permanganate injection was conducted in 2002, 2003, 2004, and 2012. See end of appendix for additional notes.

VOC Trends in Well AP-12-BR
Former Varian Facility Site
Beverly, Massachusetts



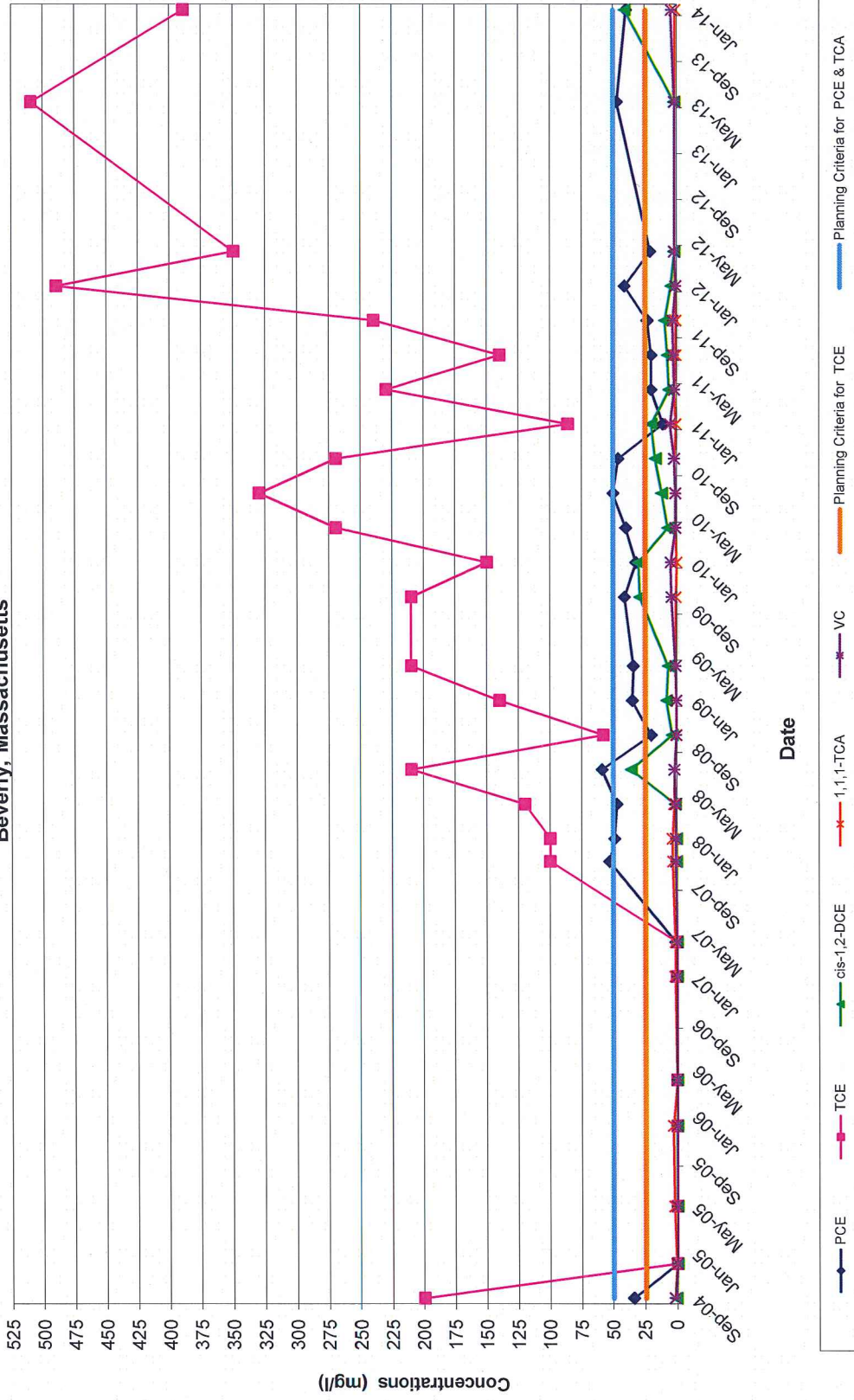
Notes: AP-12-DO is a deep overburden well adjacent to Building 6 where permanganate injection was conducted in 2002, 2003, 2004 and 2010. See end of appendix for additional notes.

VOC Trends in Well AP-13-DO
Former Varian Facility Site
Beverly, Massachusetts



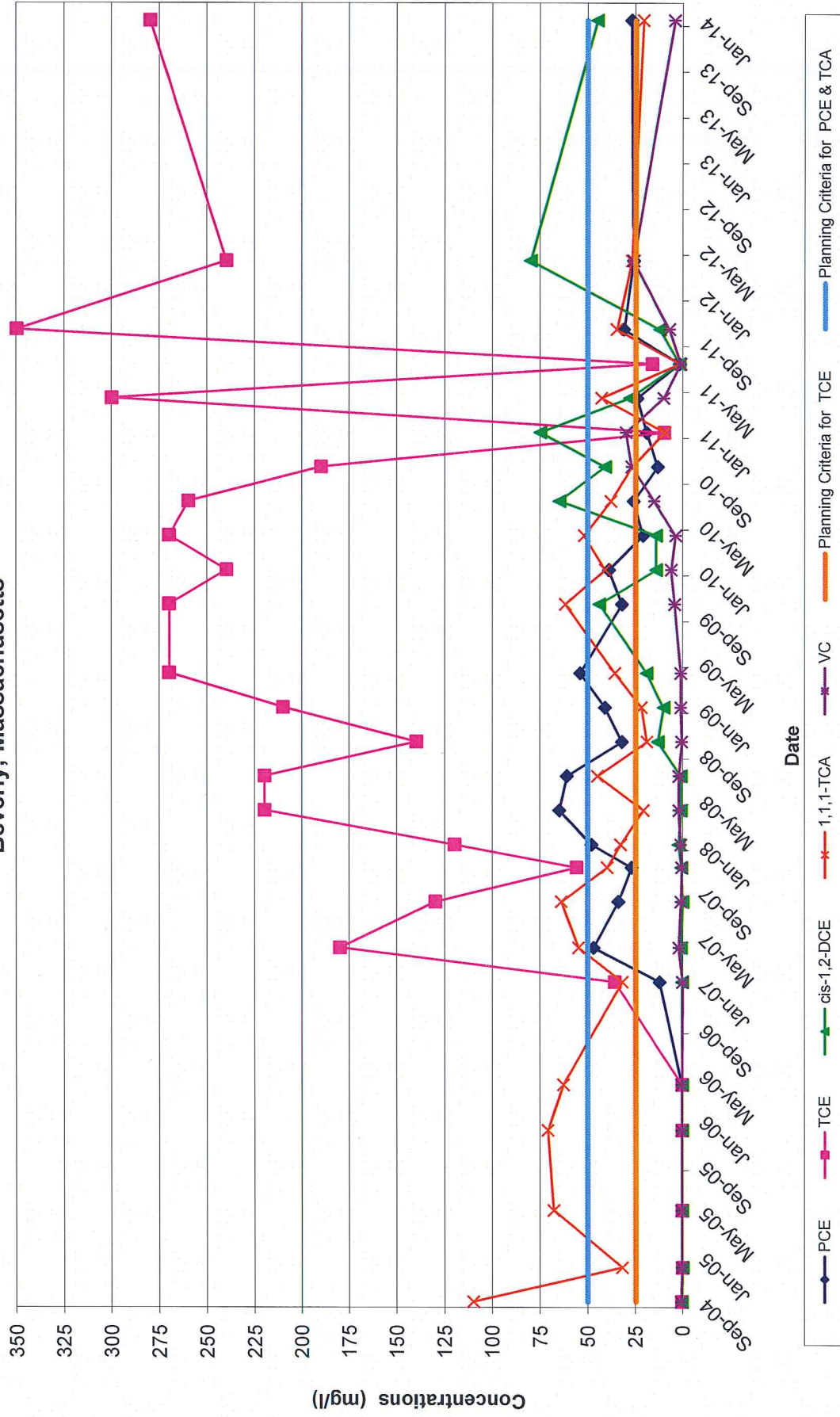
Notes: AP-13-DO is a deep overburden well adjacent to Building 3 where permanganate injection was conducted in 2002-2005 and bio-injection occurred in 2007, 2008, 2010, 2011 and in 2013. See end of appendix for additional notes.

VOC Trends in Well AP-23-DO
Former Varian Facility Site
Beverly, Massachusetts



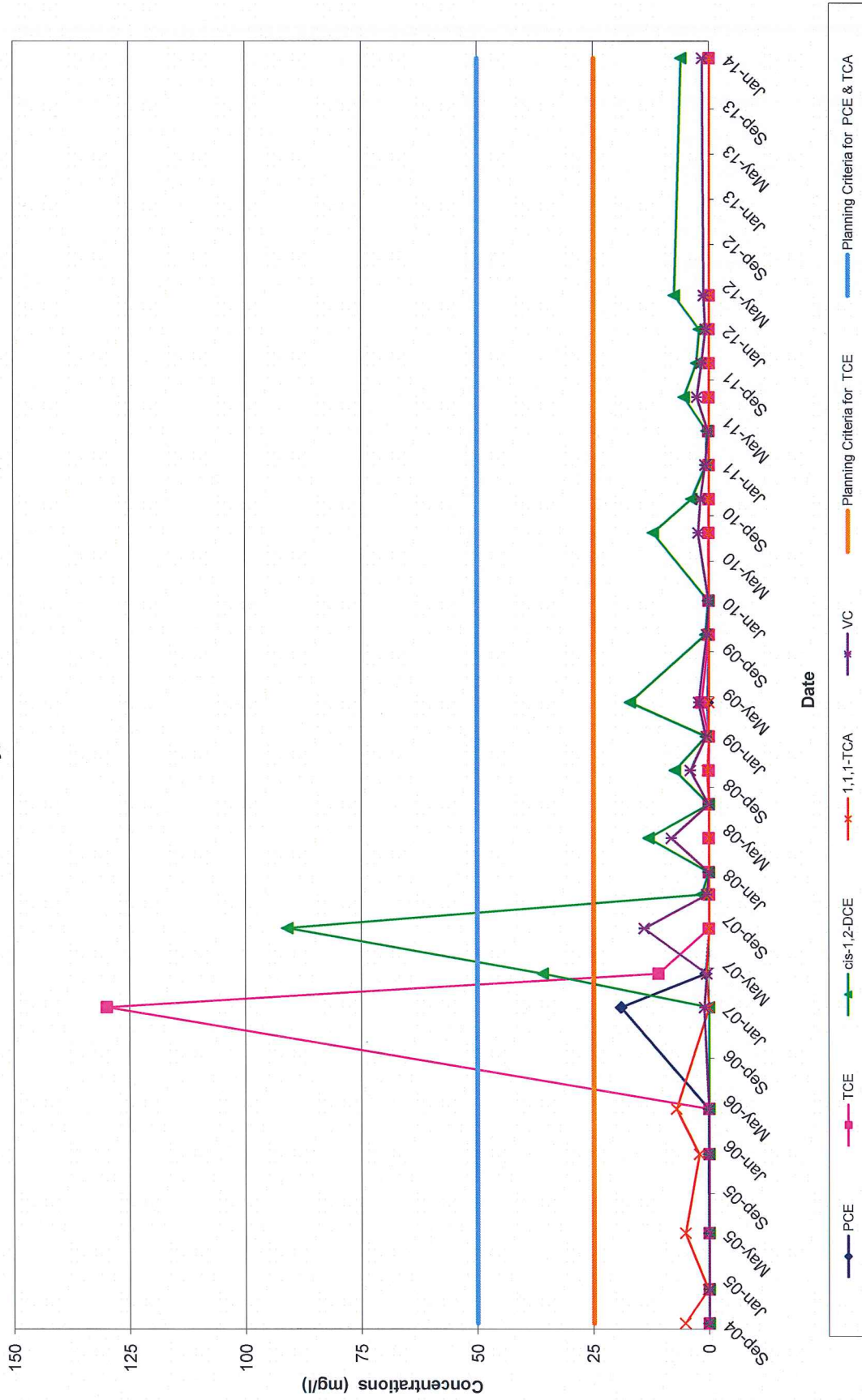
Notes: AP23-DO is a deep overburden well northeast of Building 3 where permanganate injection was conducted in 2003 and 2004 and bio-injection occurred in 2007, 2008, 2010, 2011 and 2013. See end of appendix for additional notes.

VOC Trends in Well AP-24-DO
Former Varian Facility Site
Beverly, Massachusetts



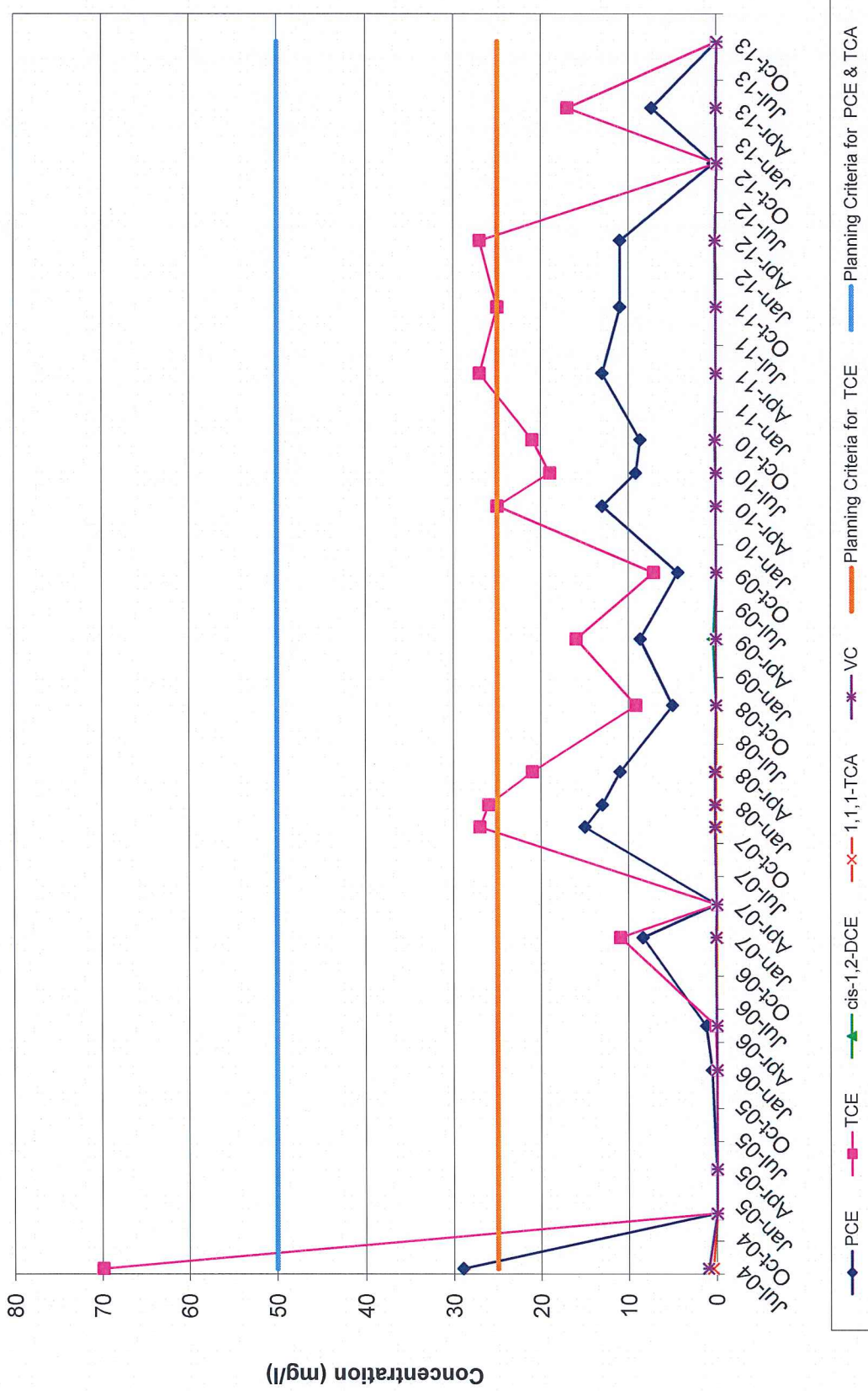
Notes: AP24-DO is a deep overburden well northeast of Building 3 where permanganate injection was conducted in 2003-2004 and bio-injection occurred in 2006-2008, 2010-2011 and 2013. See end of appendix for additional notes.

VOC Trends in Well AP-25-DO
Former Varian Facility Site
Beverly, Massachusetts



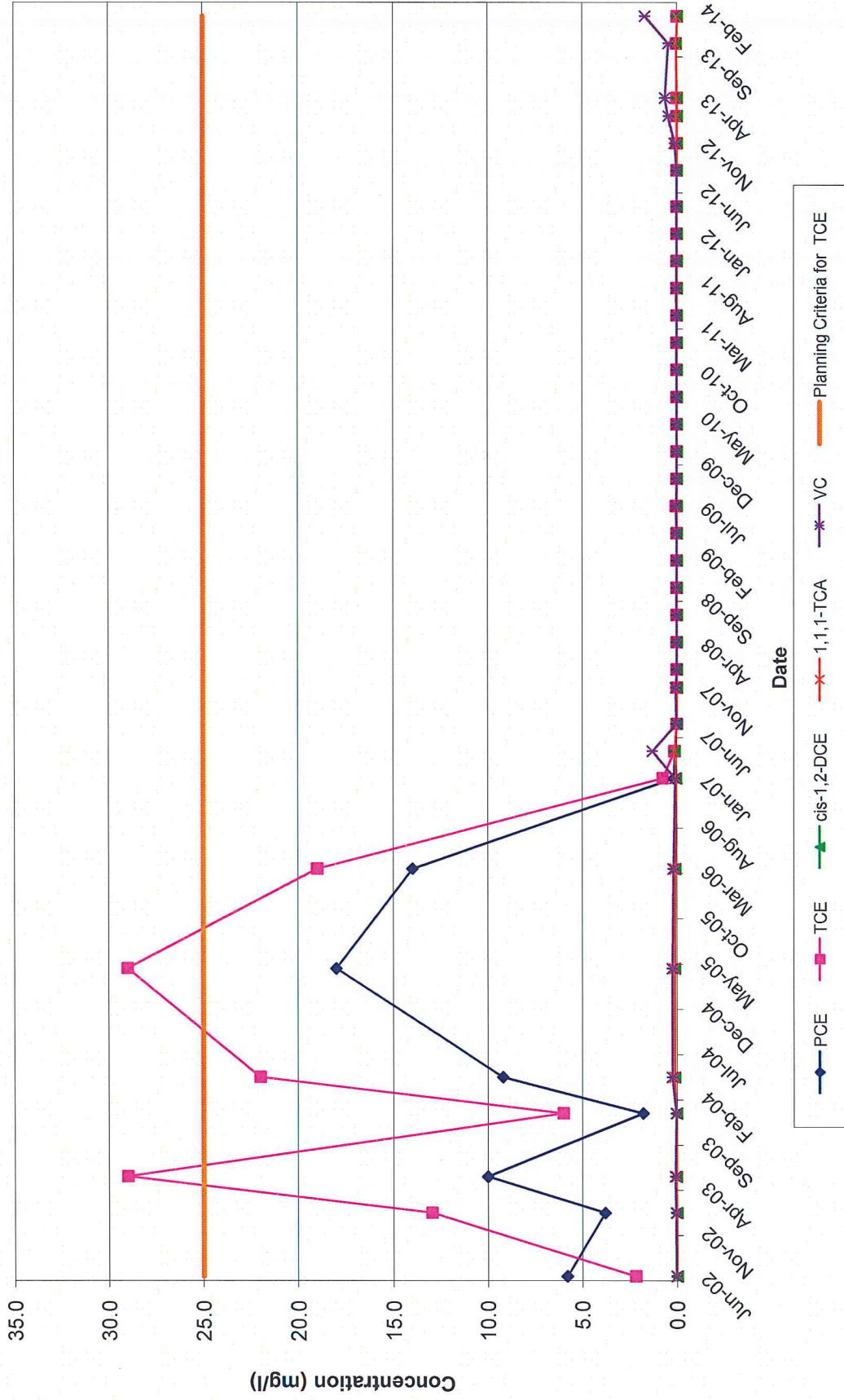
Notes: AP25-DO is a deep overburden well east of Building 3 where permanganate injection was conducted in 2004 and bio-injection occurred in 2007. See end of appendix for additional notes.

VOC Trends in Well AP-26-DO
Former Varian Facility Site
Beverly, Massachusetts



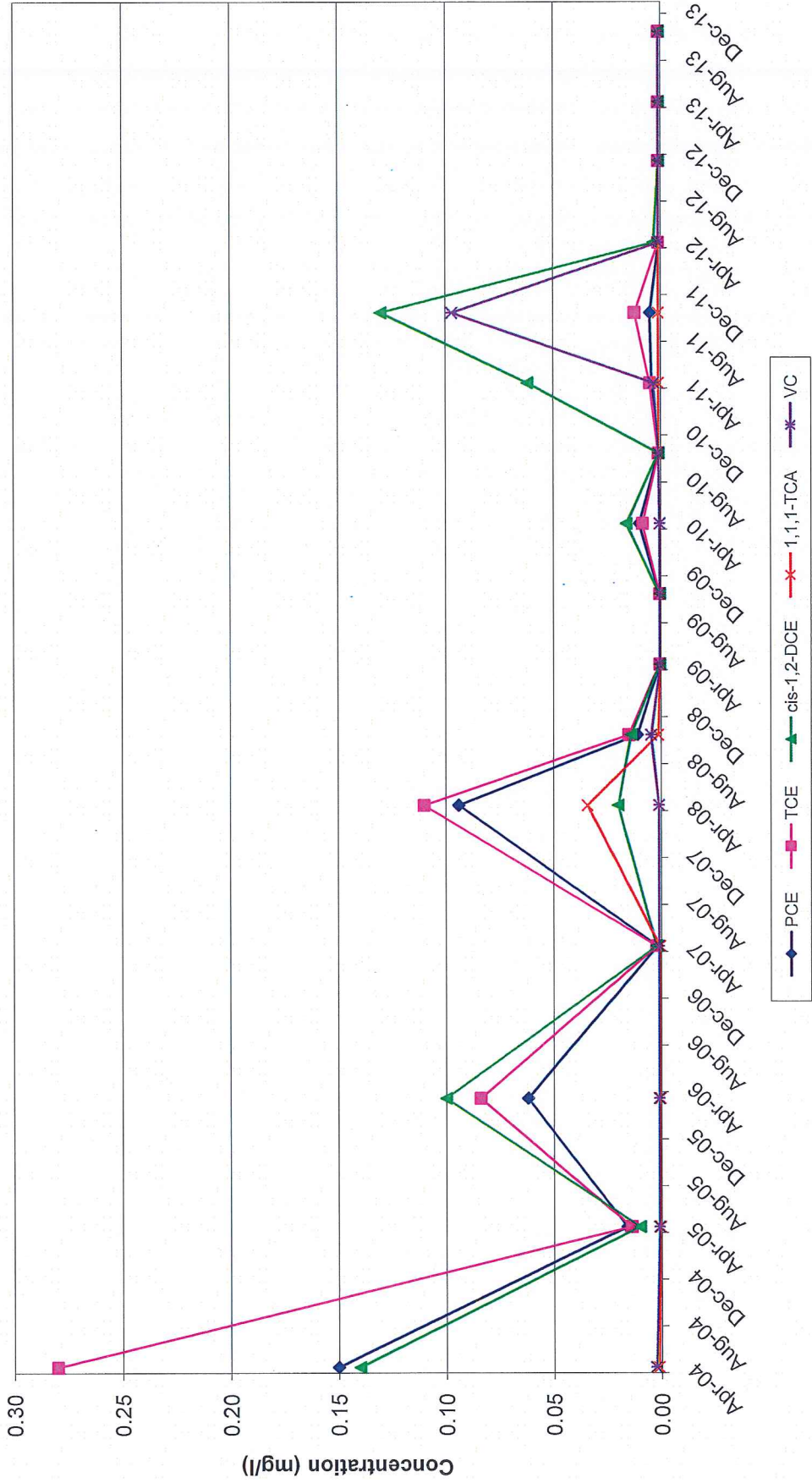
Notes: AP-26-DO is a deep overburden well just west of Building 1 where permanganate injection was conducted in 2004, 2012 and 2013. See end of appendix for additional notes.

VOC Trends in Well MW-009
Former Varian Facility Site
Beverly, Massachusetts



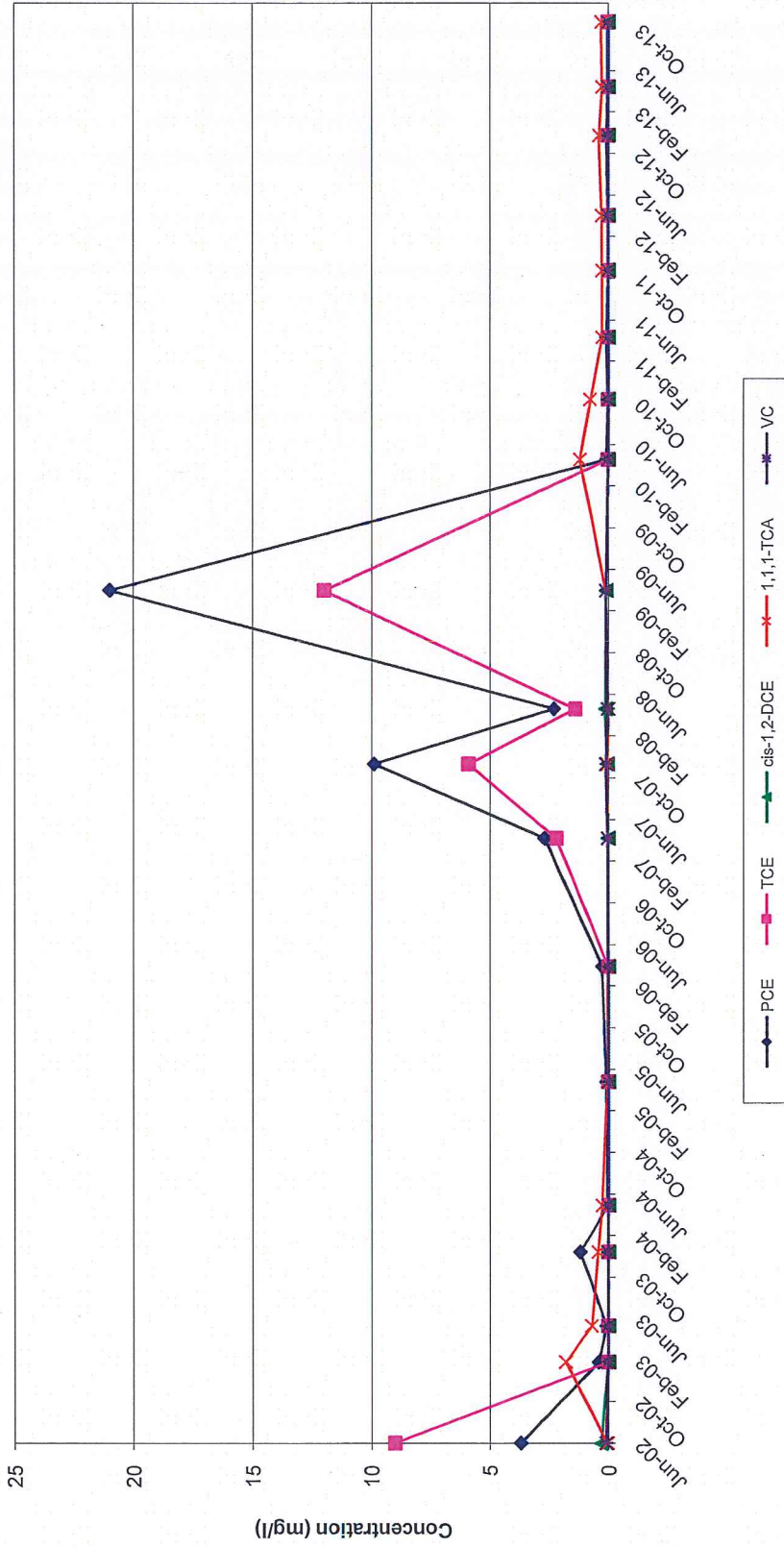
Notes: MW-9 is a shallow overburden well adjacent to Building 9 where bio-injection was conducted in 2006, 2007, 2009, and 2012. See end of appendix for additional notes.

VOC Trends in Well MW-009A
Former Varian Facility Site
Beverly, Massachusetts



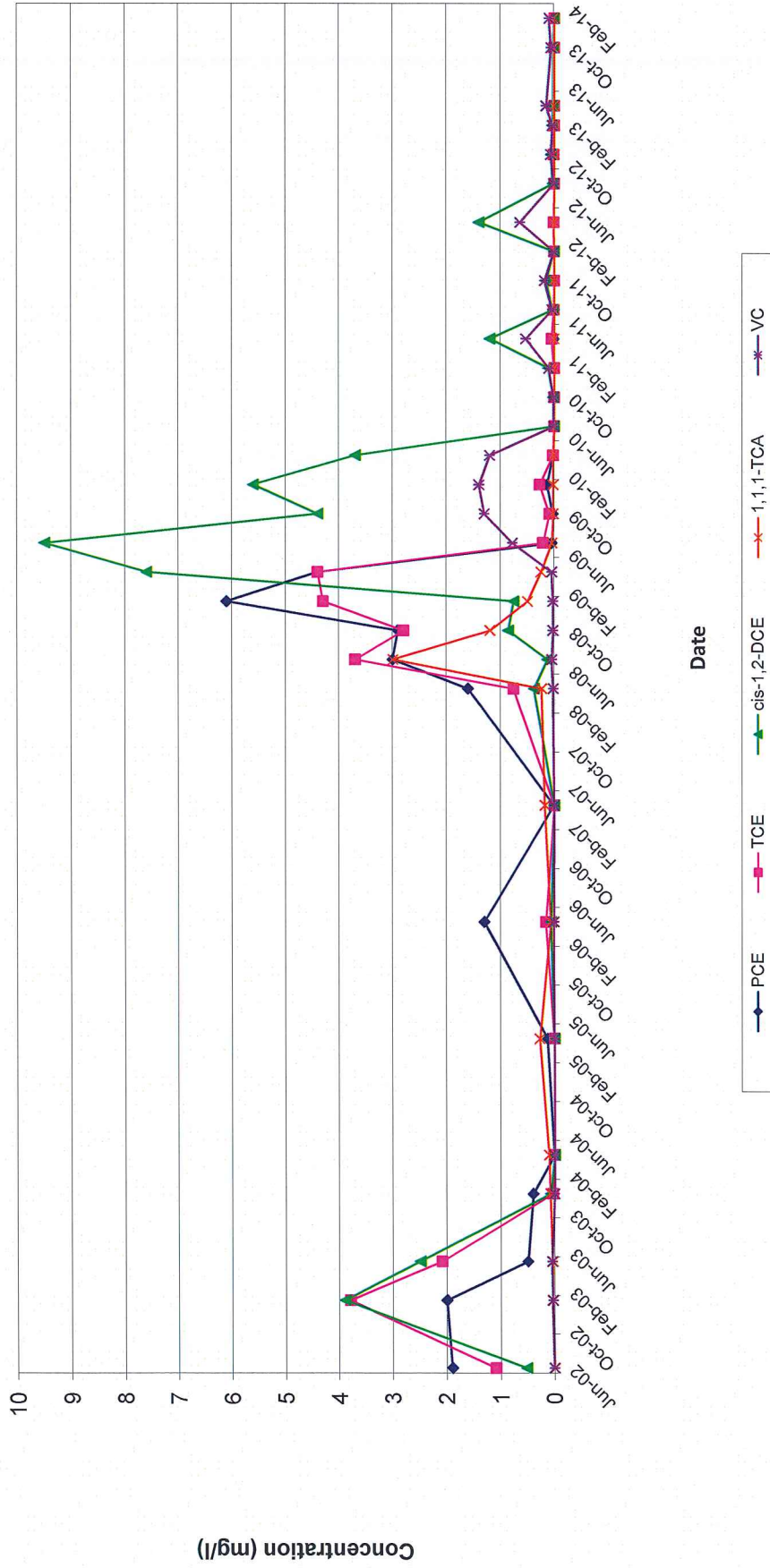
Notes: MW-9A is a shallow overburden well adjacent to Building 9.
See end of appendix for additional notes.

VOC Trends in Well MW-013
Former Varian Facility Site
Beverly, Massachusetts



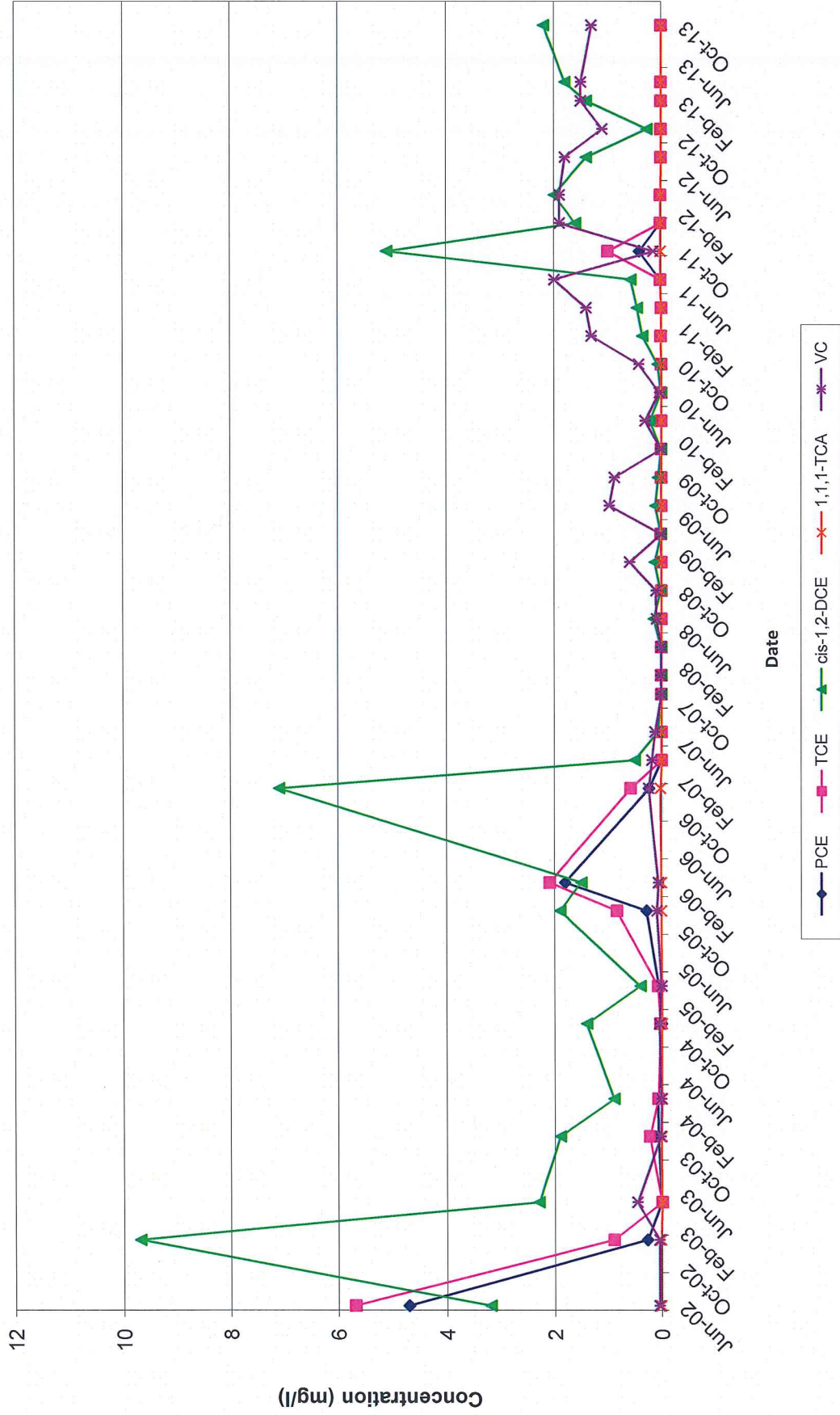
Note: MW-13 is a deep overburden well located to the northeast of Building 3 where permanganate injection was conducted in 2002 and 2010-2011. See end of appendix for additional notes.

VOC Trends in Well OB-15-S
Former Varian Facility Site
Beverly, Massachusetts



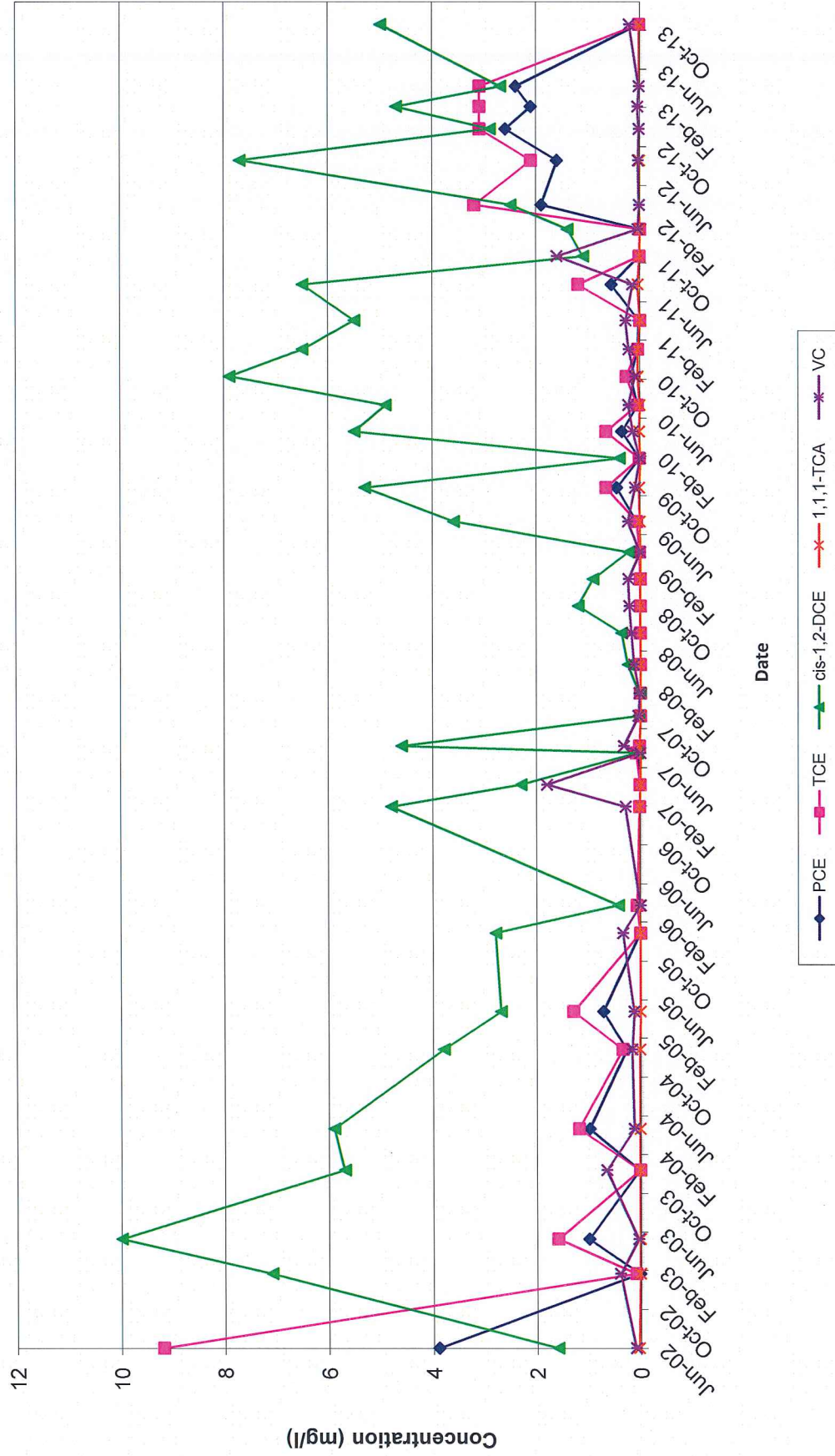
Notes: OB15-S is a shallow well northeast of Building 9 where bio-injection was conducted in 2009 through 2012. See end of appendix for additional notes.

VOC Trends in Well OB-09-DO
Former Varian Facility Site
Beverly, Massachusetts



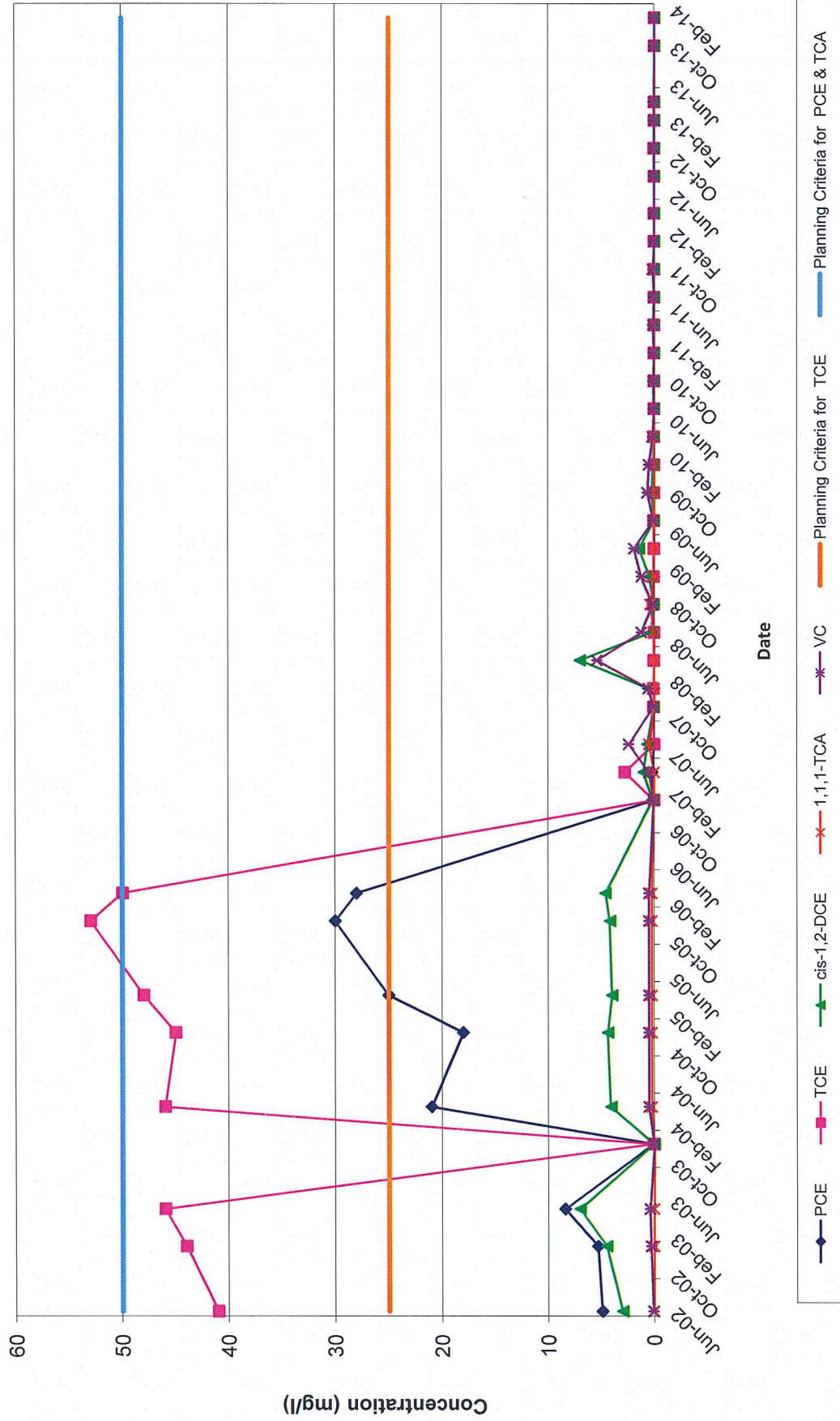
Note: OB-9-DO is a deep overburden well east of Building 9.
See end of appendix for additional notes.

VOC Trends in Well OB-09-BR
Former Varian Facility Site
Beverly, Massachusetts



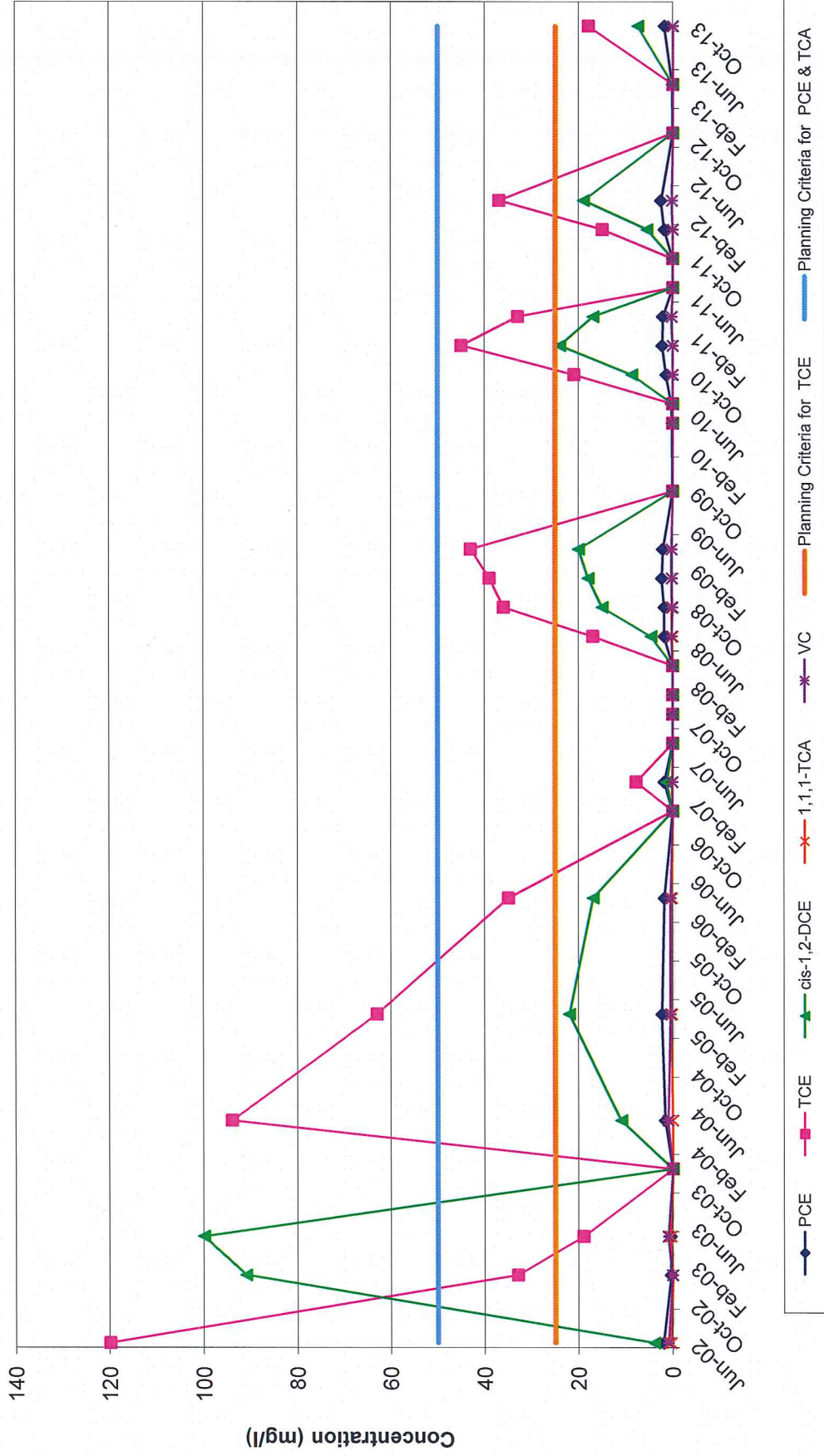
Note: OB-9-BR is a bedrock well east of Building 9.
See end of appendix for additional notes.

VOC Trends in Well OB-09-S
Former Varian Facility Site
Beverly, Massachusetts



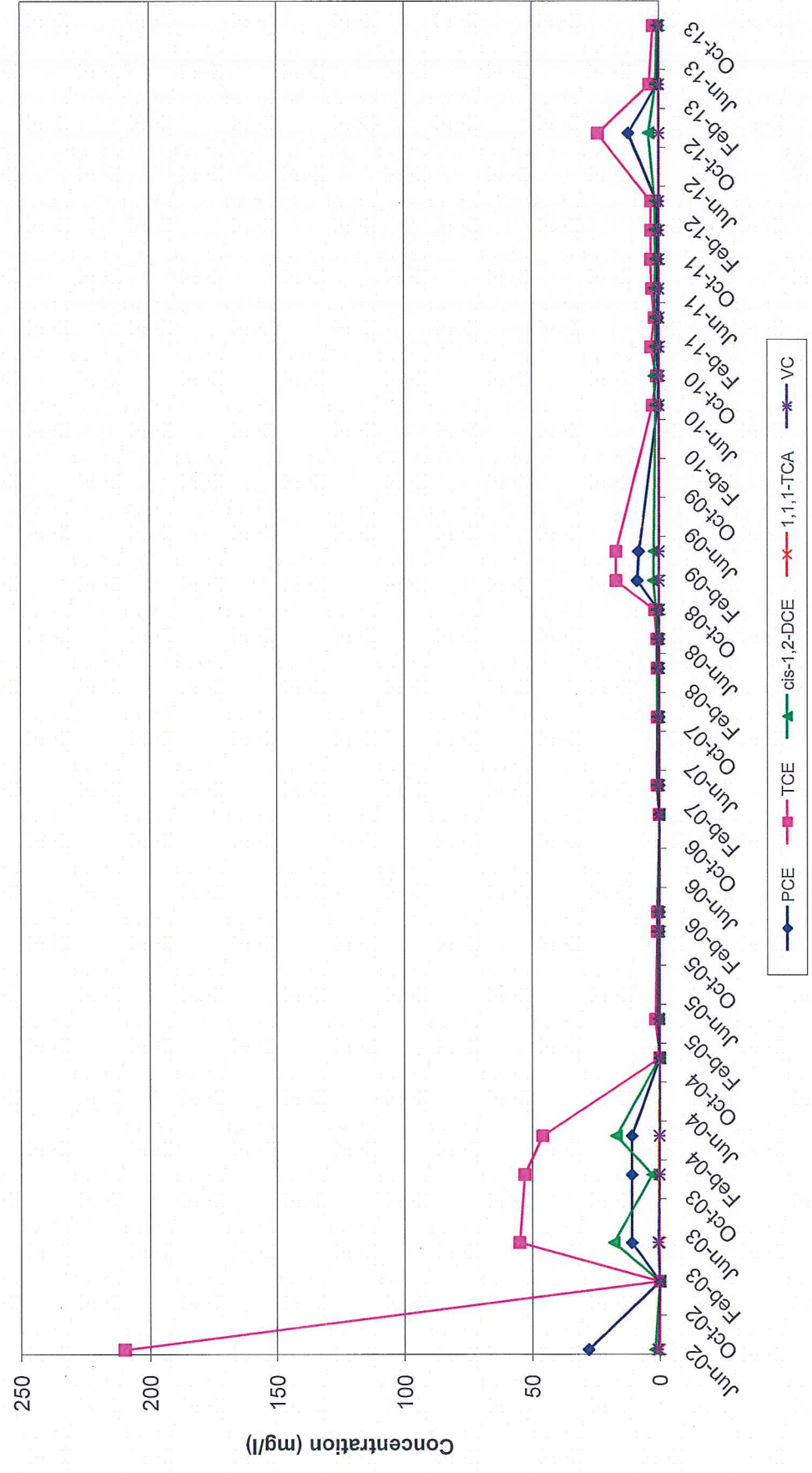
Note: OB-9-S is a shallow well east of Building 9 where bio-injection was completed from 2006 to 2012. See end of appendix for additional notes.

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 where permanganate injection was completed 2003-2007, 2009, 2011 and 2012. See end of appendix for additional notes.

VOC Trends in Well OB-19-DO
Former Varian Facility Site
Beverly, Massachusetts



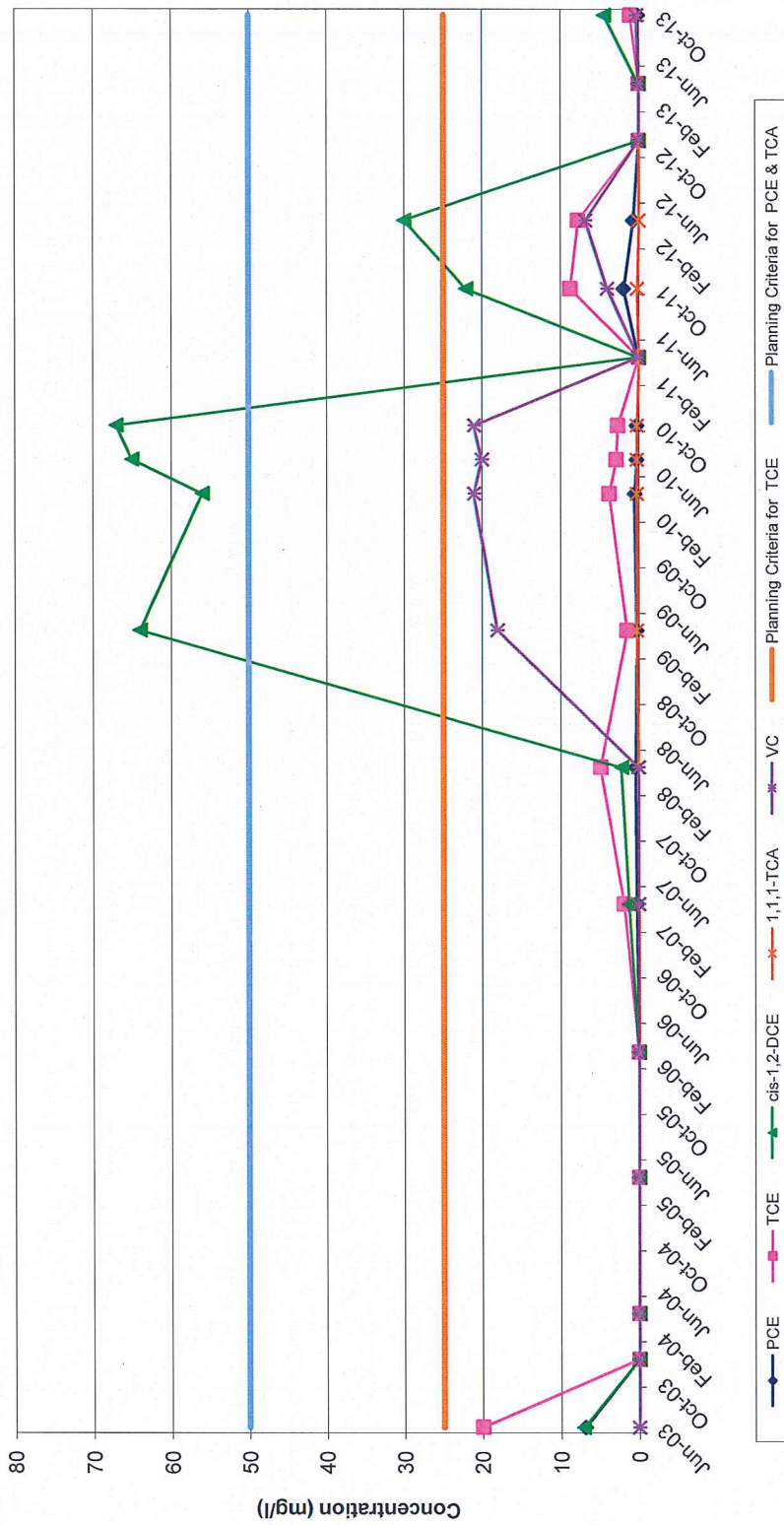
Note: OB-19-DO is a deep overburden well west of Building 2 where permanganate injection was conducted from 2002-2005. See end of appendix for additional notes.

VOC Trends in Well OB-25-DO
Former Varian Facility Site
Beverly, Massachusetts



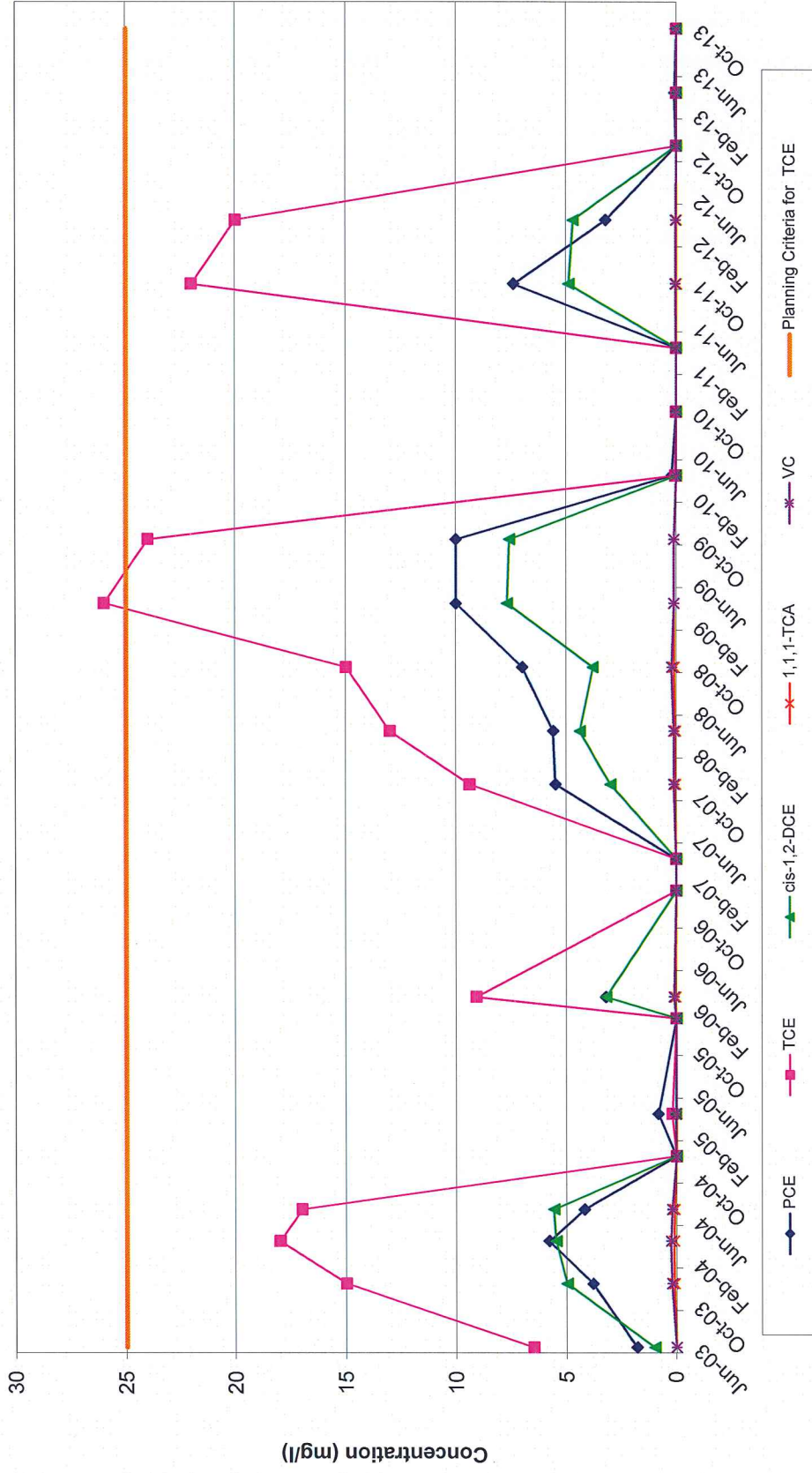
Note: OB-25-DO is a deep overburden well located west of Building 1.
See end of appendix for additional notes.

VOC Trends in Well OB-25-BR
Former Varian Facility Site
Beverly, Massachusetts



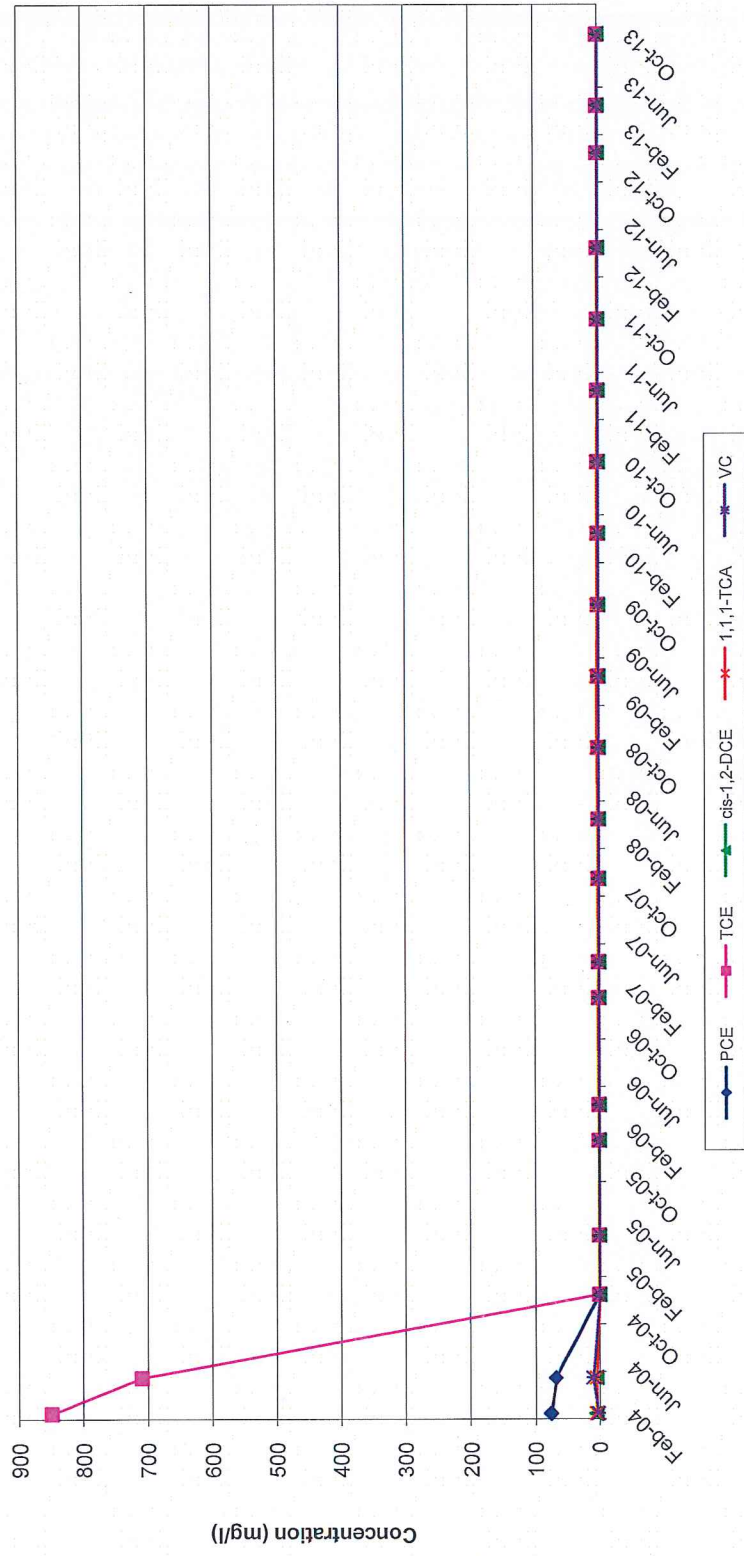
Notes: OB-25-BR is a bedrock well located just west of Building 1 where permanganate injection was conducted in 2003, 2010, and 2012. See end of appendix for additional notes.

VOC Trends in Well OB-27-BR
Former Varian Facility Site
Beverly, Massachusetts



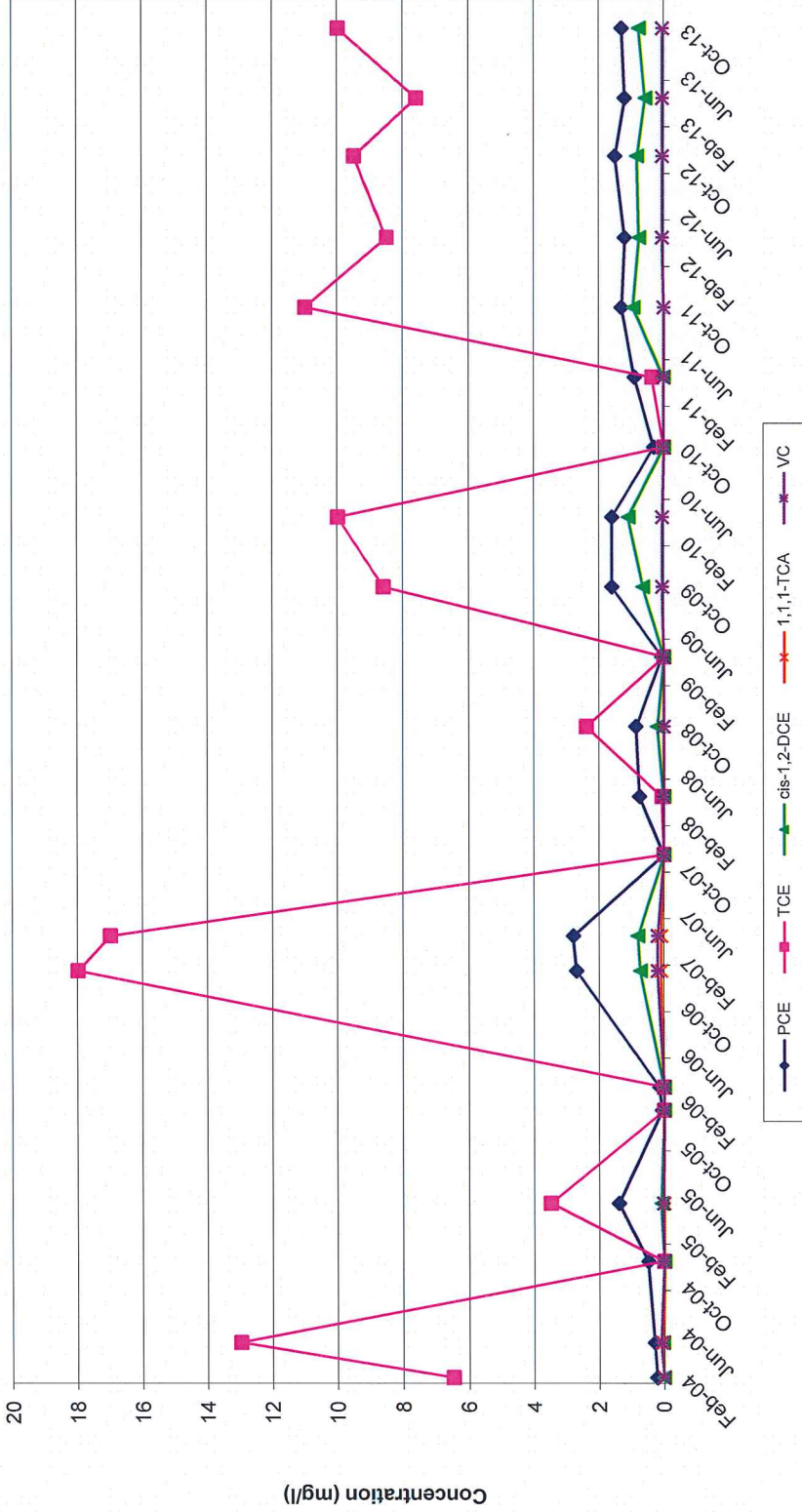
Notes: OB-27-BR is a bedrock well located west of Building 7 where permanganate injection was conducted in 2004-2007 and in 2010-2012. See end of appendix for additional notes.

VOC Trends in Well OB-32-DO
 Former Varian Facility Site
 Beverly, Massachusetts



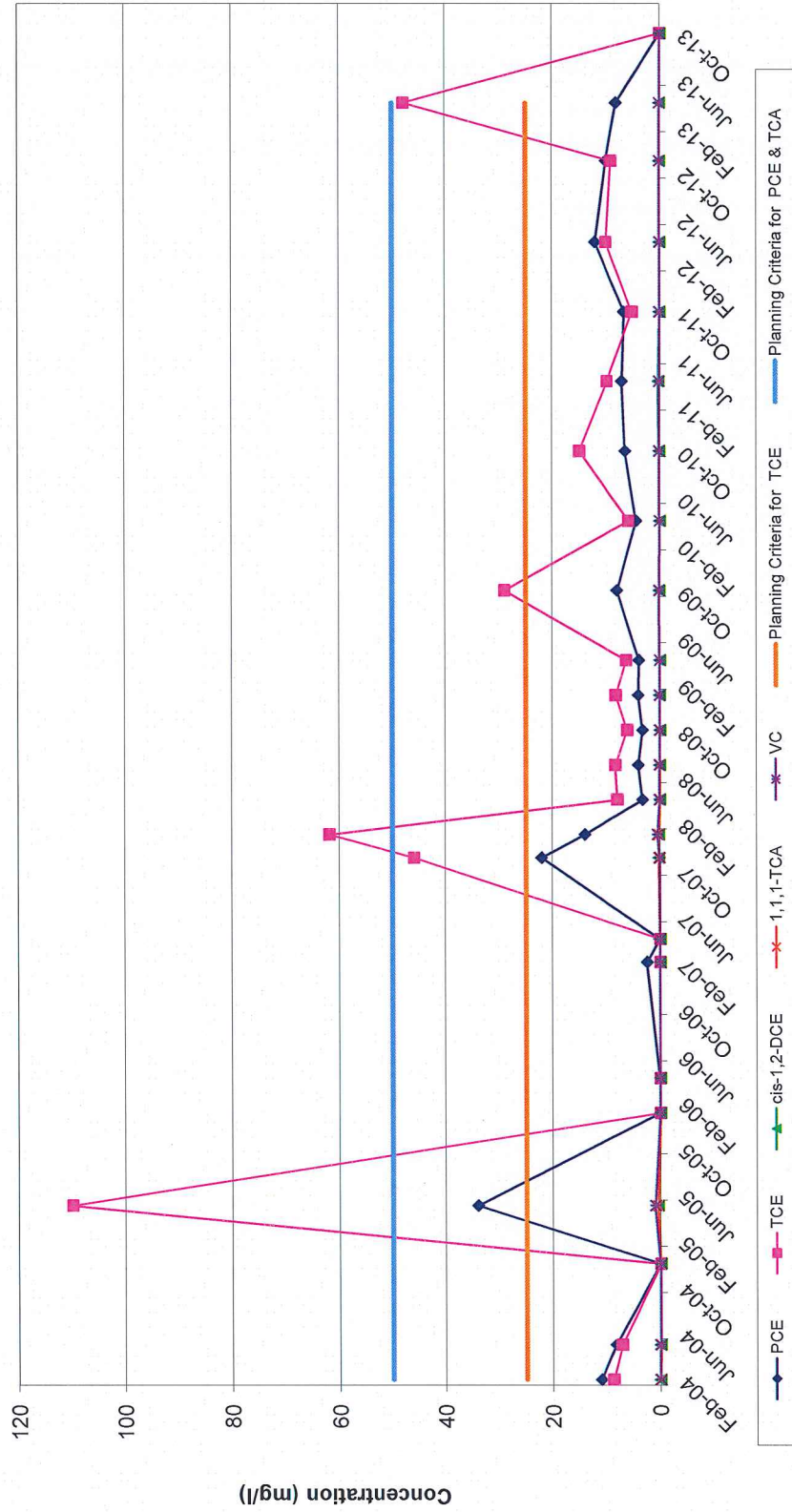
Notes: OB32-DO is a deep overburden well just north of Building 3 where injection was conducted in 2004. See end of appendix for additional notes.

VOC Trends in Well OB-34-DO
Former Varian Facility Site
Beverly, Massachusetts



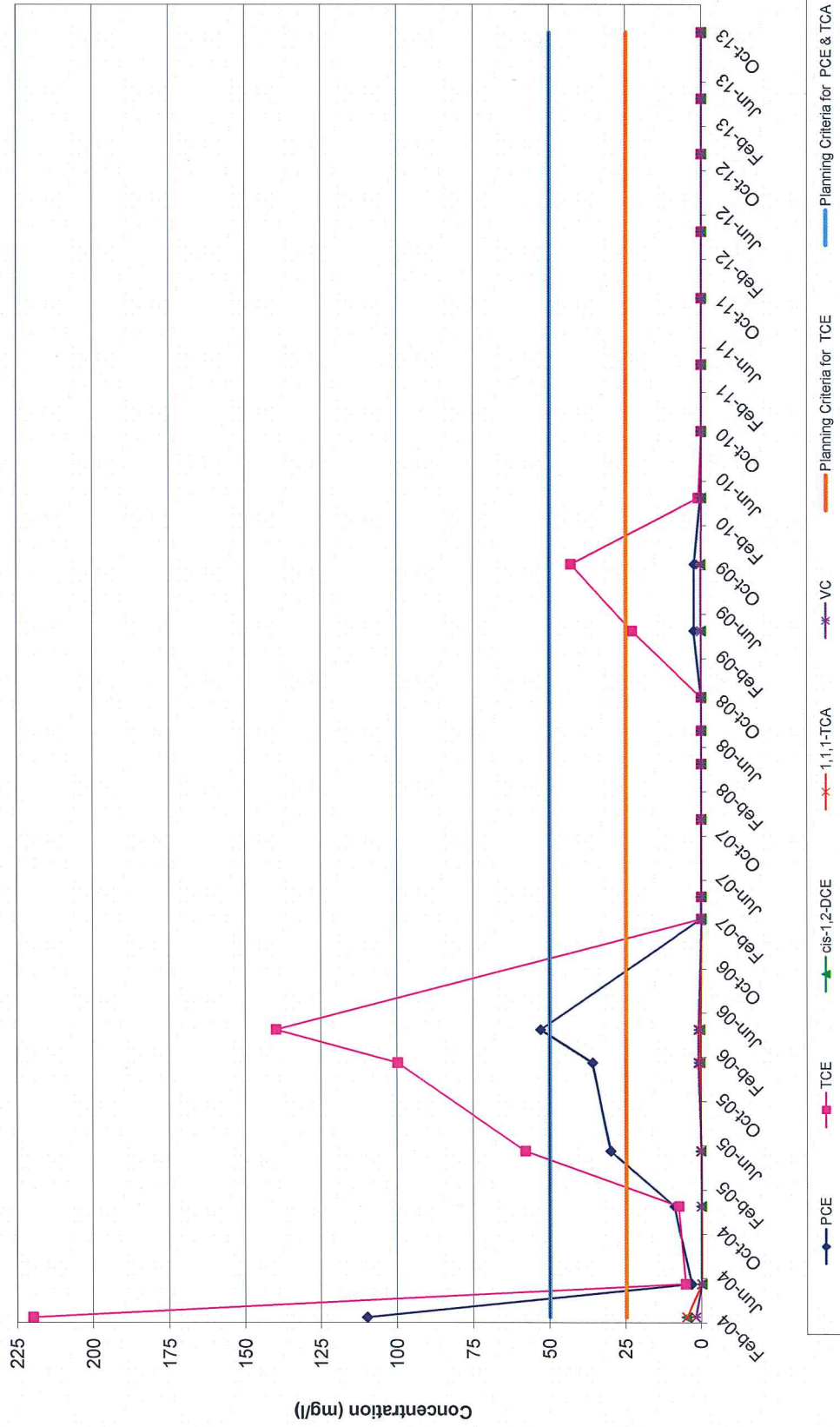
Notes: OB34-DO is a deep overburden well north of Building 3 where permanganate injection was conducted in 2004, 2005, 2007 and 2009. See end of appendix for additional notes.

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 and 2013. See end of appendix for additional notes.

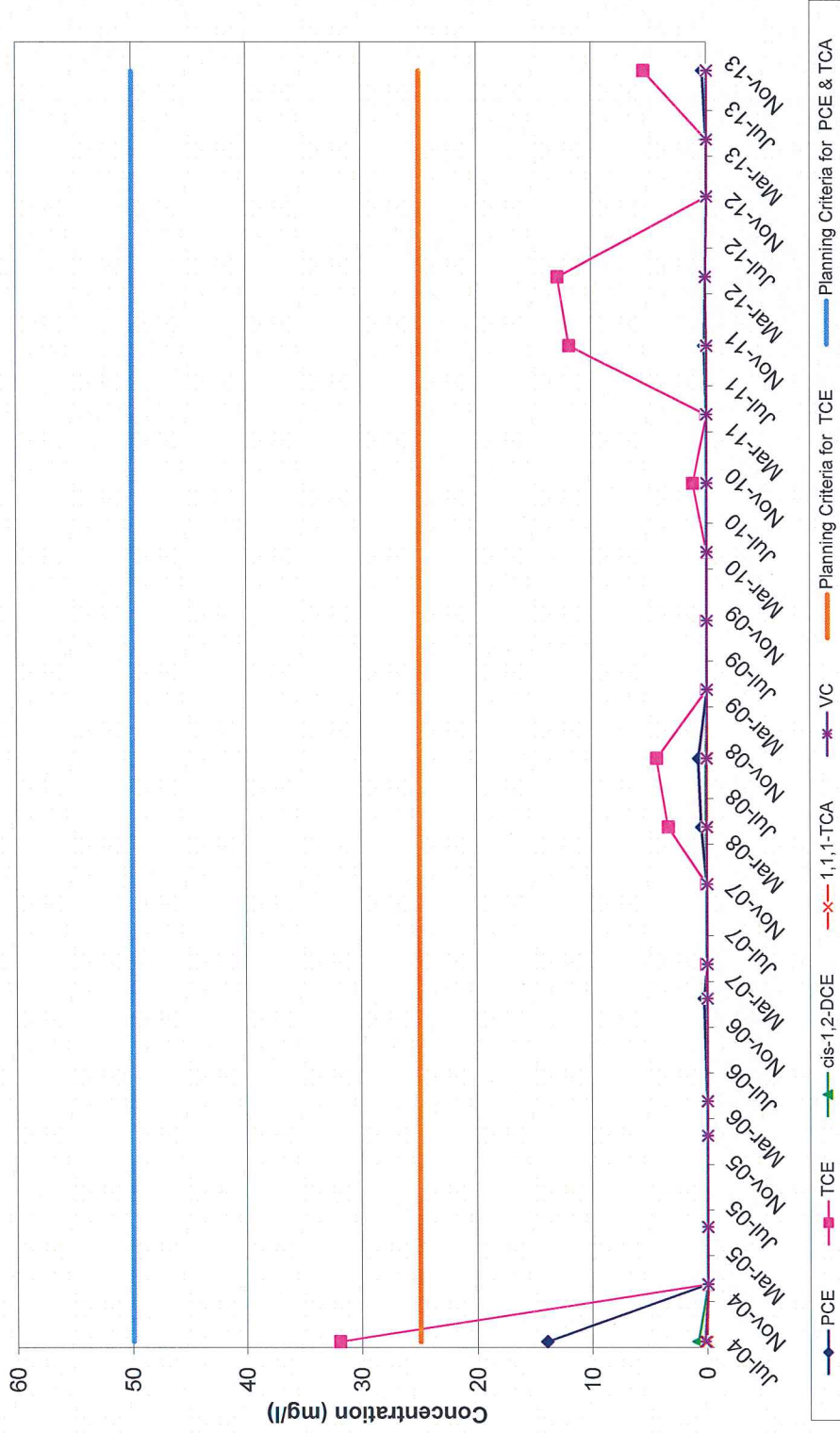
VOC Trends in Well OB-37-DO
Former Varian Facility Site
Beverly, Massachusetts



Notes: OB37-DO is a deep overburden well inside Building 6 where permanganate injection was conducted in 2006, 2007 and 2010-2011. See end of appendix for additional notes.

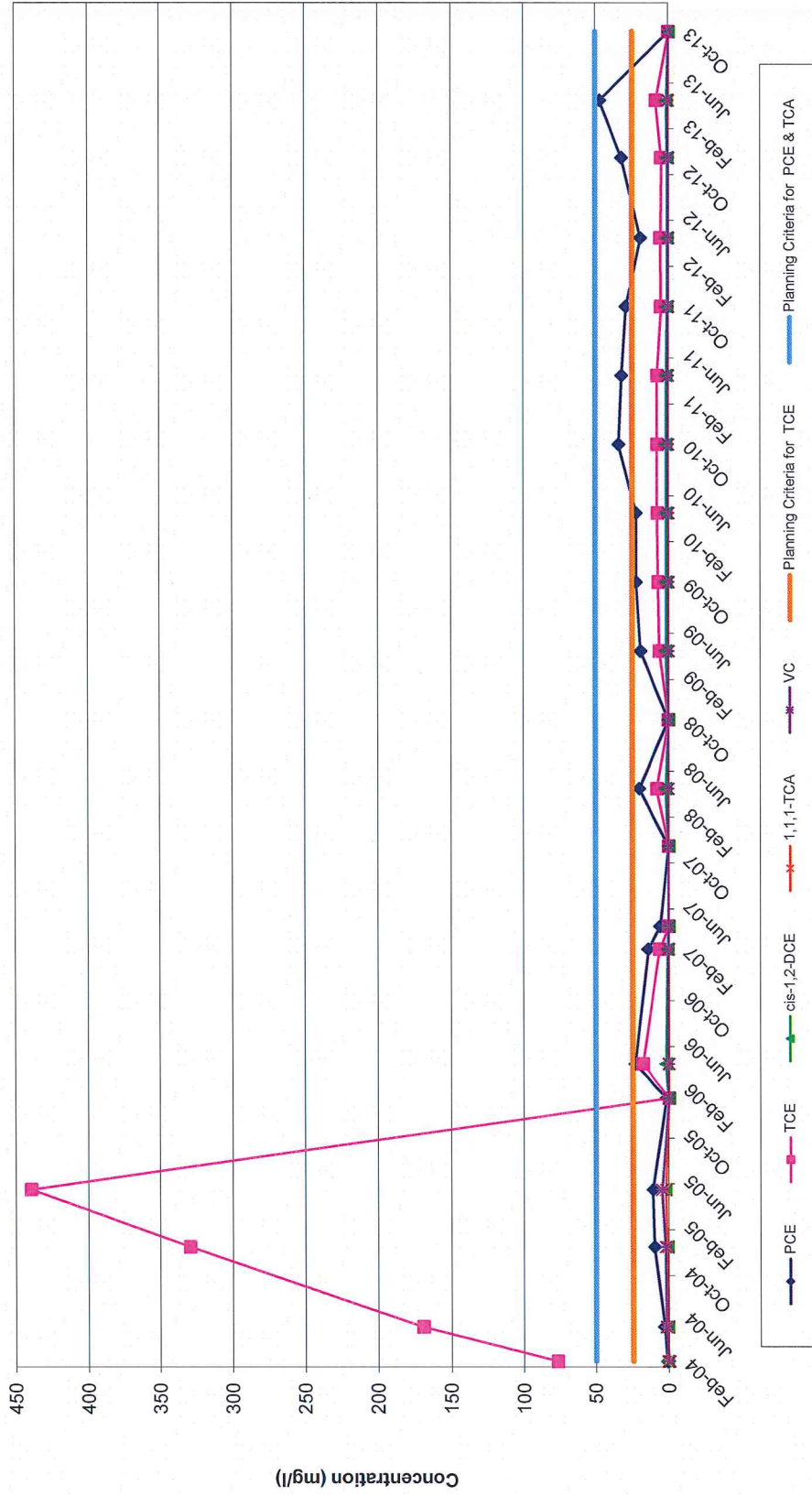
BUILDING 5 TREATMENT AREA

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, 2005 and 2012. See end of appendix for additional notes.

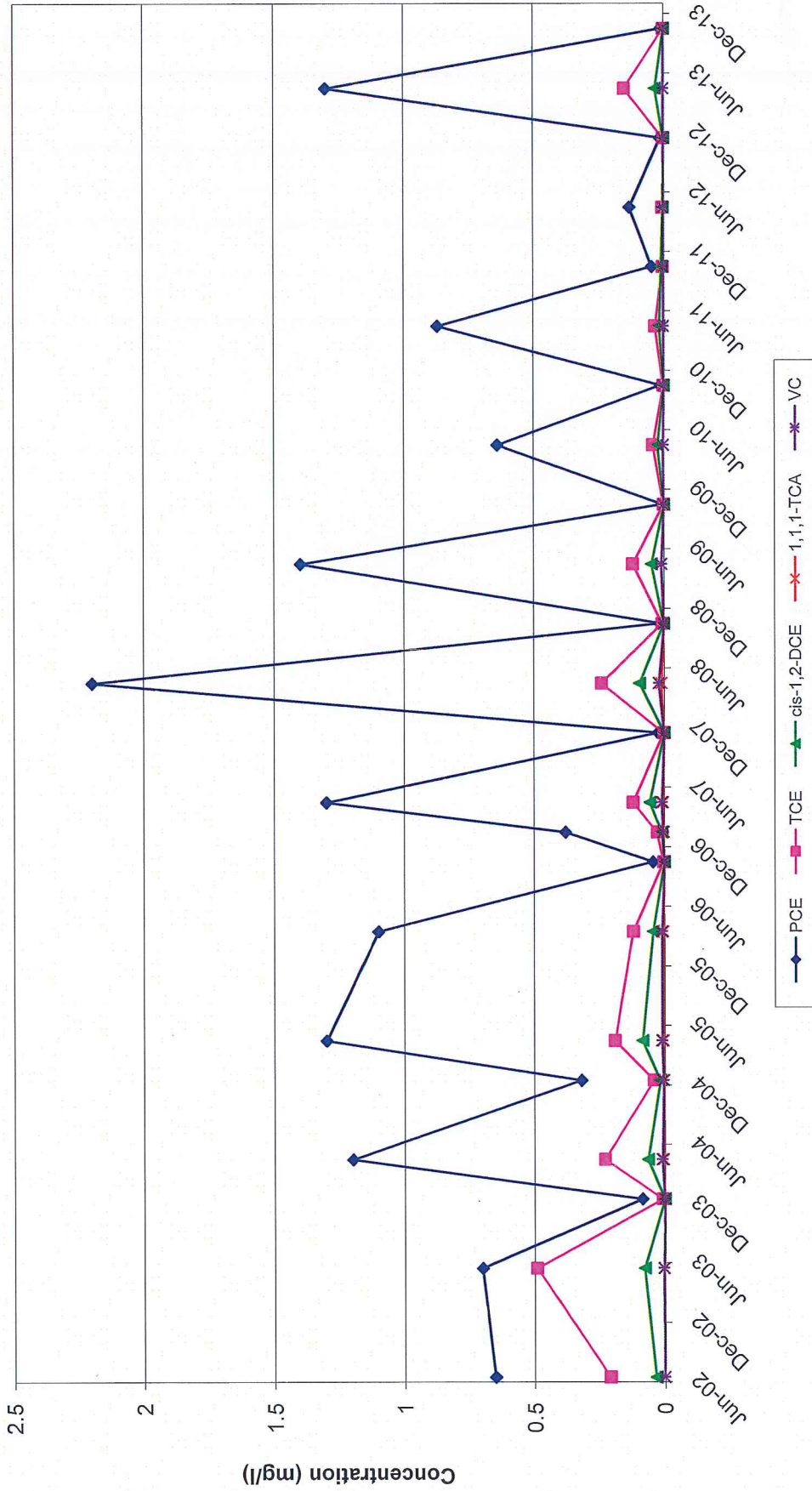
VOC Trends in Well OB-35-DO
Former Varian Facility Site
Beverly, Massachusetts



Notes: OB35-DO is a deep overburden well inside Building 5 where permanganate injection was conducted from 2005 to 2008 and 2010 to 2013. See end of appendix for additional notes.

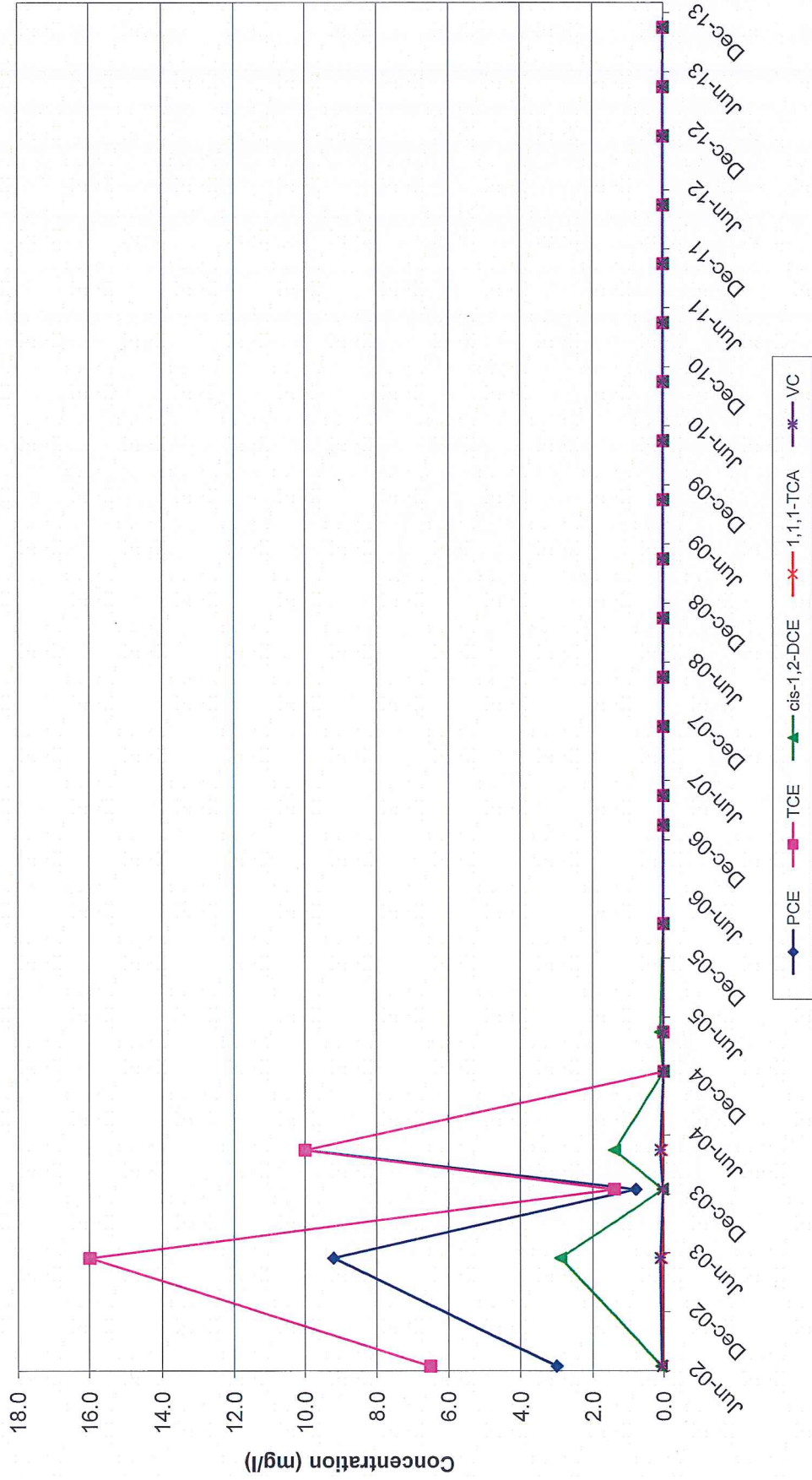
PSL 10 TREATMENT AREA

VOC Trends in Well CL10-S
Former Varian Facility Site
Beverly, Massachusetts



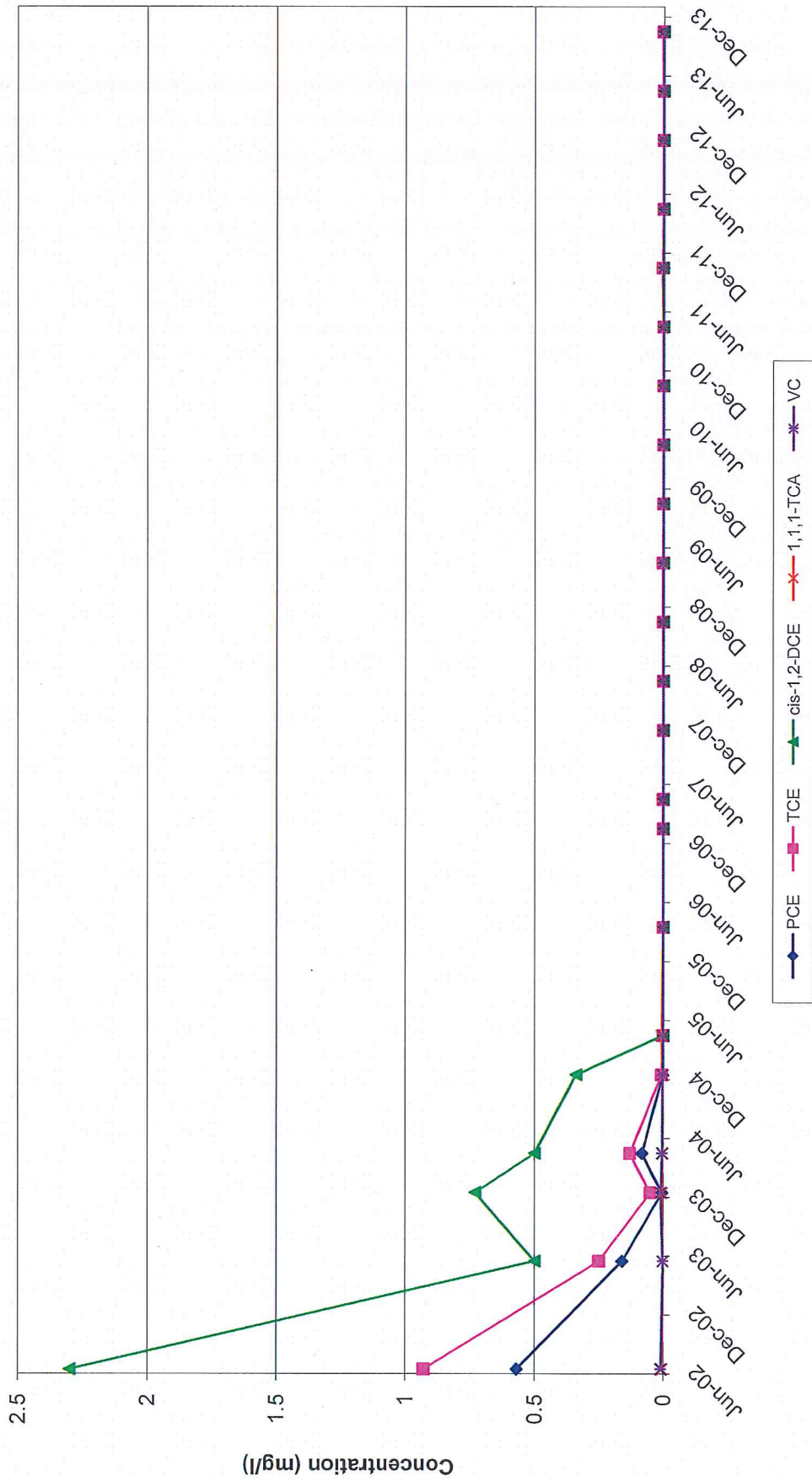
Notes: CL10-S is a shallow overburden well located in the PSL10 treatment area, south of the facility. See end of appendix for additional notes.

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

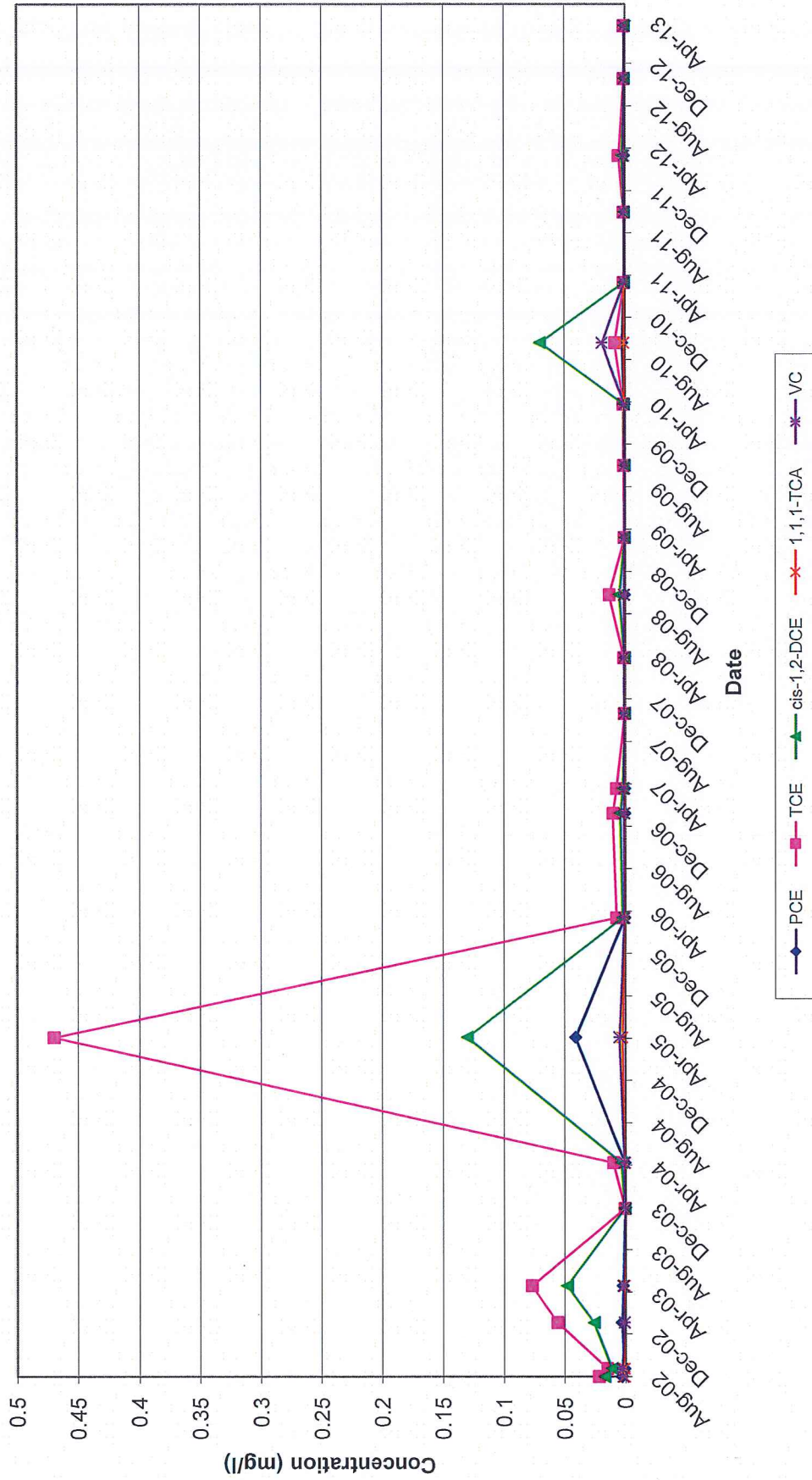
VOC Trends in Well CL03-DO
Former Varian Facility Site
Beverly, Massachusetts



Notes: CL3-DO is a deep overburden well located at 28 Tozer Road where permanganate injection was conducted in 2002 and 2013. See end of appendix for additional notes.

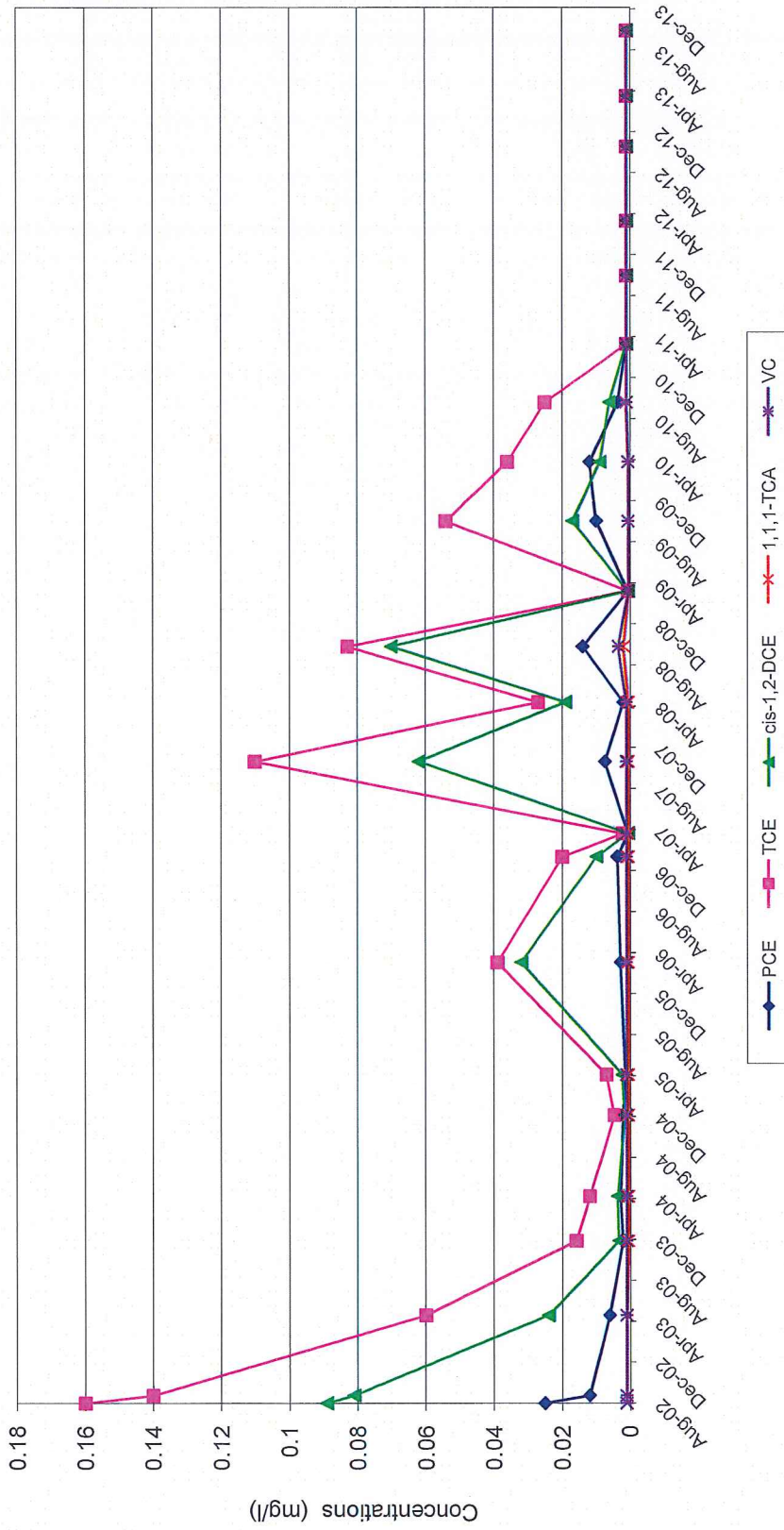
31 TOZER ROAD TREATMENT AREA

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.

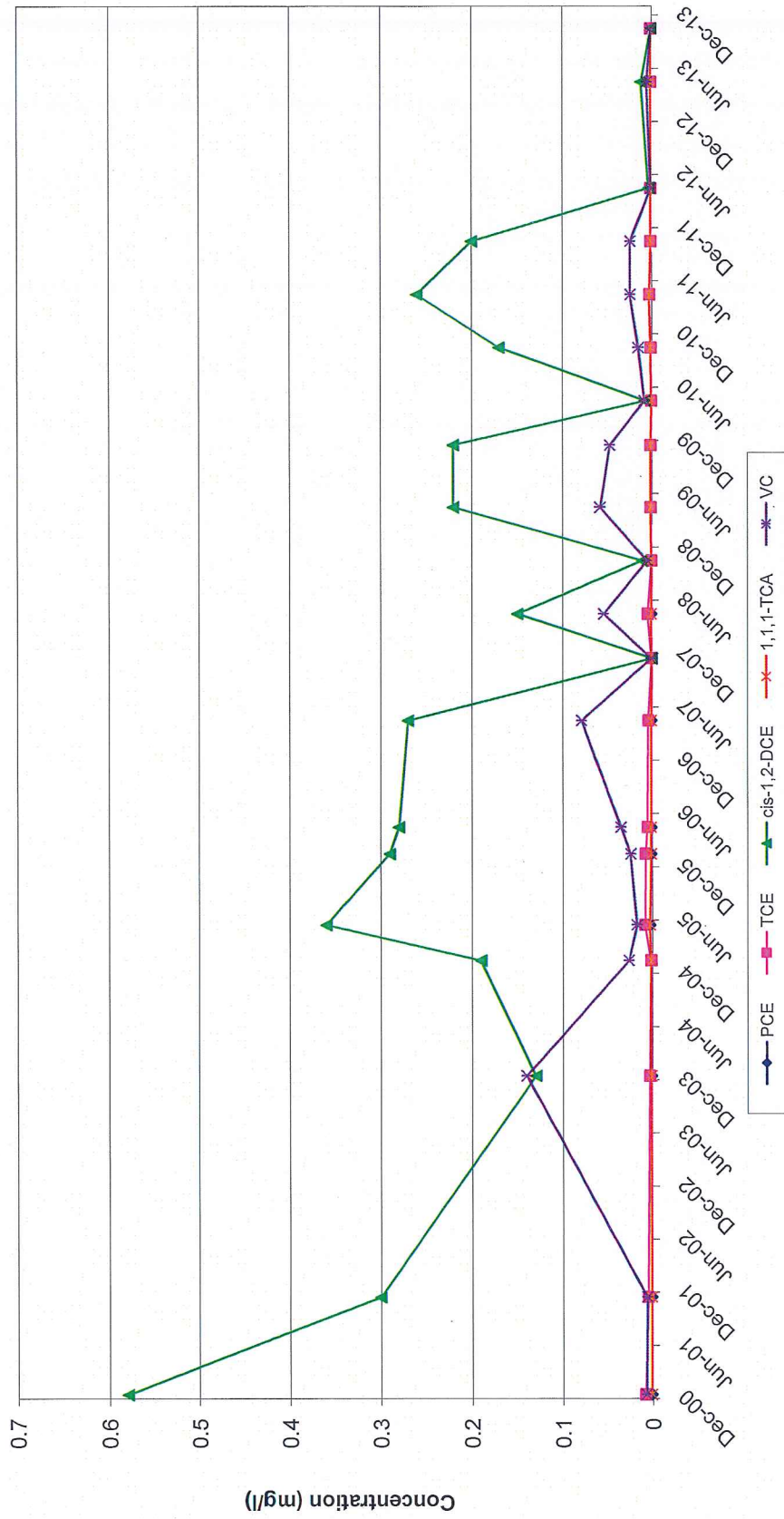
VOC Trends in Well AP-15S
Former Varian Facility Site
Beverly, Massachusetts



Notes: AP15-S is a shallow well at 31 Tozer Road.
See end of appendix for additional notes.

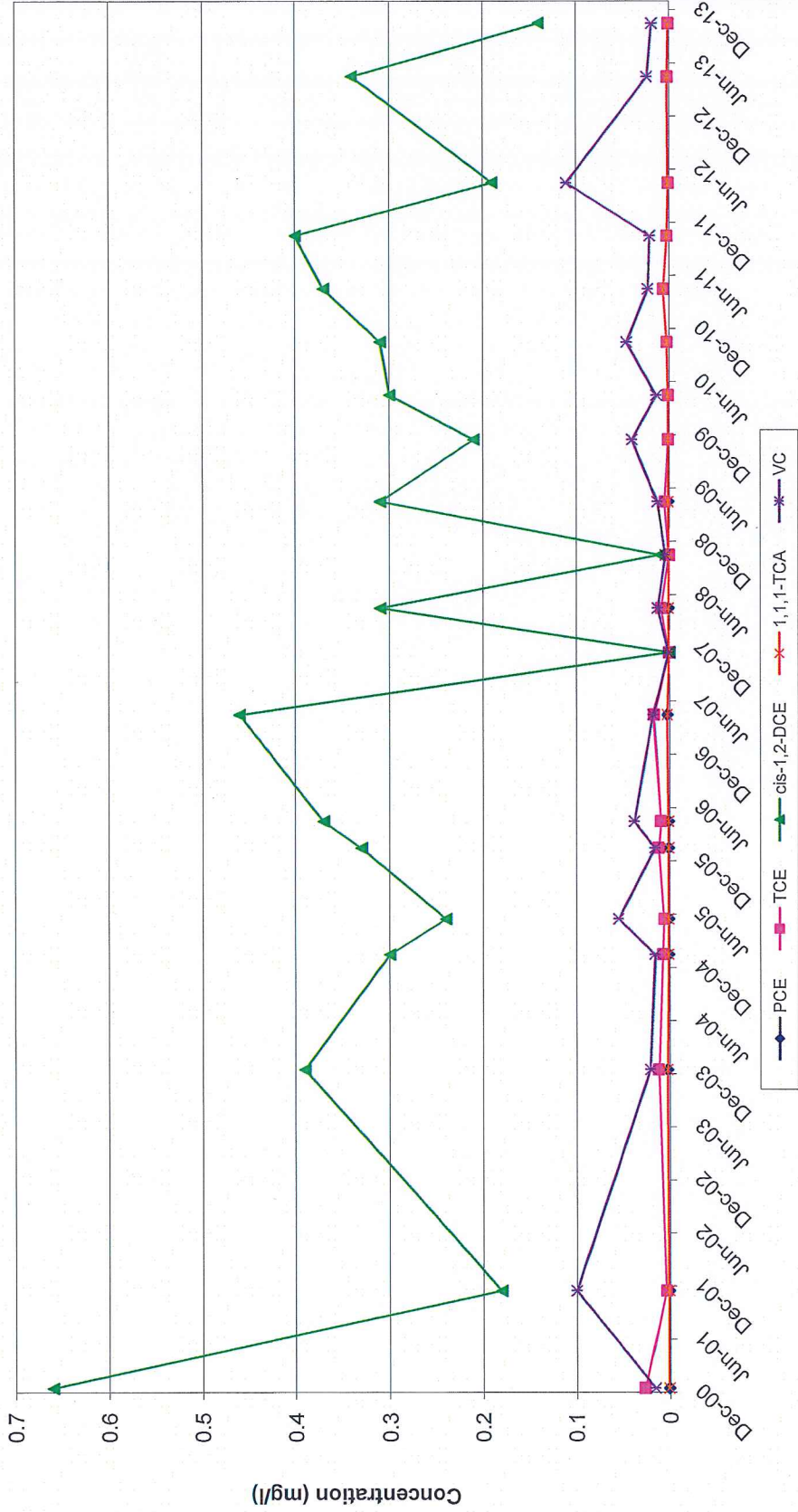
LONGVIEW/HILL STREET TREATMENT AREA

VOC Trends in Well BR-6_ZONE1
Former Varian Facility Site
Beverly, Massachusetts



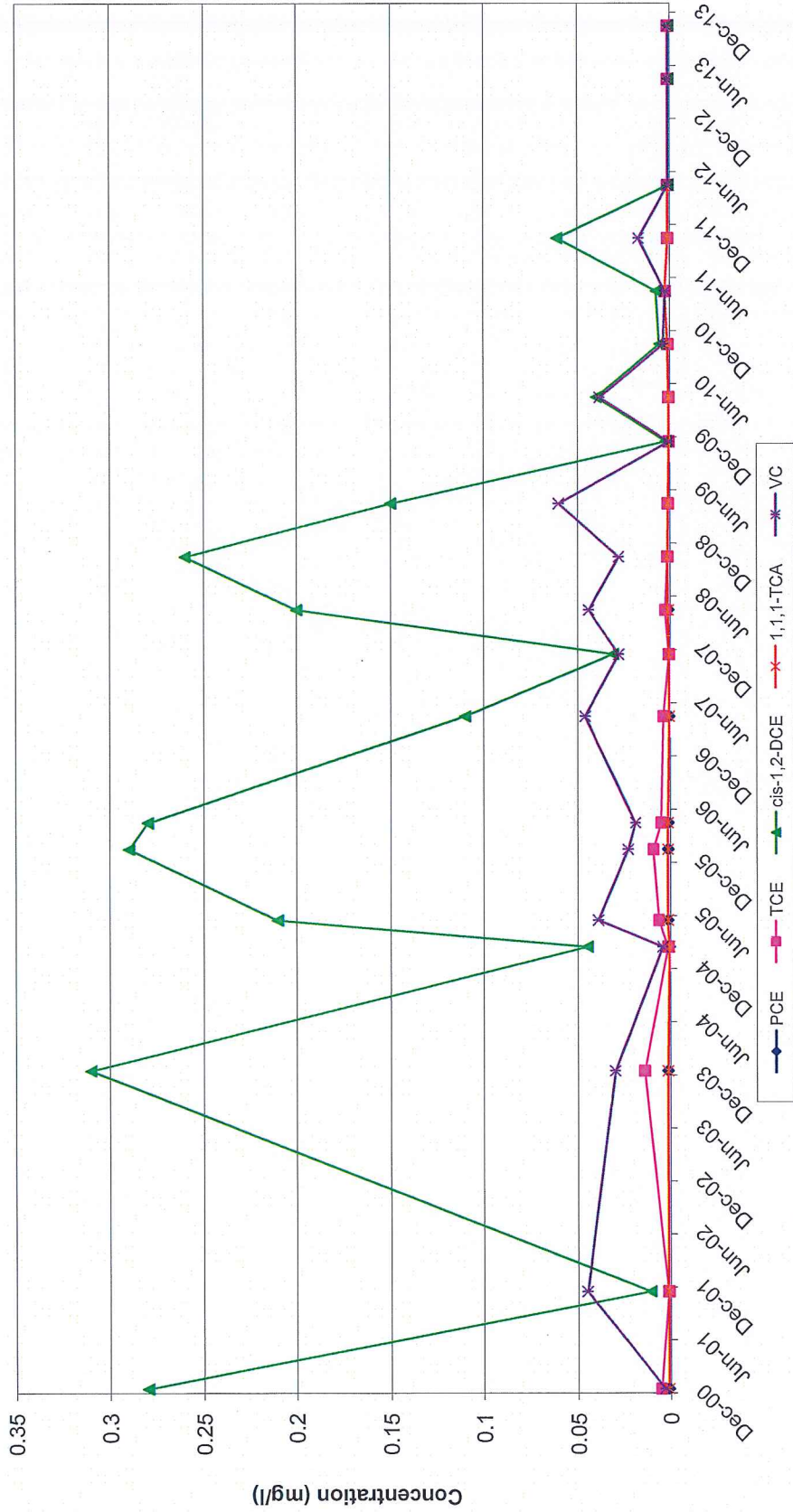
Notes: BR-6 Zone 1 is the deepest zone of a bedrock well on Hill Street.
See end of appendix for additional notes.

VOC Trends in Well BR-6_ZONE2
 Former Varian Facility Site
 Beverly, Massachusetts



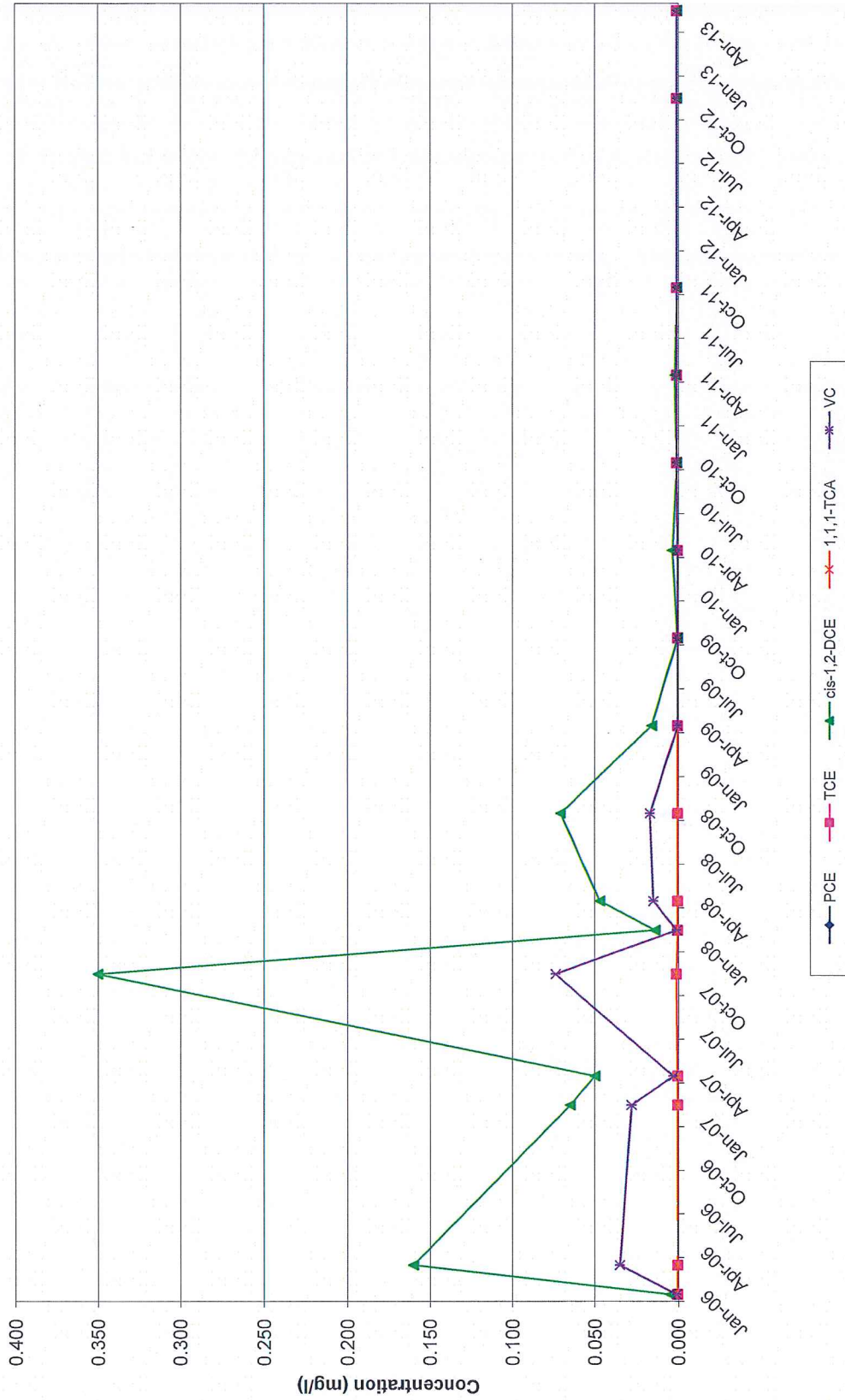
Notes: BR-6 Zone 2 is the middle depth zone of a bedrock well on Hill Street.
 See end of appendix for additional notes.

VOC Trends in Well BR-6_ZONE3
Former Varian Facility Site
Beverly, Massachusetts



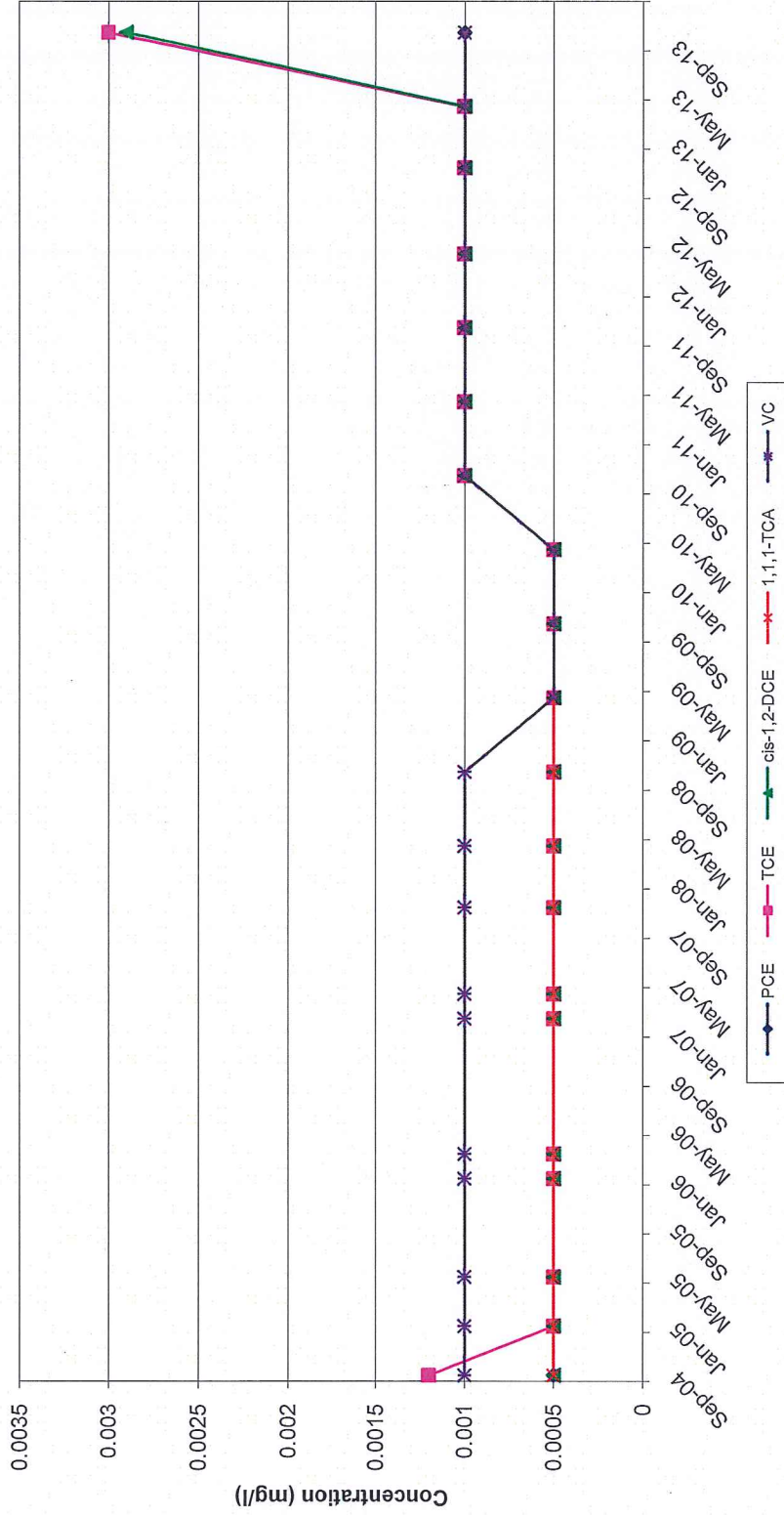
Notes: BR-6 Zone 3 is the shallowest zone of a bedrock well on Hill Street.
See end of appendix for additional notes.

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.

VOC Trends in Well OB-20-S
Former Varian Facility Site
Beverly, Massachusetts



Notes: OB20-S is a shallow overburden well south of Sonning Road in the Longview/Hill Street treatment area. See end of appendix for additional notes.

APPENDIX E

COPIES OF WASTE MAINFESTS



www.enpro.com

www.tsdf.com

www.hazardouswaste.com

www.enpro.com

www.hazardouswaste.com

www.enpro.com

www.tsdf.com

www.hazardouswaste.com

NON HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. MAR0000006734		Manifest Document No. 24977		2. Page 1 of 1			
3. Generator's Name and Mailing Address Varian Medical Systems, Inc c/o C B & I 150 Royal Street, 150 Royal Street Canton MA 02021				Attn: Raymond Cadorette		A. Non-Hazardous Manifest Document Number NHZ001 24977			
4. Generator's Phone (617) 589 - 6102				6. US EPA ID Number MAD980670004		B. S.G.I. (Gen. Site Address) 150 Somer Road Beverly MA 01815			
5. Transporter 1 Company Name ENPRO SERVICES, INC.				8. US EPA ID Number		C. S.T.I. (Lic. Plate #)			
7. Transporter 2 Company Name				10. US EPA ID Number		D. Transporter's Phone 978-465-1595			
9. Designated Facility Name and Site Address ENPRO SERVICES OF MAINE, INC. 106 MAIN STREET SOUTH PORTLAND ME 04106				10. US EPA ID Number MED019051069		E. S.T.I. (Lic. Plate #)			
						F. Transporter's Phone			
						G. State Facility's ID SAME			
						H. Facility's Phone 207-799-0850			
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON DOT, NON RCRA REGULATED MATERIAL						No.	Type		State
						002	DF	90/140 P	NONE
									NONE
b.									State
c.									State
d.									State
J. Additional Descriptions for Materials Listed Above (S) Neutralized Sodium Permanganate Solids (55) VMS-003 (ME-0314-05281)				K. Handling Codes for Wastes Listed Above		Interim	Final	Interim	Final
a.				b.		a.	b.	c.	d.
c.				d.		c.	d.		
15. Special Handling Instructions and Additional Information ENPRO SERVICES, INC. - 24 HOURS - (800) 966-1102 1) ENPRO PO# 25829 Point of Departure: ENPRO JOB# 7324-14									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable state laws and regulations.									
Printed/Typed Name Raymond J. Cadorette Agent for VMS				Signature 			Month Day Year 03/17/14		
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name Jeff Hanlon				Signature 			Month Day Year 03/17/14		
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name				Signature			Month Day Year		
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name				Signature			Month Day Year		

GENERATOR'S COPY



Waste Information Profile Form

ENPRO Services of Maine, Inc.
 106 Main Street
 S. Portland, ME 04106
 Phone: 207.799.0850 Fax: 207.779.5565
 MED019051069

ENPRO Services of Vermont, Inc
 54 Avenue D
 Williston, VT 05495
 Phone: 802.860.1200 Fax: 802.860.7202
 VTR000517052

Profile #: VMS-003 **Process Code:** NSL **Approval Code:** ME-0312-05281

1. Generator Information:			
Generator Name: <u>Varian Medical Systems, Inc</u>			
Mailing Address: <u>c/o Shaw E & I 150 Royal Street</u>			
City: <u>Canton</u>	State: <u>MA</u>	Zip: <u>02021</u>	Phone: <u>617-589-6102</u>
Site Address: <u>150 Sohier Road</u>			
City: <u>Beverly</u>	State: <u>MA</u>	Zip: <u>01915</u>	
Technical Contact: <u>Raymond Cadorette</u>		Phone: <u>617-589-6102</u>	
Site EPA ID: <u>MAR000006734</u>		NAICS Code: _____	
2. Billing Information:			
Customer Name: <u>ENPRO Services, Inc.</u>			
Address: <u>12 Mulliken Way</u>			
City: <u>Newburyport</u>	State: <u>MA</u>	Zip: <u>01950</u>	
Billing Contact: _____		Email: _____	
Phone: <u>(978) 465-1595</u>	Fax: <u>(978) 465-2050</u>		
3. Waste Description:			
Common Name of Waste: <u>Neutralized Sodium Permag Solids</u>			
Process Generating Waste: <u>PPE and spill containment material containing permanganate is neutralized with a solution of hydrogen peroxide, distilled vinegar, and water for disposal.</u>			
4. Physical & Chemical Properties			
Color: <u>Varies</u>		Odor: <input checked="" type="checkbox"/> None <input type="checkbox"/> Mild <input type="checkbox"/> Strong Describe: <u>None</u>	
Flash <input type="checkbox"/> <100	BTU/lb	<input checked="" type="checkbox"/> Solid	Free Liquids? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Point (F°) <input type="checkbox"/> ≥100-140	<input type="checkbox"/> <2000	<input type="checkbox"/> Liquid	<u>100.00</u> % Solids _____ % Liquids
<input type="checkbox"/> ≥140-200	<input type="checkbox"/> 2,000-6,000	<input type="checkbox"/> Sludge	Will waste dump out of drums? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> >200	<input type="checkbox"/> >6,000-10,000	<input type="checkbox"/> Semi-solid	Is the waste pumpable? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> N/A	<input type="checkbox"/> >10000	<input type="checkbox"/> Powder	Debris?(List type in Section 7) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Gas	Is the waste dusty? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Specific Gravity	Viscosity	pH	Other Components
<input type="checkbox"/> < 0.8 (Light oil)	<input type="checkbox"/> Low (Water)	<input type="checkbox"/> ≤ 2.0	Total cyanides (ppm) <u>0.00</u>
<input type="checkbox"/> 0.8-1.0 (Water based)	<input type="checkbox"/> Med (Pump on)	<input type="checkbox"/> >2.0-5	Total sulfides (ppm) <u>0.00</u>
<input type="checkbox"/> > 1.0 (Chlorinated Solvents)	<input type="checkbox"/> High (Molasses)	<input type="checkbox"/> >5-9	PCBs (ppm) <u>0.00</u>
<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/> >9-12.49	Total Halogens /HOC (%) <u>0.00</u>
		<input type="checkbox"/> ≥ 12.5	Total VOC (ppm) <u>0.00</u>
5. Hazardous Properties: (Check all that apply)			
<input checked="" type="checkbox"/> None	<input type="checkbox"/> Radioactive	<input type="checkbox"/> Pyrophoric	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Water Reactive	<input type="checkbox"/> Dioxins	<input type="checkbox"/> Explosive	<input type="checkbox"/> Medical Waste/Infectious
<input type="checkbox"/> Shock Sensitive	<input type="checkbox"/> Air Reactive	<input type="checkbox"/> Reactive Cyanide	<input type="checkbox"/> Reactive Sulfide
<input type="checkbox"/> Asbestos	<input type="checkbox"/> Benzene NESHAP	<input type="checkbox"/> Pesticide/Herbicide	<input type="checkbox"/> Peroxide Forming Compound
6. Regulatory Status (Check all that apply)			
Y N			
<input checked="" type="checkbox"/> USEPA Hazardous Waste per 40 CFR 261 (If yes list codes) _____			
<input checked="" type="checkbox"/> Do any state waste codes apply? (If yes list codes) _____			
<input checked="" type="checkbox"/> Is this waste subject to land ban restrictions?			
Is this a <input type="checkbox"/> wastewater <input type="checkbox"/> non wastewater			
<input checked="" type="checkbox"/> If DOO1-D043, are any underlying hazardous constituents (UHC) present			
<input checked="" type="checkbox"/> Does this waste contain VOC's ≥ 500 ppm (subpart CC)			
Form Code <u>W319</u>		Source Code <u>G09</u>	



Profile #: VMS-003

7. Composition of Waste: (List all haz. And non-haz. Constituents)

ABSORBENT PADS	99.00 - 100.00 %		-	%
See Attached Profile	0.00 - 100.00 %		-	%
Sodium Permanganate	0.00 - 1.00 %		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%
	-		-	%

8. DOT Shipping Information: (include PG, UN/NA, and Haz. Class)
 NON DOT, NON RCRA REGULATED MATERIAL

Poison Inhalation Hazard: YES NO Zone: _____

Method of Shipment: Bulk Liquid Bulk Solid Drums Other Container type size: 55 Gallon Metal Drum

Volume per shipment: _____ Gallons Tons Drums Other P

Frequency: One Time Weekly Monthly Quarterly Yearly Other Semi-Annually

Does this material require any special handling? Yes No If yes, explain: _____

9. Inorganic Metals: None TCLP Totals Generator Knowledge in mg/l


D004 Arsenic (5mg/l)	0.00	D011 Silver (5mg/l)	0.00	Manganese	0.00
D005 Barium (100mg/l)	0.00	Aluminum	0.00	Molybdenum	0.00
D006 Cadmium (1mg/l)	0.00	Antimony	0.00	Nickle	0.00
D007 Chromium (5mg/l)	0.00	Beryllium	0.00	Thallium	0.00
D007 Chromium-Hex	0.00	Cobalt	0.00	Tin	0.00
D008 Lead (5mg/l)	0.00	Copper	0.00	Zinc	0.00
D009 Mercury (0.2mg/l)	0.00				
D010 Selenium (1mg/l)	0.00				

10. Organic Compounds None TCLP Totals Generator Knowledge in mg/l

D012 Endrin (0.02)	0.00	D023 o-Cresol (200)	0.00	D034 Hexachloroethane (3.0)	0.00
D013 Lindane (0.4)	0.00	D024 m-Cresol (200)	0.00	D035 Methyl ethyl ketone (200)	0.00
D014 Methoxychlor (10)	0.00	D025 p-Cresol (200)	0.00	D036 Nitrobenzene (2)	0.00
D015 Toxaphene (0.5)	0.00	D026 Cresol (200)	0.00	D037 Pentachlorophenol (100)	0.00
D016 2,4-D (10)	0.00	D027 1,4-Dichlorobenzene (7.5)	0.00	D038 Pyridine (5)	0.00
D017 2,4,5 TP Silvex (1)	0.00	D028 1,2-Dichloroethane (0.5)	0.00	D039 Tetrachloroethylene (0.7)	0.00
D018 Benzene (0.5)	0.00	D029 1,1-Dichloroethylene (0.7)	0.00	D040 Trichloroethylene	0.00
D019 Carbon Tetrachloride (0.5)	0.00	D030 2,4 Dinitrotoluene (0.3)	0.00	D041 2,4,5-Trichlorophenol	0.00
D020 Chlordane (0.03)	0.00	D031 Heptachlor (& epoxide) (0.008)	0.00	D042 2,4,6-Trichlorophenol	0.00
D021 Chlorobenzene (100)	0.00	D032 Hexachlorobenzene (0.13)	0.00	D043 Vinyl Chloride	0.00
D022 Chloroform (6.0)	0.00	D033 Hexachlorobutadiene (0.5)	0.00		

11. Attached Documents: Lab Data MSDS Packing List Other

12. Generator Certification: I hereby certify that I am the agent of the generator, and warrant on behalf of the generator, that all information submitted herein and attached documentation contains true, accurate and complete description of this material. Any sample submitted for analysis is representative of the material being offered for approval. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I will notify ENPRO of any changes in generator status, any information on this form, or any information on attachments. This certification and signature apply to this form, to all attachments checked in Section 11, and to the land disposal restriction notification (LDR) generated from this information.


 Signature: _____ Printed Name: Raymond J. Cadorette Agent for VMS 3/6/14 Title: _____ Date: _____

707623

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number W A R 0 0 0 0 0 7 3 4	2. Page 1 of	3. Emergency Response Phone 877-318-0067	4. Manifest Tracking Number 000696524 VES
----------------------------------	---	--------------	---	--

5. Generator's Name and Mailing Address VARIAN MEDICAL SYSTEMS CO SHAW E & I 150 ROYALL STREET CANTON, MA 02911	Generator's Site Address (if different than mailing address) VARIAN MEDICAL SYSTEMS, INC 150 SCHIER ROAD- TRTMENT FAC. BEVERLY, MA 01915
---	---

6. Transporter 1 Company Name VYOLIA ES TECHNICAL SOLUTIONS	U.S. EPA ID Number N J D 0 8 0 8 3 1 3 8 9
--	---

7. Transporter 2 Company Name FRESHOLD CARTAGE INC	U.S. EPA ID Number N J D 0 5 4 1 2 6 1 6 4
---	---

8. Designated Facility Name and Site Address VYOLIA ES TECHNICAL SOLUTIONS HIGHWAY 73 3.5 MILES W. OF TAYLOR'S BAYOU PORT ARTHUR, TX 77640	U.S. EPA ID Number T X D 0 9 0 8 3 8 8 0 6
--	---

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. NA3071, HAZARDOUS WASTE, SOLID, n.o.s., (TRICHLOROETHYLENE), 9, III	5	D M	2000	P	7001		OUTS609H
X	2. NA3082, HAZARDOUS WASTE, LIQUID, n.o.s., (TRICHLOROETHYLENE), 9, III	5	D M	3000	P	7001		OUTS609H
	3.							
	4.							

14. Special Handling Instructions and Additional Information
 ER Service Contracted by VESTS - 1) DRILL CUTTINGS WASTE (90-100% SOLID) 2) LISTED WATER

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/Offoror's Printed/Typed Name Raymond J. Caronette Agent for VMS	Signature <i>[Signature]</i>	Month 11	Day 8	Year 13
--	---------------------------------	-------------	----------	------------

16. International Shipments Import to U.S. Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____

17. Transporter Acknowledgment of Receipt of Materials	Signature	Month	Day	Year
Transporter 1 Printed/Typed Name Jeremy Anderson	<i>[Signature]</i>	11	14	13
Transporter 2 Printed/Typed Name John A. Mundy	<i>[Signature]</i>	11	14	13

18. Discrepancy

18a. Discrepancy Indication Space Quantity Type Residue Partial Rejection Full Rejection

Manifest Reference Number: _____ U.S. EPA ID 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. H040 2. H040 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 Josette Marie Haund	Signature <i>[Signature]</i>	Month 11	Day 2	Year 13
---	---------------------------------	-------------	----------	------------

GENERATOR
INTL
TRANSPORTER
DESIGNATED FACILITY

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet) 21. Generator ID Number MR0000006734 22. Page 03 23. Manifest Tracking Number 11 000696524VES

24. Generator's Name Varian medical systems c/o

25. Transporter 3 Company Name VADIA ES Technical Solutions U.S. EPA ID Number ND080691369

26. Transporter 4 Company Name TRAD TRANSPORT INC U.S. EPA ID Number OKD981584791

27a. HM	27b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers		29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
		No.	Type					

32. Special Handling Instructions and Additional Information

33. Transporter 5 Acknowledgment of Receipt of Materials
Printed/Typed Name Charles J. [Signature] Signature [Signature] Month 11 Day 25 Year 13

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name John Jordan Signature [Signature] Month 11 Day 25 Year 13

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

HAZARDOUS WASTE MANIFEST	1. Generator ID Number MAR000006734	2. Page 1 of 1	3. Emergency Response Phone 800-424-9300	4. Manifest Tracking Number 006197367 FLE
---------------------------------	---	-----------------------	--	---

Generator's Name and Mailing Address VARIAN MEDICAL SYSTEMS INC 4/CBI 150 Royal Street Cambridge, MA 02142	Generator's Site Address (if different than mailing address) VARIAN MEDICAL SYSTEMS FORMER VARIAN FACILITY 150 South Road Beverly, MA 01915
Generator's Phone: 650-424-6103	

6. Transporter 1 Company Name Horwith Trucks Inc	U.S. EPA ID Number PA0146714874
7. Transporter 2 Company Name	U.S. EPA ID Number
8. Designated Facility Name and Site Address SIEMENS WATER TECHNOLOGIES LLC 2523 Mulham Street Riverside, AZ 85344	U.S. EPA ID Number
Facility's Phone: 928-669-5058	AZ0982441263

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					
1	HAZARDOUS WASTE SOLID, AQS (SILICON) 7. PLUM	31	DM	6100	P	FC02		
2								
3								
4								

14. Special Handling Instructions and Additional Information
(602) SPENT VAPOR CARTRIDGE

Pratic # W90382RH-2 12/11/15

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/Offeror's Printed/Typed Name: **Ramond J Calabrese Agent for VMS** Signature: *[Signature]* Month: **12** Day: **23** Year: **13**

16. International Shipments Import to U.S. 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: **Carl Wilkerson** Signature: *[Signature]* Month: **12** Day: **23** Year: **13**

Transporter 2 Printed/Typed Name: _____ Signature: _____ Month: _____ Day: _____ Year: _____

18. Discrepancy

18a. Discrepancy Indication Space Quantity Type Residue Partial Rejection 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: _____

GENERATOR
 INT'L
 TRANSPORTER
 DESIGNATED FACILITY

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number MAR 000006731	2. Page 1 of 1	3. Emergency Response Phone 800-424-9300	4. Manifest Tracking Number 006197399 FLE
----------------------------------	--	-----------------------	--	---

5. Generator's Name and Mailing Address VARIAN MEDICAL SYSTEMS CP CB&I 150 ROYAL STREET CANTON, MA 02021	Generator's Site Address (if different than mailing address) VARIAN MEDICAL SYSTEMS FORMER VARIAN FACILITY 150 SOLIER ROAD BEVERLY, MA 01915
--	--

Generator's Phone: **650-424-6103**

6. Transporter 1 Company Name HORWATH TRUCKS INC	U.S. EPA ID Number PAD146714874
--	---

7. Transporter 2 Company Name	U.S. EPA ID Number
-------------------------------	--------------------

8. Designated Facility Name and Site Address SIGMUS WATER TECHNOLOGIES LLC 2583 MUTUAL STREET PARKER, AZ 85344	U.S. EPA ID Number
--	--------------------

Facility's Phone: **928-669-9758** **AZD 90241263**

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 ADS (SOLVENTS) 9, P6 III	11	DM	1100	P	FOOZ		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
962) SPENT VAPOR CARBON

Profile # W90382RH-2 Exp: 12/1/15

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/Offor's Printed/Typed Name: **Raymond J. Calorelle Agent for VMS** Signature: *[Signature]* Month: **6** Day: **29** Year: **14**

16. International Shipments Import to U.S. Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____

17. Transporter Acknowledgment of Receipt of Materials
Transporter signature (for exports only): _____

Transporter 1 Printed/Typed Name CALORELLE	Signature	Month	Day	Year
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

18. Discrepancy Quantity Type Residue Partial Rejection Full Rejection

18b. Alternate Facility (or Generator) Manifest Reference Number: _____ 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: _____

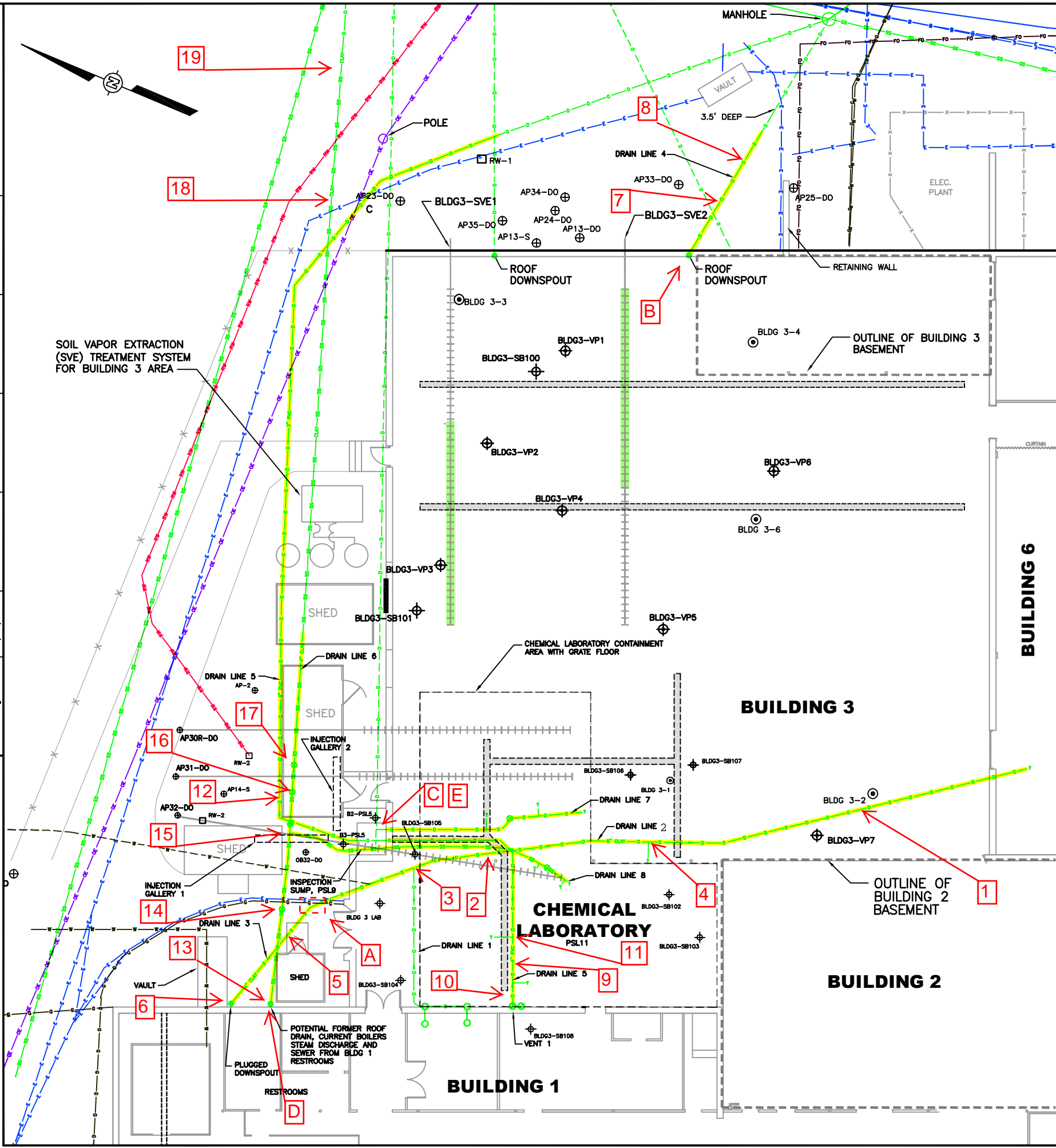
GENERATOR
TRANSPORTER INT'L
DESIGNATED FACILITY

APPENDIX F

DRAIN LINE ASSESSMENT BUILDING 3

File: O:\Project\150148\150148-B3.dwg
 Plot Date/Time: Apr 15, 2014 - 8:01am
 Plotted By: gregjones

OFFICE: Pittsburgh, PA
 DATE: --/--
 DESIGNED BY: --
 DRAWN BY: --
 CHECKED BY: --
 APPROVED BY: --
 DRAWING NUMBER: 150148-B1



LEGEND

- BUILDING 3 TREATMENT AREA
- ||||| HORIZONTAL SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
- ||||| PORTION (SHADED) OF HORIZONTAL SOIL VAPOR EXTRACTION (SVE) WELL SEAL WITH PACKER
- ⊕ SUB-SLAB SOIL VAPOR MONITORING POINT
- ⊕ SOIL BORING LOCATION
- ⊙ INDOOR AIR SAMPLE LOCATION
- ⊕ MONITORING WELL
- RECOVERY WELL
- ⊕ BUILDING COLUMNS
- UTILITY TRENCH
- FORMER UTILITY TRENCH-FILLED WITH CONCRETE
- VIDEO INSPECTED 10/29/13 & 12/27/13
- DRAIN LINES
- ACTIVE ROOF DRAINS
- FORMER SUCTION VENTS
- BUILDING WALLS
- ×× FENCE LINE
- ELECTRICAL LINE
- OVERHEAD ELECTRIC LINE
- GAS
- SANITARY SEWER
- SANITARY SEWER DRAIN
- WATER
- RECOVERY WATER
- FIBER OPTIC
- CONNECTION TO UNKNOWN LINE
- ⊗ POTENTIAL HOLE IN LINE

- ⊖ excavation
- A Photograph Location
- 1 Screen Shot Location

NOTES:

1. UTILITY TRENCH LOCATION BASED ON BOMAC LABORATORIES FLOOR PLAN, BUILDING 1, 2, 3, 4 AND 6 REVISED FEBRUARY 25, 1964.
2. UTILITIES BASED ON UTILITY LOCATION PLAN, BY BAY STATE SUBSURFACE INVESTIGATION, MARCH 20, 1995.
3. DRAIN LINES BASED ON 7/17/13, 10/29/13 AND 12/27/13 VIDEO DRAIN INSPECTION.
4. AP30R-DO, AP31-DO AND AP32-DO ARE ANGLED DEEP OVERBURDEN PERMANGANATE INJECTION WELLS COLOR PURPLE AND DEFINED.



CB&I Environmental & Infrastructure, Inc.
 150 Royall Street
 Canton, Massachusetts
 (617) 589-5111

APPENDIX F
FIGURE 1
BUILDING 3 REMEDIAL TREATMENT AREA
EXISTING WELLS AND UTILITIES
 FORMER VARIAN FACILITY SITE
 150 SOHIER ROAD
 BEVERLY, MASSACHUSETTS

150148-B3

DRAWING NUMBER

APPROVED BY

CHECKED BY

DRAWN BY

DESIGNED BY

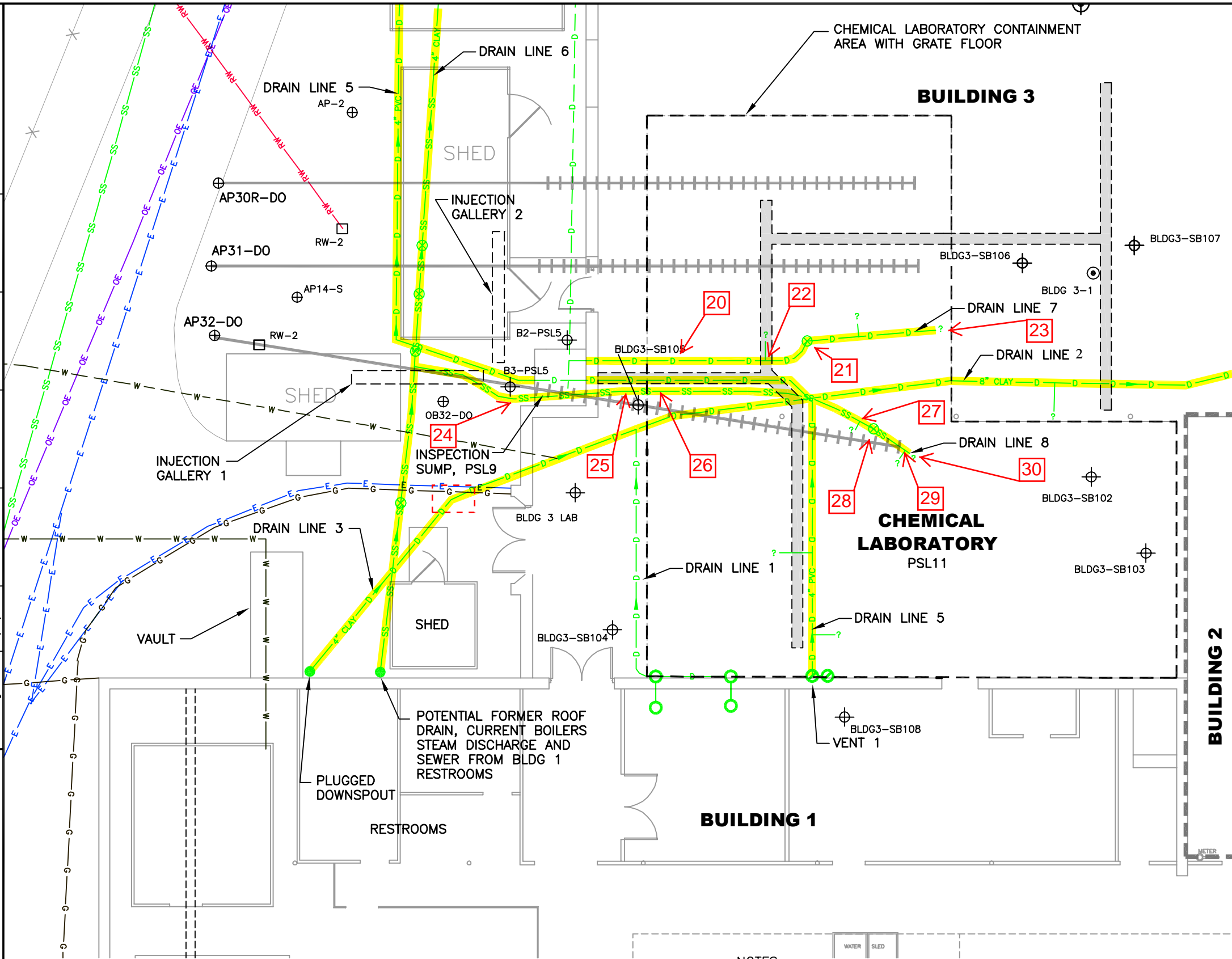
DATE

OFFICE

Pittsburgh, PA

Xref: Image: CB&I.jpg

File: O:\Project\150148\150148-B3.dwg
Plot Date/Time: Apr 15, 2014 - 8:04am
Plotted By: greg.jones




- LEGEND**
- ===== HORIZONTAL SOIL VAPOR EXTRACTION (SVE) WELL LOCATION
 - ===== PORTION (SHADED) OF HORIZONTAL SOIL VAPOR EXTRACTION (SVE) WELL SEAL WITH PACKER
 - ⊕ SUB-SLAB SOIL VAPOR MONITORING POINT
 - ⊕ SOIL BORING LOCATION
 - ⊙ INDOOR AIR SAMPLE LOCATION
 - ⊕ MONITORING WELL
 - RECOVERY WELL
 - ⋈ BUILDING COLUMNS
 - UTILITY TRENCH
 - FORMER UTILITY TRENCH-FILLED WITH CONCRETE
 - ===== BUILDING WALLS
 - ○ ACTIVE ROOF DRAINS
 - ○ FORMER SUCTION VENTS
 - × × FENCE LINE
 - ===== VIDEO INSPECTED 10/29/13 & 12/27/13
 - E—E— ELECTRICAL LINE
 - OE— OVERHEAD ELECTRIC LINE
 - G—G— GAS
 - SS— SANITARY SEWER
 - D—D— DRAIN
 - D—D— DRAIN SUSPECTED LOCATION
 - W—W— WATER
 - W—W— WATER SUSPECTED LOCATION
 - RW— RW RECOVERY WATER
 - FO— FIBER OPTIC
 - D—D— CONNECTION TO UNKNOWN LINE
 - ⊗ POTENTIAL HOLE IN LINE
 - ▶ FLOW DIRECTION

excavation

20 Screen Shot Location

NOTES:

1. UTILITY TRENCH LOCATION BASED ON BOMAC LABORATORIES FLOOR PLAN, BUILDING 1, 2, 3, 4 AND 6 REVISED FEBRUARY 25, 1964.
2. UTILITIES BASED ON UTILITY LOCATION PLAN, BY BAY STATE SUBSURFACE INVESTIGATION, MARCH 20, 1995.
3. DRAIN LINES BASED ON 7/17/13, 10/29/13 AND 12/27/13 VIDEO DRAIN INSPECTION.
4. AP30R-DO, AP31-DO AND AP32-DO ARE ANGLED DEEP OVERBURDEN PERMANGANATE INJECTION WELLS COLOR PURPLE AND DEFINED.

 CB&I Environmental & Infrastructure, Inc.
150 Royall Street
Canton, Massachusetts
(617) 589-5111

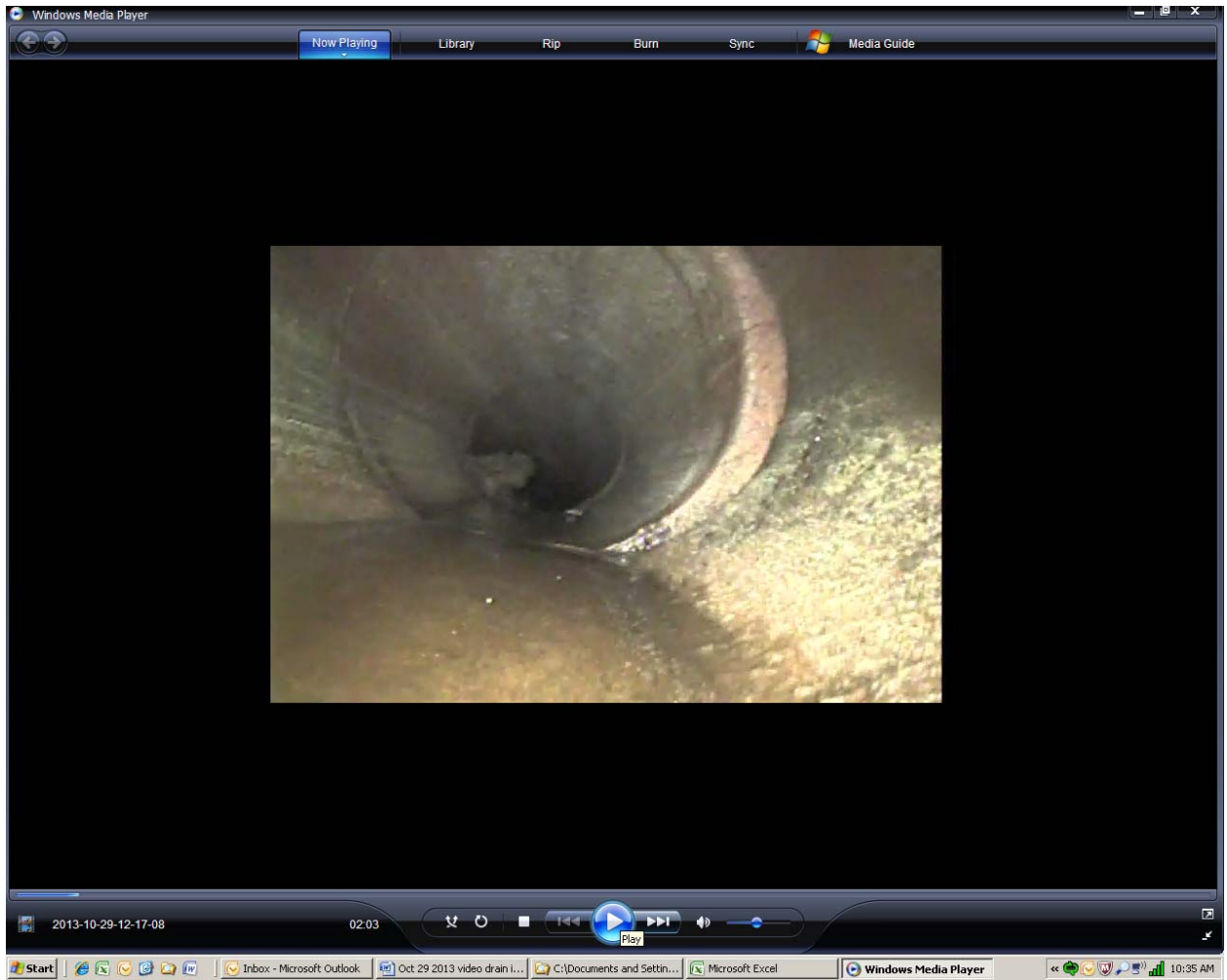
APPENDIX F
FIGURE 2

BUILDING 3 REMEDIAL TREATMENT AREA
EXISTING WELLS AND UTILITIES
FORMER VARIAN FACILITY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

**Drain Inspection Screen Shots
October 29, 2013 and December 27, 2013 Video Drain Inspection
Former Varian Facility Site
Beverly, MA**



Screen shot 1: broken bell connection (upper left) at 91 feet in eight-inch clay pipe drain line 2



Screen shot 2: off-set connection between sections of eight-inch clay pipe in drain line 2 (noted in several locations)



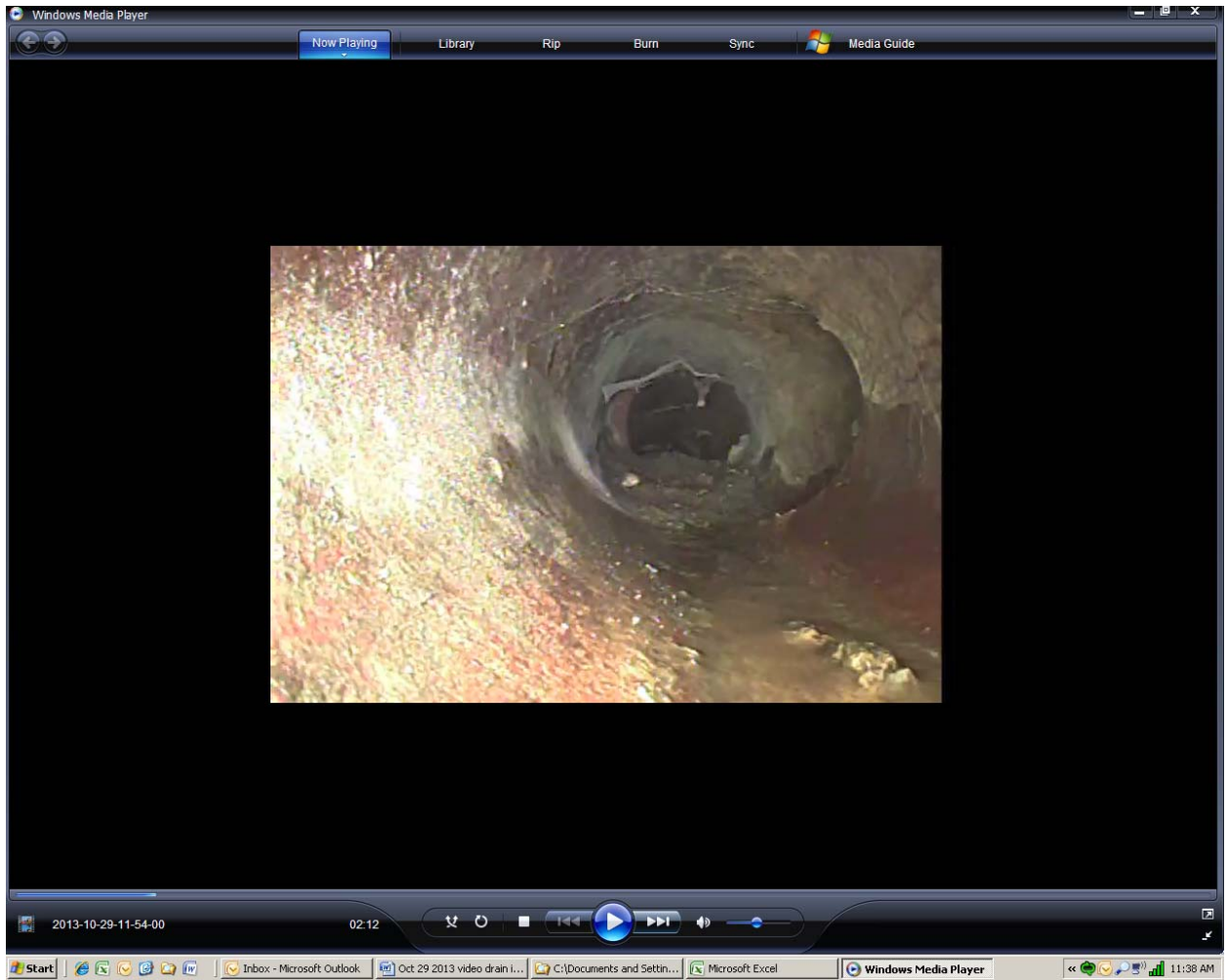
Screen shot 3: connection from drain line 1 (right side) at 11 feet in eight-inch clay pipe drain line 2, note cracks in top of pipe



Screen shot 4: unknown connection (right) at approximately 50 feet in eight-inch clay pipe drain line
2



Screen shot 5: off-set pipe joint in four-inch clay pipe drain line 3



Screen shot 6: four-inch clay pipe drain line 3 with potential Y connection on right at approximately 18 feet, note sediment beyond Y connection



Screen shot 7: section of four-inch clay pipe drain line 4 with sediment and gravel



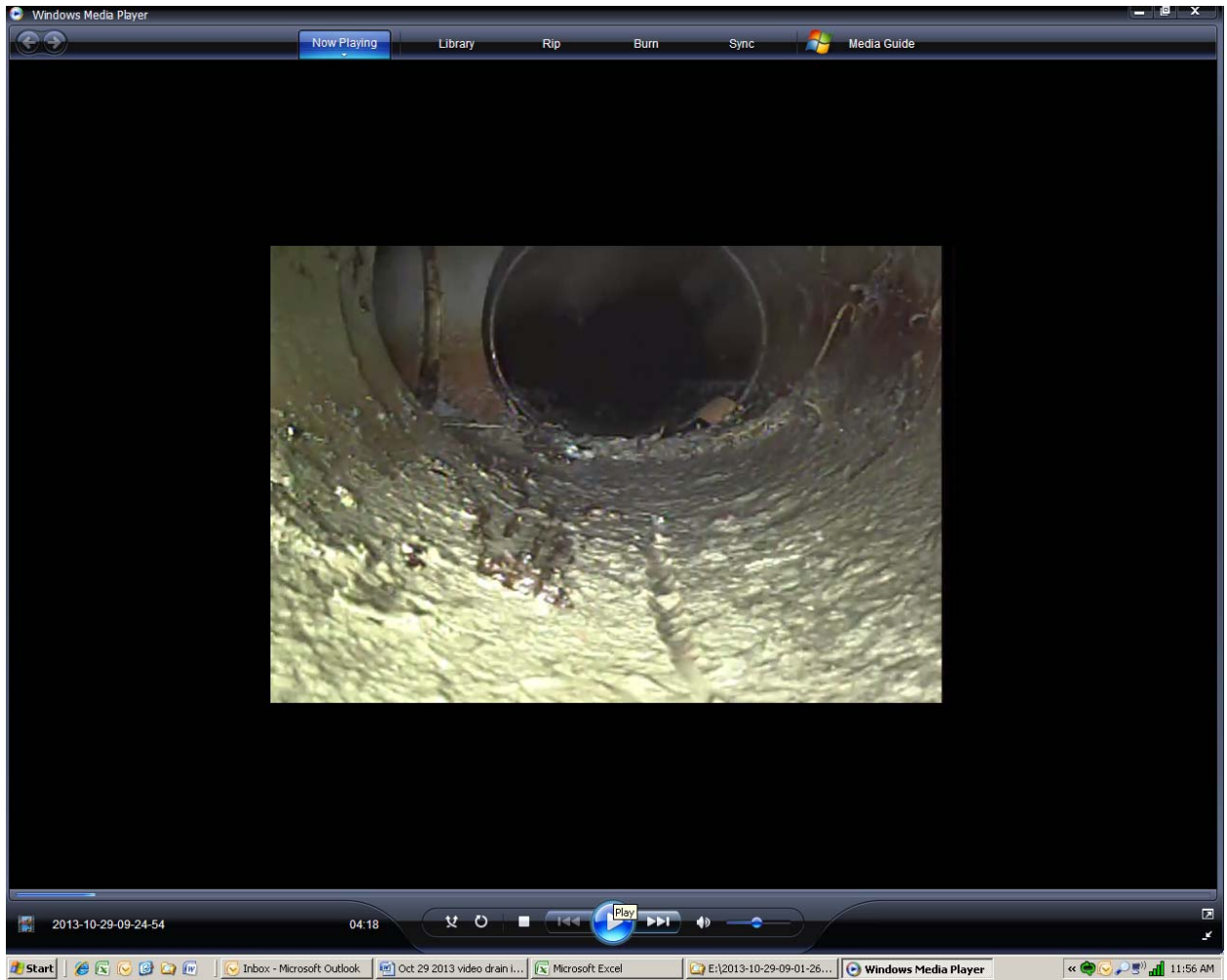
Screen shot 8: clear section of four-inch clay pipe drain line 4



Screen shot 9: sediment in initial section of four-inch PVC pipe drain line 5, note blistering of PVC on the upper left



Screen shot 10: debris and potential connection (upper right) to four-inch PVC pipe drain line 5 at approximately four feet



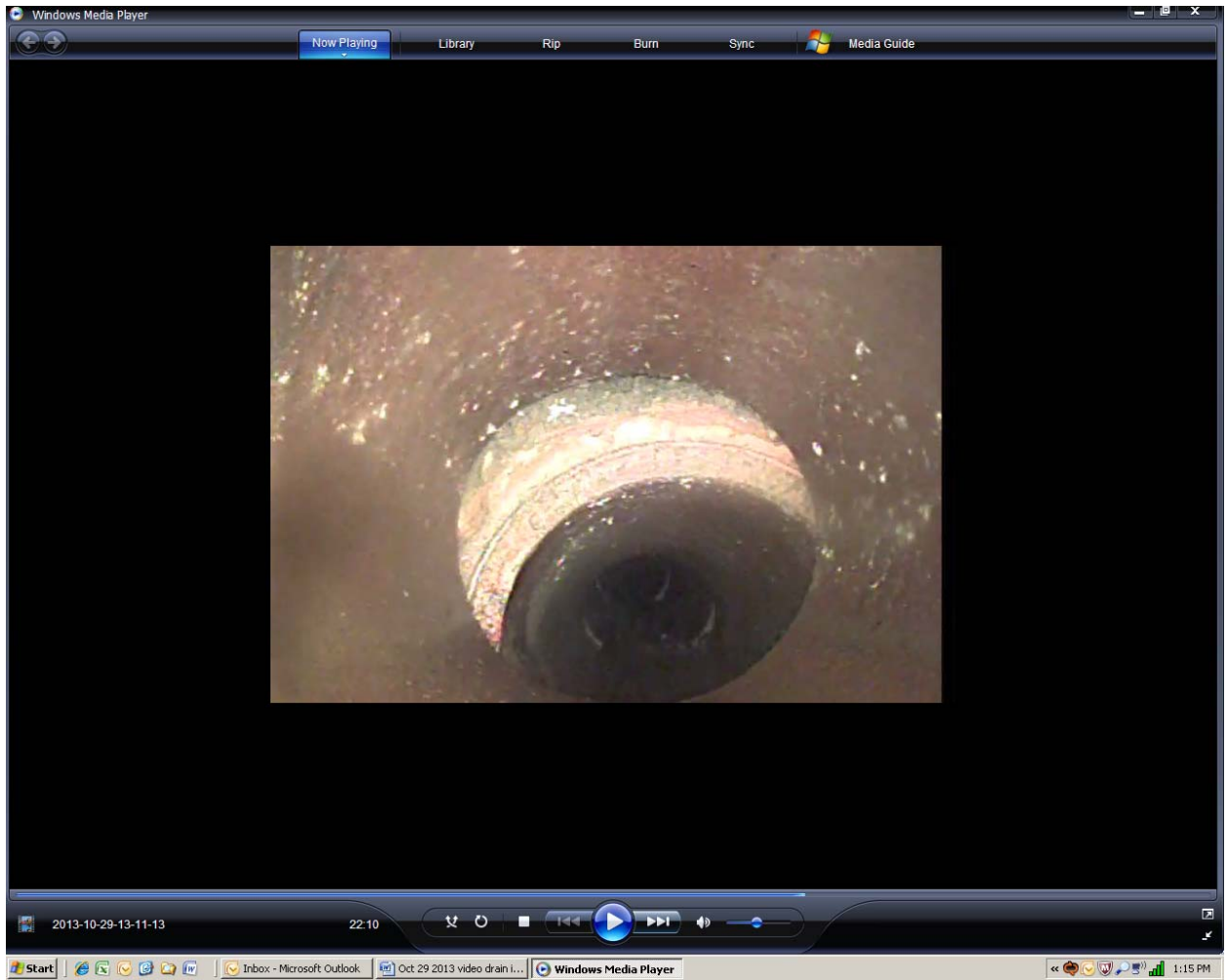
Screen shot 11: unknown connection (left) to four-inch PVC pipe drain line 5 at approximately eleven feet



Screen shot 12: section of four-inch PVC pipe drain line 5 outside of building filled with water



Screen shot 13: Initial section of four-inch cast iron pipe drain line 6 outside of building with water and significant corrosion



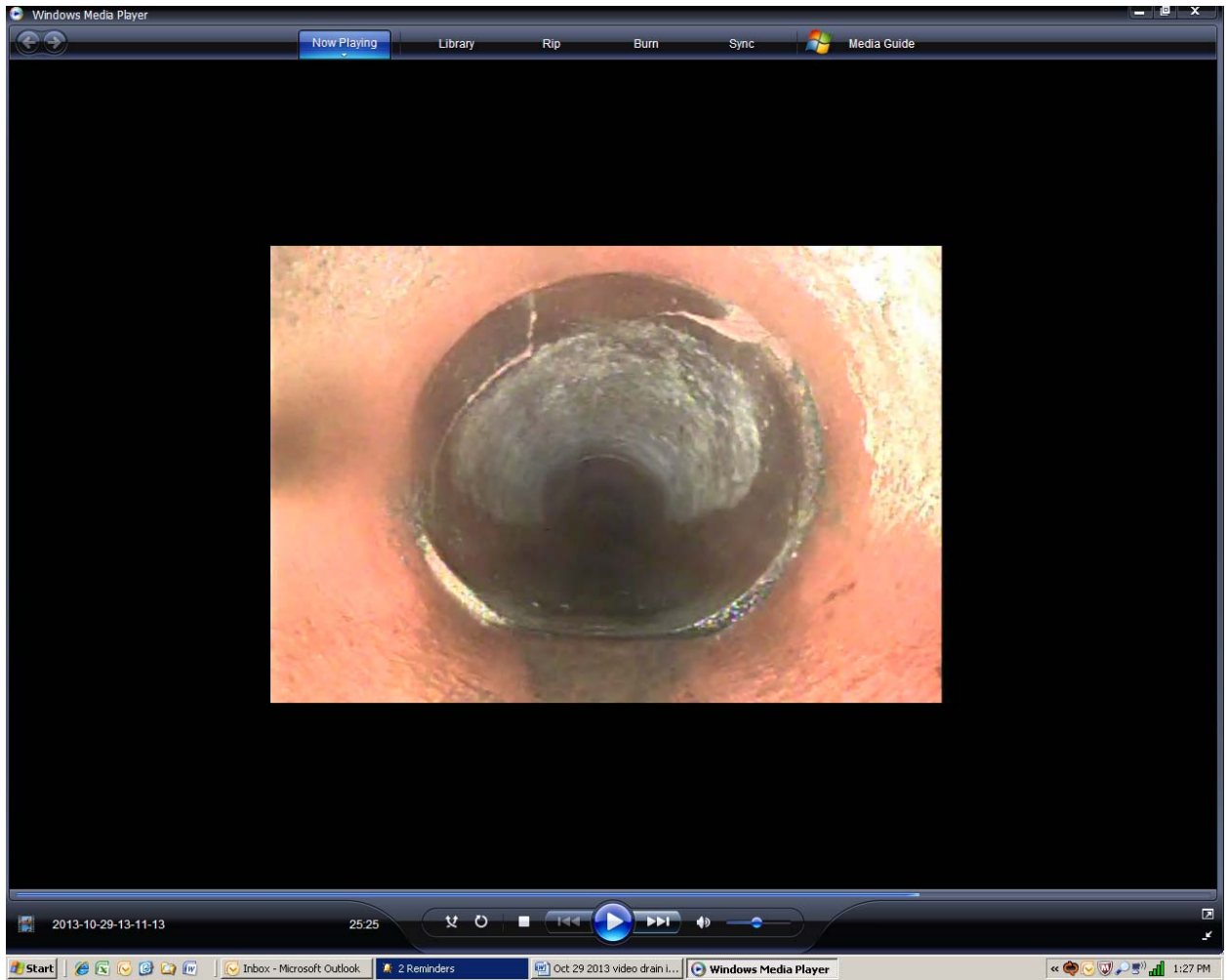
Screen shot 14: separated joint at approximately 15 feet after change to four-inch clay pipe in drain line 6



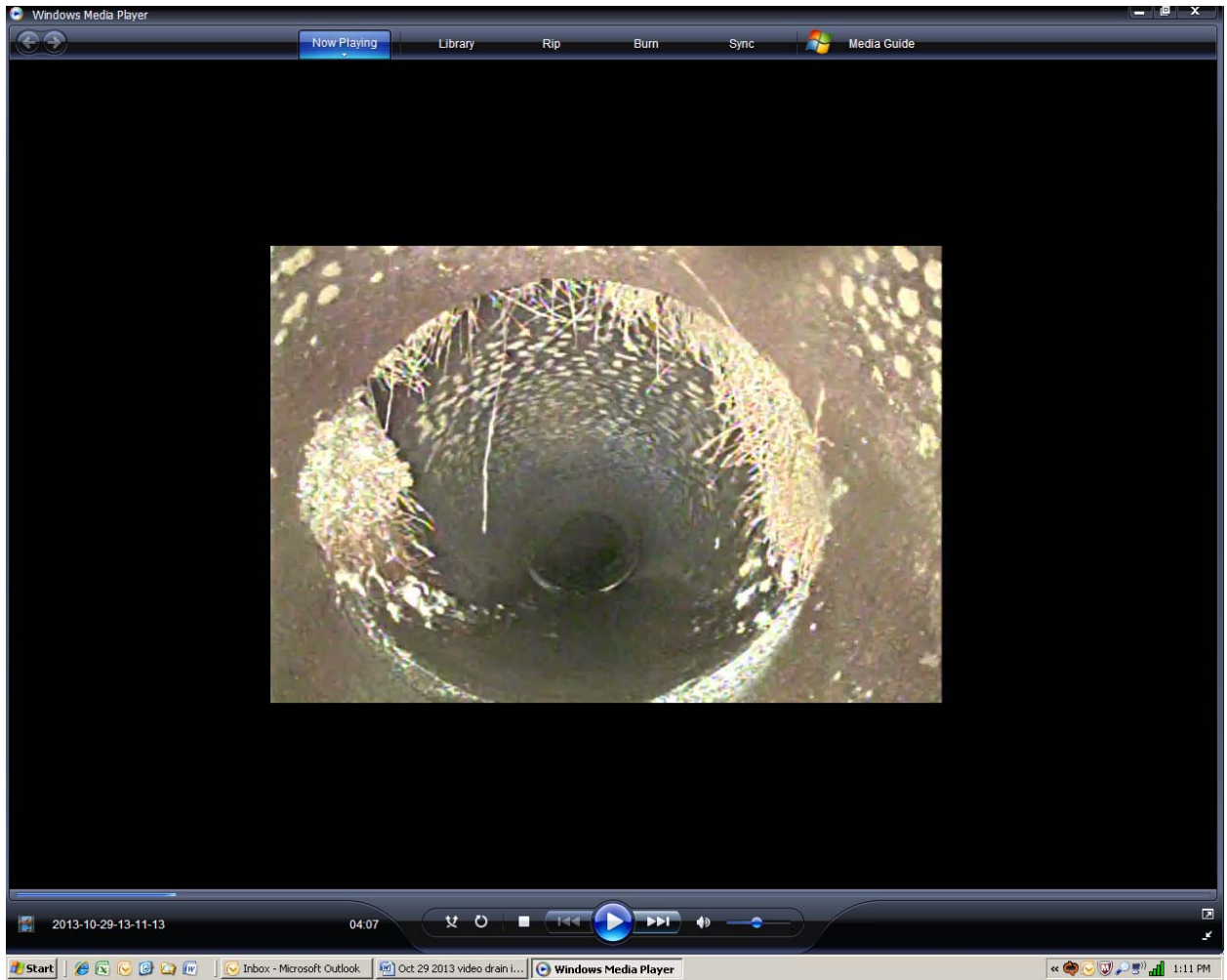
Screen shot 15: connection to four-inch clay pipe drain line 6 at approximately 28 feet (subsequently confirmed to be former Building 3 waste water line), also note off-set joint just past connection



Screen shot 16: separated joint in four-inch clay pipe drain line 6 at approximately 34 feet



Screen shot 17: cracked bell (top) and off-set joint at approximately 39 feet in four-inch clay pipe drain line 6



Screen shot 18: four-inch clay pipe drain line 6 with root penetration of joint and pitting (white spots on top of pipe)



Screen shot 19: four-inch clay pipe drain line 6 with significant root penetration in pipe



Screen shot 20: four-inch cast iron pipe drain line 7 with wall deposits and sediment



Screen shot 21: four-inch cast iron pipe drain line 7 with broken section in bottom of pipe and crack on the lower left



Screen shot 22: four-inch cast iron pipe drain line 7 with unknown connection at upper left at approximately 18 feet from the former inspection sump



Screen shot 23: four-inch cast iron pipe drain line 7 filled with soil at the extent of inspection approximately 32 feet from the former inspection sump



Screen shot 24: four-inch cast iron pipe drain line 8 heading north to Drain Line 6



Screen shot 25: four-inch cast iron pipe drain line 8 heading south beneath Building 3



Screen shot 26: four-inch cast iron pipe drain line 8 beneath Building 3



Screen shot 27: four-inch cast iron pipe drain line 8 beneath Building 3 with potential connection on the right



Screen shot 28: four-inch cast iron pipe drain line 8 beneath Building 3, note depression in pipe sediment suggesting a potential hole in the pipe bottom



Screen shot 29: four-inch cast iron pipe drain line 8 beneath Building 3 with connection on the right



Screen shot 30: four-inch cast iron pipe drain line 8 beneath Building 3 at the extent of investigation. Note potential metal wedge in pipe with deposits obstructing much of the pipe cross section, also note potential connection on the upper right

CB&I Environmental & Infrastructure, Inc.
Photographic Record

Client: Varian Medical System, Inc.

Site Name: Former Varian Facility Site

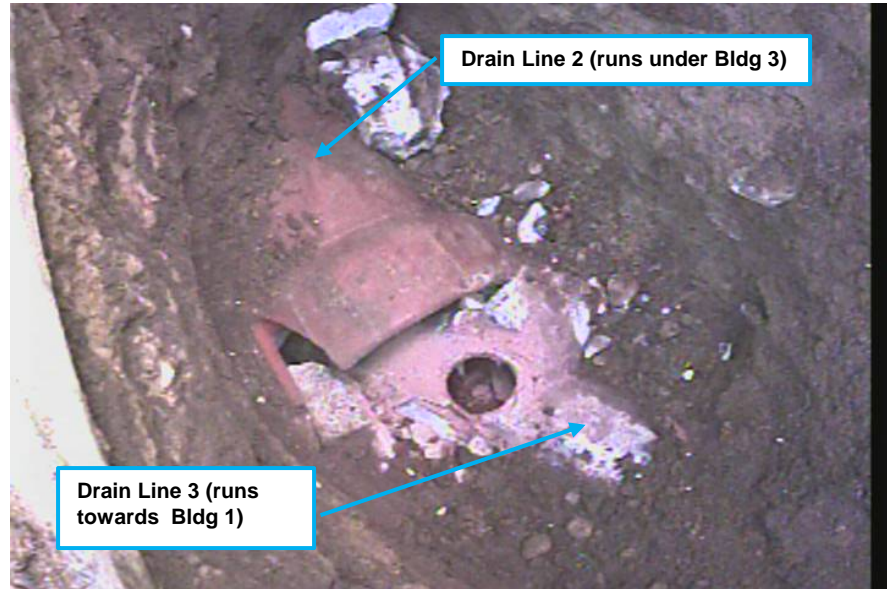
Site Location: 150 Sohier Road, Beverly, MA

Date:

October 29, 2013

Comments:

Photograph A:
Exposed connection
between Drain Line 2
and Drain Line 3.

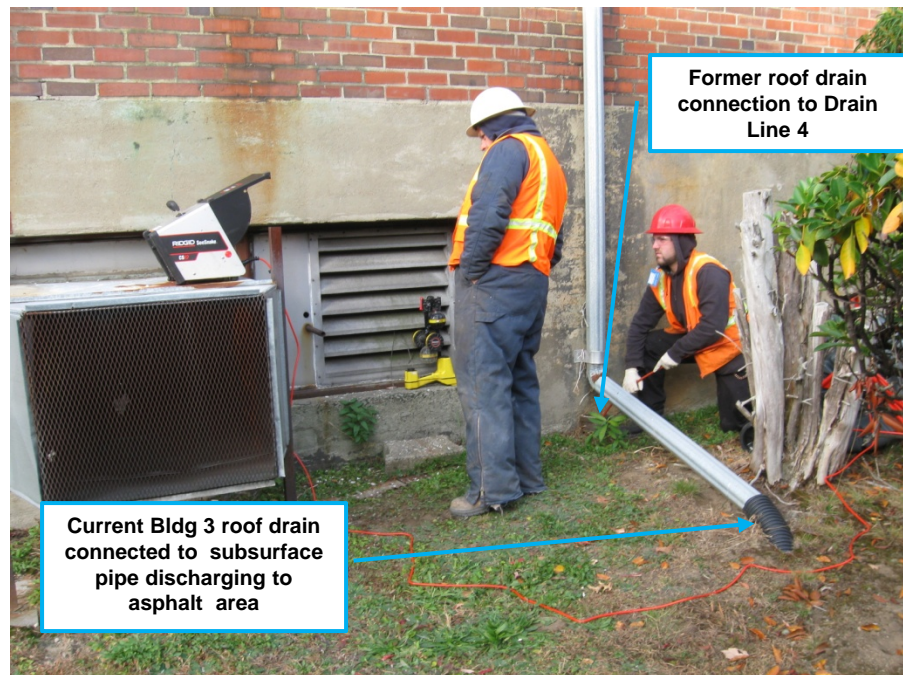


Date:

October 29, 2013

Comments:

Photograph B:
Video inspection at Drain
Line 4



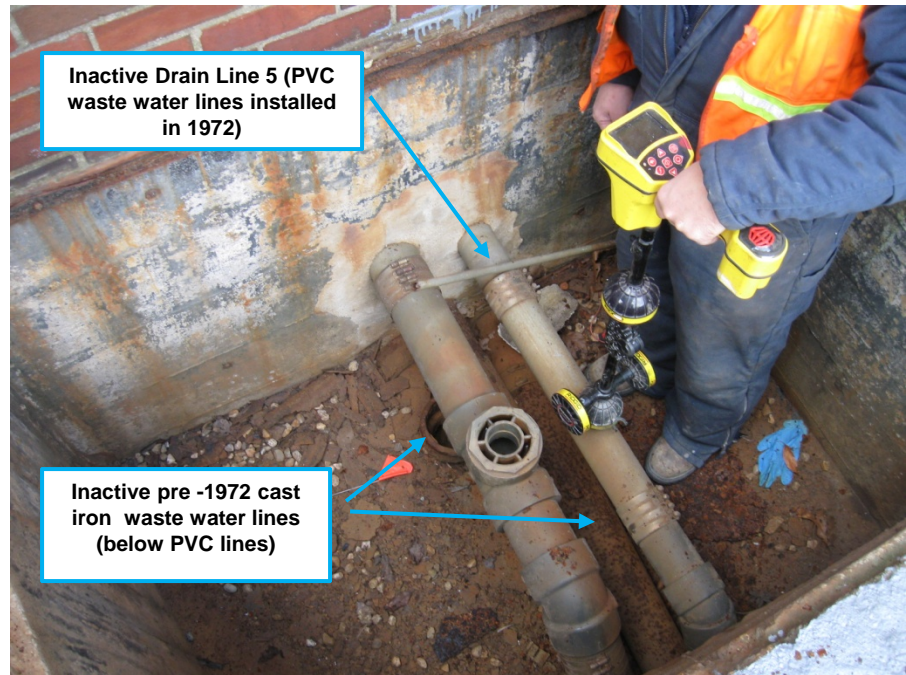
**CB&I Environmental & Infrastructure, Inc.
Photographic Record**

Client: Varian Medical System, Inc.

Site Name: Former Varian Facility Site **Site Location:** 150 Sohier Road, Beverly, MA

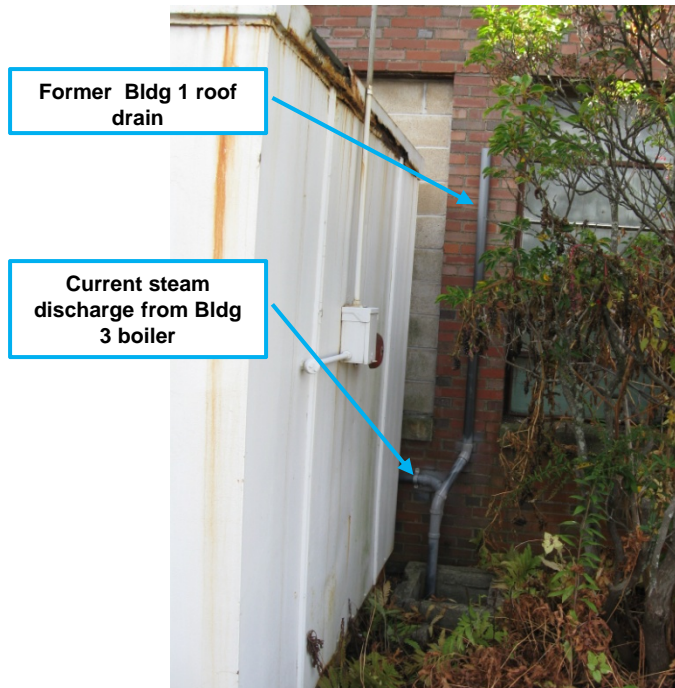
Date:
October 29, 2013

Comments:
Photograph C:
Former Bldg 3 Chemical
Laboratory waste line
inspection sump



Date:
October 29, 2013

Comments:
Photograph D:
Access point of Drain
Line 6.



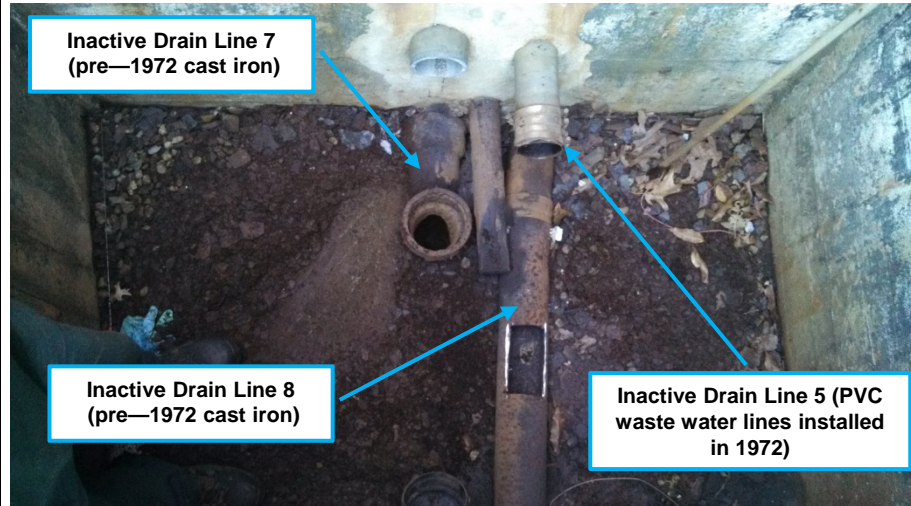
**CB&I Environmental & Infrastructure, Inc.
Photographic Record**

Client: Varian Medical System, Inc.

Site Name: Former Varian Facility Site **Site Location:** 150 Sohier Road, Beverly, MA

Date:
December 27, 2013

Comments:
Photograph E:
Former Bldg 3 Chemical
Laboratory waste line
inspection sump



Date:

Comments:

APPENDIX G

DRILLING LOGS



Drilling Log

Soil Boring

Bldg5-SV4

Page: 1 of 1

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 5, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 7.5 ft. North _____ East _____
 Top of Casing NA Water Level Initial NA Static NA Diameter _____
 Screen: Dia NA Length NA Type/Size NA
 Casing: Dia NA Length NA Type NA
 Fill Material Native Rig/Core Electric Jack Hammer
 Drill Co. Geosearch Method Hand Drill/Jack Hammer
 Driller B. Law Log By Dale Dailey Date 12/30/13 Permit # NA
 Checked By R. Cadorette License No. _____

COMMENTS
 ND = Not detected
 Boring completed as Vapor Monitoring Point Bldg5-SV4.

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						Hand clear to 5'
2					SW	Brown, dry, very dense SANDY FILL, some large gravel (5 cm) and brick construction debris; contains concrete, brick and other rock fragments (Fill)
4	ND	100%				Brown, dry, very dense, SAND, some medium gravel (1 - 2 cm)
6		30%			SW	Same as above
8						End of exploration at 7.5 feet below surface grade (refusal).
10						
12						
14						
16						
18						
20						
22						
24						

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Drilling Log

Monitoring Well **OB-44-S**

Page: 1 of 1

Project Varian Beverly Owner Varian Medical Systems, Inc.
 Location Building 5, 150 Sohier Road, Beverly, Massachusetts Proj. No. 150151
 Surface Elev. NA Total Hole Depth 19.1 ft. North _____ East _____
 Top of Casing NA Water Level Initial ▽ 12.5 ft. Static ▽ 6.5 ft. Diameter 2 in.
 Screen: Dia 1 in. Length 15 ft. Type/Size PVC/Slot 0.010 in.
 Casing: Dia 1 in. Length 4 ft. Type PVC
 Fill Material Native, Bentonite, Sand Rig/Core Geoprobe/6620 DT
 Drill Co. Geosearch Method Direct Push
 Driller B. Law Log By Dale Dailey Date 12/30/13 Permit # NA
 Checked By R. 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 clear to 5'
2		ND				SW	Brown, dry, very dense SANDY FILL, some large gravel (5 cm); contains concrete, brick and other rock fragments to approximately 4' (Fill)
4							
6							Light brown, dry, very dense, SANDY TILL, some gravel (2 - 5 cm); (some potential staining at 10')
8		256	100%				
10						SW	Brown to light gray, dry, very dense, SAND and GRAVEL TILL, gravel (2 - 5 cm)
12		227	100%				
14							
16		351	100%				Brown, dry, very dense, SANDY TILL, some gravel (2 - 3 cm) to 17'
18						ML	Gray, damp, dense CLAYEY TILL, trace gravel
20							End of exploration at 19.10 feet below surface grade. Well set at 19 feet below surface grade.
22							
24							

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