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November 6, 2014

Project #: 152780/06

Massachusetts Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, Massachusetts 01887

Subject: Phase V Remedy Operation Status - Inspection & Monitoring Report
April 1, 2014 through September 30, 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 April 1, 2014 through September 30, 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,

Raymond J. Cadorette
Project Manager
CB&I Environmental and Infrastructure, Inc.

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MASSACHUSETTS CONTINGENCY PLAN
PHASE V REMEDY OPERATION STATUS
INSPECTION & MONITORING REPORT
April 1, 2014 through September 30, 2014

FORMER VARIAN FACILITY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS 01915

MADEP Site # 3-0485

October 31, 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), 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 April 1, 2014 through September 30, 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

Chem 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:

- Maintain compliance with Upper Concentration Limits (UCLs);
- 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;
- Limit rebound in VOC source areas such that potential impacts to indoor air in downgradient areas continue to pose No Significant Risk;
- Demonstrate that VOC concentrations in groundwater at the Site do not represent an uncontrolled source for impacts to surface water; and
- 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, 2013c).

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 April 1, 2014 through September 30, 2014.

2.1 Building 3 and 5 Assessment Activities

Based on the results of video drain inspections conducted in December 2013 and environmental data collected from the Building 3 area, additional drain line inspections and pilot testing were conducted in the Building 3 and 5 areas (**Figure 2**) during this reporting period. These activities were conducted to assess the integrity of existing drain lines at the facility in potential areas of VOC impact in shallow soil and groundwater beneath the buildings.

2.1.1 Drain Line Inspections

On April 7, 2014, East Coast Pipelines conducted cleaning and additional video inspection of drain lines in the Building 3 area under the direction supervision of CB&I. This inspection included three drain lines (identified as drain lines# 7, 8 and 9) formerly associated with the Building 3 Chem Lab (PSL 10). Additionally, one drain line (# 10) in the Building 5 area that may have received wastes from the former Building 5 Chem Lab (PSL7) was inspected.

Drain Line 7 (Beneath Building 3 Chem Lab)

Drain line 7 is a four-inch diameter, inactive cast iron drain line that formerly received waste from operations in the Building 3 Chem Lab. This pipe was accessed for cleaning and inspection at the former sump located adjacent to the building (**Figures 1** and **2, Appendix B**). Drain line 7 was previously inspected in December 2013, but sediment present in the line limited the inspection. On April 7, 2014, sediment in drain line 7 was cleared out using a pressure wash of tap water and the line was re-inspected. This was conducted to better assess sections of the line where releases may have occurred and to assess the potential of using drain line 7 for remedial treatment (either soil vapor extraction or addition of remedial additives).

The re-inspection of drain line 7 indicated:

- pipe cleaning was successful at removing sediment present in the line (see screen shots 1 and 2, **Appendix B**);
- a hole was observed in the bottom of the pipe at approximately 9 feet from the former sump (see screen shot 3);
- from approximately 11 feet to the end of the inspection at 23 feet, the bottom of the pipe was deteriorated, resulting in gaps of varying size (see screen shots 4 and 5);
- the re-inspection could not extend past 23 feet from the sump because the camera became embedded in the soil outside of the pipe.

Wastes generated during the cleaning of the inactive drain line 7, which included sediment and wash water, were collected and drummed. This waste material was sampled for laboratory analysis and, based on those results, was characterized for appropriate off-site disposal. Analytical results of waste

characterization samples indicated the presence of low levels of the VOCs tetrachloroethene (PCE), acetone and chloroform. Waste characterization results also indicated the presence of:

- metals such as arsenic, barium, cadmium, chromium, lead, mercury and silver;
- polychlorinated biphenyl (PCB) Aroclor 1254;
- heavy range petroleum hydrocarbons; and
- multiple polynuclear aromatic hydrocarbons, associated with heavy range petroleum hydrocarbons.

The compounds detected in the waste samples from drain line 7 are generally consistent with the former discharges to the drain line (e.g. electronic plating and parts washing). Assessment of petroleum hydrocarbons and metals was conducted in the Building 3 area during the Phase II investigation. This included soil sample analysis from borings installed in the Building 3 Chem Lab area. Results presented in the Phase II report did not indicate concentrations of petroleum hydrocarbons or metals that exceeded reportable concentrations. PCBs were not suspected as a potential contaminant for the Building 3 Chem Lab during the Phase II investigation and were therefore not included in the sampling program. It is unclear what the source is for the PCB detected in this wastes characterization sample. However, the concentration detected in the waste sediment sample, 0.56 milligrams per kilogram (mg/kg) is below the S1 reportable concentration (2 mg/kg).

One drum of solid waste and three drums of waste liquid were generated from the cleaning of drain line 7. This material was transported to Veolia Technical Services in Port Arthur, TX for proper disposal under a Hazardous Waste Manifest on June 13, 2014. A copy of the Hazardous Waste Manifest is included in **Appendix C**.

Based on the inspection of drain line 7, areas around this line were identified as potential locations of historic VOC releases to the environment. As discussed below, remedial testing was also conducted at drain line 7 to evaluate potential treatment alternatives.

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 (PSL11). This pipe was accessed for cleaning and inspection at the former sump located adjacent to the building (**Figure 2, Appendix B**). Drain line 8 was previously inspected in December 2013. During that inspection, the line was found to be dry, with sediment present which limited the inspection. However, during the April 7, 2014 inspection, clear water was observed flowing through this line, which was previously thought to be inactive. The source(s) of the water could not be determined because of an obstruction in the line. To limit the potential impact that pressurized clearing of the line could have on facility storm water drainage or other facility operations, cleaning of this line was not conducted.

To assess if water present in drain line 8 represented a potential source of VOC, a sample of the water flowing in the line was collected and submitted for laboratory analysis of VOC by EPA method 8260B. The analytical results of this water sample did not indicate the presence of VOC above reporting limits.

Although cleaning and re-inspection of drain line 8 could not be completed, the prior inspection and the results of the water sample collected from this line indicate that drain line 8 is not a continuing source of

VOC. The inspections did indicate areas of the drain line where wastes may have been released previously. Those areas will be evaluated for potential treatment to address impacts to groundwater and indoor air.

Drain Line 9 (north side of Building 3)

The drain line inspections completed in 2013 were not able to evaluate the potential line associated with the discharge from the former sump at the Building 3 Chem Lab (PSL9). This line (drain line 9) reportedly ran from the sump northeast along the building to the brook and likely conveyed waste discharged to the former sump (**Figures 1** and **2, Appendix B**). In approximately 2002, this line was sealed at the stream end to limit the potential of permanganate entering the former line and flowing to the brook. On April 7, 2014, a shallow excavation was completed adjacent to the former sump at the Building 3 Chem Lab to access and inspect this drain line. Once the line was accessible, East Coast Pipelines conducted the video inspection of drain line 9 under the direction supervision of CB&I. The results of this inspection indicate:

- drain line 9 is a 4-inch diameter, clay pipe ranging from four feet below grade at the former sump to approximately two feet below grade at the limit of the inspection thirty feet east of the northeast corner of Building 3;
- the first 75 feet of the clay pipe was in in good condition, with no cracks or damage observed (screen shot 6);
- a potential connection to the south (right) was noted at approximately 80 feet from the former sump (screen shot 7);
- a crack in drain line 9 was noted at 75 feet and break in the south (right) side of the pipe was observed at approximately 100 feet from the former sump (screen shot 8);
- off set joints were noted at approximately 110 feet (screen shot 9) and 113 feet (screen shot 10) from the former sump;
- the line was inspected to a distance of approximately 126 feet from the former sump; at this point the friction of the camera control line would not allow further inspection.

Based on this inspection of drain line 9, it does not appear that the line is a continuing source of VOC. However, the inspection did indicate areas where wastes may have been previously released. As discussed below, remedial testing was also conducted at drain line 9.

Drain Line 10 (Adjacent and Beneath Building 5)

Drain line 10 is an active storm water line that receives run-off from the Building 5 roof drains and conveys the water to the culverted Unnamed Stream. This line also passes beneath a former sump associated with one of the utility trenches in Building 5 (**Figure 3, Appendix B**). Given the proximity of drain line to this former sump, waste may have been discharge to drain line 10 during the historic operation of the Building 5 Chem Lab (PSL7). A video inspection of drain line 10 was completed to evaluate this subsurface drainage structure as a potential source of VOCs and to focus potential remedial efforts. East Coast Pipelines conducted the video inspection of drain line 10 on April 4, 2014 under the direction supervision of CB&I. The pipe was accessed at a drainage manhole at the northeast corner of Building 5. Initial results of the video inspection indicated the line contained water and sediment that obscured the video camera. As a result, pressure washing of drain line 10 with tap water was conducted. Visibility in the pipe remained poor following the cleaning. However, the inspection indicated:

- drain line 10 consists of a 10-inch diameter, clay pipe in good condition with no cracks or deterioration observed (screen shot 11);
- the pipe is located approximately five feet below grade;
- the line was inspected to a distance of approximately 187 feet from the manhole; at this point the friction of the camera control line would not allow further inspection;
- five connections that appeared to be roof drains were observed (screen shot 12, 14 and 17);
- three unknown connections were observed at 104 feet, 126 feet and 132 feet from the manhole (see screen shots 13, 15 and 16);
- the connection to drain line 10 at 104 feet from the manhole roughly correlates with the location of the former utility sump.

It appears that the former utility sump may have been connected to drain line 10. Based on this inspection of drain line 10, it does appear that drain line 10 is liquid tight. Therefore potential impacts in the Building 5 area associated with wastes that may have discharged to drain line 10 would be limited. Soil and groundwater impacts associated with potential wastes discharged from the historic Building 5 Chem Lab are therefore likely limited to the area of the former utility sump and/or former utility trenches connected to this sump.

2.1.2 Building 3 Pilot Testing

To evaluate the potential use of existing drainage lines and the permanganate injection galleries in the area of the Building 3 Chem Lab for remedial treatment, SVE pilot tests were conducted on April 8 and 9, 2014. These tests included using the existing Building 3 SVE system to pull a vacuum on drain lines 7 and 9 and the two permanganate injection galleries located near the building. These tests were coordinated with a planned temporary shutdown of the Building 3 SVE to conduct static indoor air sampling inside Building 3.

The soil vapor extraction pilot tests were performed by inducing a vacuum at target subsurface structures and measuring sub-slab vacuum influence at nearby temporary vacuum monitoring points (**Figure 4**). Prior to the start of the test, polyethylene sheeting was installed over the gravel and grass areas around the test area to limit potential vacuum loss. During a total of six tests, soil vapor was extracted from drain line 7, drain line 9, injection gallery 1 and injection gallery 2. The extraction tests were completed using up to two different flow rates, depending on the response of the target structures. During each test, vacuum readings were measured at four temporary vacuum monitoring points (VP1 through VP4), and at the adjacent subsurface structures (e.g. drain line 9 and Injection Gallery 1). The existing 2,000 pound carbon vessels were used for off-gas treatment during the pilot test.

Results of the various parameters measured during the soil vapor extraction pilot tests are summarized in **Table 1**. The pilot test vacuum monitoring points are shown on **Figure 4**.

The results of pilot tests conducted at drain line 7, drain line 9, injection gallery 1 and 2 indicated:

- with a low applied vacuum (2 to 5 inches of water), no VOC recovery was noted during vapor extraction at drain line 7
- with a low applied vacuum (2 to 5 inches of water), low VOC recovery (0.7 parts per million (ppm)) was noted during vapor extraction at drain line 9.
- with a high applied vacuum (12 inches of water), no VOC recovery was observed during vapor extraction at injection gallery 1

- with a high applied vacuum (12 inches of water), low VOC recovery (0.2 ppm) was observed during vapor extraction at injection gallery 2
- vapor extraction at both injection galleries resulted in vacuum influence measured at a distance up to 15 feet away

Given the low VOC recovery rates measured during pilot testing, the results of the pilot tests conducted at drain lines 7 and 9 and the injection galleries indicated that they are not suitable for effective soil vapor extraction or the structures are not located in an area with vadose zone VOC impacts. Based on these results and other available site data, Varian completed the installation of two new horizontal wells beneath Building 3 to provide further treatment of VOC in soil via SVE. The new horizontal wells also provide potential locations for groundwater treatment (e.g. permanganate addition). Details of horizontal well installation are discussed in section 2.4 below.

2.1.3 Installation of Groundwater Monitoring Wells OB45-S and OB45-DO

Groundwater analytical results from shallow well OB44-S, installed in December 2013 near the potential former sump associated with one of the utility trenches inside Building 5, indicated elevated concentrations of VOC in shallow groundwater. To further assess these impacts and to provide a means of monitoring potential treatment, a shallow and deep overburden well couplet, OB45-S and OB45-DO, was installed downgradient at the northwest corner of Building 5 (**Figure 2**). The groundwater monitoring well couplet was installed on April 14 and 15, 2014 by Technical Drilling Services (TDS) of Sterling Massachusetts using a hollow stem auger rig under the direct supervision of CB&I personnel. Digsafe notification was conducted before the start of field work and the first five feet of drilling was completed using hand tools to limit the potential of contacting subsurface utilities. During soil boring advancement, soil samples were collected for logging purposes and to conduct headspace VOC screening with a photoionization detector (PID). Headspace screening results revealed no VOC concentrations in OB45-S or within the first 44 feet of OB45-DO. A headspace reading of 5.3 ppm was detected in a soil sample collected from 45-47 feet below ground surface (bgs) in OB45-DO. Soil descriptions and headspace screening results are summarized on the drilling logs provided in **Appendix D**. Soil encountered during drilling consisted of approximately five feet of fill over a clay layer down to approximately 25 feet bgs. Below this material a sand and gravel layer was encountered to the bottom of exploration.

The shallow well (OB45-S) was advanced to a depth of 15 feet below grade and was constructed of 10 feet of slotted two-inch diameter PVC well screen and approximately five feet of solid PVC riser. The well screen was backfilled with a sand pack to a minim of one foot above the screen. Above the sand pack a one foot bentonite seal was installed and the remaining annular space was backfilled with clean fill.

The deep overburden well (OB45-DO) was advanced to a depth of 49 feet below grade feet and was constructed of 15 feet of slotted two-inch diameter PVC well screen and approximately 34 feet of solid PVC riser. The well screen was backfilled with a sand pack to a minim of one foot above the screen. Above the sand pack a one foot bentonite seal was installed and then a bentonite/grout slurry was installed with a tremie pipe to just below surface grade.

Wells OB45-S and OB45-DO were finished at grade with a bolting road box set in concrete. Well completion diagrams are included in the drilling log included in **Appendix D**.

During drilling, soil cuttings from well installation were transferred into drums and stored onsite pending characterization. One soil sample was collected from the soil cuttings generated during drilling and submitted to ALS Environmental Laboratory (ALS) for analysis of VOCs by EPA Method 8260B. No VOCs were reported above detection limits in the soil sample from the drummed soil cuttings. The three drums of soil cuttings from the installation of OB45-S and OB45-DO were transported to Enpro Services of Maine, Inc. for proper off-site disposal under a Non-Hazardous Waste Manifest on July 25, 2014. A copy of the Non-Hazardous Waste Manifest is included in **Appendix C**.

Following well installation, wells OB45-S and OB45-DO were developed by TDS using pumping and surging to remove silt from the sand pack and improve the hydraulic connection with the surrounding aquifer. Development water was drummed and stored onsite pending characterization. A sample of groundwater was collected from OB45-S and OB45-DO at the end of development. These samples were submitted to ALS for analysis of VOCs by EPA Method 8260B. Analytical results of these groundwater samples indicated:

- VOC were below reporting limits in the sample collected from OB45-S
- the sample collected from OB45-DO indicated the presence of PCE (0.0059 milligrams per liter (mg/L)), TCE (0.27 mg/L) and cis-1,2-dichloroethene (0.37 mg/L)

Based on these results, the drummed development water was transported to Veolia Technical Services in Port Arthur, TX for proper disposal under a Hazardous Waste Manifest on June 13, 2014. A copy of the Hazardous Waste Manifest is included in **Appendix C**.

2.2 Site-Wide Groundwater and Surface Water Sampling

2.2.1 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 April 2014 and August 2014 during this reporting period. The April 2014 sampling was the annual event which monitored VOC trends and groundwater conditions at select wells across the Site. The August 2014 sampling event was the third quarterly bioremediation sampling focused on monitoring reductive dechlorination progress following the October 2013 injection of lactate described in the April 2014 ROS report. A summary of samples collected during these monitoring events and sampling rationale is provided on **Tables 2A** and **2B**. The annual sampling event also included select stream surface water locations previously requested by the Beverly Conservation Commission in various Orders of Condition (Beverly, 2002; 2003; 2004). Sampling locations are shown on **Figures 2** and **3**.

Groundwater and surface water samples were submitted to ALS for analysis of site specific VOCs (by EPA Method 8260B), dissolved iron and manganese, nitrate and sulfate, methane, ethane, ethene, total organic carbon, and chloride as outlined on **Tables 2A and 2B**. 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-1, BR-3, BR-5, BR-6, BR-7, CL8-BR, and CL9-BR are bedrock wells utilizing a packer system in order to provide discrete groundwater sampling from three separate fracture zones. These wells use 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), nitrate, sulfate, and chloride were performed, samples were collected using a conventional bailer, since these constituents cannot be accurately assessed using PDB samplers. Dissolved manganese and iron samples were field-filtered using a 0.45-micron filter prior to laboratory analysis consistent with MADEP policy.

During the April 2014 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 April 2014 and August 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 April 2014 and August 2014 sampling events are summarized in **Appendix E**.

VOC analytical results from the April 2014 and August 2014 sampling event are summarized on **Table 3**. Results of chloride, iron, and manganese samples collected during the April 2014 and August 2014 sampling events are summarized on **Table 4**. Results of bioremediation parameter analyses (i.e., nitrate, sulfate, methane, ethane, ethene, total organic carbon, and DHC bacteria) are summarized on **Table 5**. Results of bench-top colorimetric analysis of residual permanganate are included in **Table 6**. Complete laboratory analytical reports for samples collected in April 2014 and August 2014 are provided in **Appendix F**. Sampling results are discussed below.

Depth to groundwater measurements collected during the April 2014 sampling event (**Appendix E**) were used to develop groundwater contour maps for the shallow overburden, deep overburden, and bedrock aquifers (**Figures5, 6**, and **7**). These figures show that the majority of Site groundwater in each aquifer generally flows to the west/southwest, following the regional groundwater flow pattern, which is south and

west toward Shoe Pond and the Bass River. The gradient in each aquifer is moderate to steep east of Tozer Road and very flat to the west of Tozer Road. In the shallow and deep overburden, there are indications of limited northerly and easterly groundwater flow in the contours at the northern end of the Site. Overall, the groundwater gradients shown on these figures are consistent with historical data from the Site.

2.2.2 VOC Monitoring Results

In general, the analytical results of groundwater samples collected during the April 2014 and August 2014 sampling events (**Table 3**) show decreasing or consistent concentrations of TCE and 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 G**. Graphs for shallow overburden, deep overburden, and bedrock monitoring wells that are located in proximity to each other are grouped together for comparative purposes. These graphs indicate that data from many of the wells monitored continue to show decreasing concentration trends or sustained reductions in VOC concentrations as a result of Varian's remedial activities. These trends indicate that the remedial program is effectively treating groundwater and the Site is progressing toward a Permanent Solution as defined by the MCP.

Analytical results of target VOCs from the April 2014 groundwater sampling event were used to generate VOC iso-concentration maps for the shallow overburden, deep overburden, and bedrock aquifers (**Figures 8, 9,** and **10,** respectively). The "total" VOC numbers consider concentrations of the Site-related VOCs, which include TCE, PCE, TCA, cis- and trans-DCE, 1,1-dichloroethane (DCA), 1,1-DCE, 1,2-DCA, and vinyl chloride.

Recent groundwater sampling results support the following overall observations regarding the three aquifers present at the Site:

- In the shallow overburden aquifer (**Figure 8**), the April 2014 data demonstrate that an area with a total VOC concentration greater than 10 mg/L was present beneath Building 5. This area is characterized by a total VOC concentration of 67.7 mg/L at well OB44-S which was installed in December 2013 beneath Building 5. Shallow impacts in the Building 5 area appear to extend to 30 Tozer Road where total VOC at OB42-S were 3.442 mg/L in April 2014. In the Building 3 area to the north, prior to the start of permanganate injection at the Site in 2002, an area of VOC concentrations greater than 10 mg/L extended over an area from OB9-S by the Unnamed Stream west to AP12-S, located adjacent to the east side of Building 6. A second area of shallow VOCs greater than 10 mg/L was historically observed at AP14-S, adjacent to the north side of Building 3 (Shaw, 2002a). **Figure 8** indicates two isolated areas of total VOCs greater than 1 mg/L now exist in the shallow overburden: one in the area of MW-9, by the Unnamed Stream, and a second area around at AP12-S adjacent to Building 6.

- In the deep overburden aquifer (**Figure 9**), the April 2014 data demonstrate the area of total VOC concentrations greater than 100 mg/L remains reduced since the start of treatment and is limited to the northeast corner beneath Building 3. Prior to the start of permanganate injection at the Site, the area of the deep overburden plume with VOC concentrations greater than 100 mg/L extended significantly farther to the west, downgradient from Buildings 3 and 6, to the area just west of Building 7 (Shaw, 2002a). Pretreatment total VOC levels in the Building 5 source area were also greater than 100 mg/L. However, recent total VOC concentrations in the Building 5 area have been reduced through permanganate treatment to approximately 39 mg/L at OB35-DO in April 2014. Total VOC levels in the PSL 10 area to the south of the former Varian facility have been reduced from a concentration greater than 50 mg/L before treatment began in 2002 and remained reduced during the April 2014 sampling round (6.345 mg/L at AP-21). To the west of PSL 10, at the 32 Tozer Road property, a total VOC concentration of 8.07 mg/L was noted at well MW2-32Tozer in April 2014.

- Before treatment started in the bedrock aquifer in 2002, total VOC concentrations greater than 50 mg/L extended from the Building 3 and 9 areas west nearly to Tozer Road (Shaw, 2002a). The April 2014 data document reduced bedrock levels with total VOC concentrations greater than 10 mg/L, but still less than 50 mg/L, are limited to a smaller area (at OB25-BR) west of Building 3 and 6 source areas **(Figure 10**). Pretreatment total VOC concentrations in bedrock along Tozer Road were as high as 10 mg/L. Analytical results from April 2014 indicate that total VOC concentrations in this area along Tozer Road have now been reduced to about 1 mg/L.

In summary, recent groundwater sampling results shown on **Figures 8, 9,** and **10** continue to demonstrate overall decreasing in the concentrations and extent of VOCs in each aquifer. A more detailed discussion of VOC trends and monitoring results for the various treatment areas at the Site is presented below. This discussion is supported by the VOC trend graphs provided in **Appendix G**.

Building 3/6 Treatment Area

Permanganate injections have been conducted at multiple wells from 2002 through 2014 with treatment at fewer wells over recent years. During this reporting period, permanganate injections were conducted at OB12-DO and OB25-BR after the April 2014 sampling event. Bioremediation has also occurred in the area in the shallow overburden near the Unnamed stream and deep overburden aquifer east of Building 3. The VOC trend graphs provided in **Appendix G** generally indicate three trends for wells in this treatment area; initial decreasing trends without rebound, initial decreasing trends with rebounding concentration trends, and continued elevated VOC trends, as discussed below.

The first VOC trend represents wells that have been successfully treated by permanganate injections or bioremediation and VOC concentrations remain below the remedial planning criteria. This includes well OB32-DO, located on the north side of Building 3 where the pretreatment TCE concentration was 710 mg/L and PCE was 68 mg/L. Permanganate injection was conducted at OB32-DO in 2004 and VOC concentrations have remained well below the remedial planning criteria. In April 2014, the TCE concentration at OB32-DO was non-detectable, PCE was reported at 0.063 mg/L, and TCA was detected at 0.026 mg/L. In the shallow overburden near the Unnamed Stream a similar VOC trend is noted at OB9-S, where bioremediation has been conducted beginning in 2006. Pretreatment sampling indicated a TCE concentration of 53 mg/L and PCE of 30 mg/L at OB9-S. The August 2014 groundwater sample results indicated TCE and PCE were non-detectable at OB9-S with concentrations of vinyl chloride and

cis-1,2-DCE fluctuating. Other examples of wells with VOC trends indicating successfully treatment are wells AP12-S, AP14-S, AP25-DO, MW-9, OB12-S and OB37-DO.

At several wells in the Building 3/6 Treatment Area the initial permanganate treatment resulted in significant VOC concentration reductions (e.g., 99 percent reduction in TCE). However, concentrations of VOC have rebounded to above the remedial planning criteria, resulting in the need to implement additional, more recent, permanganate treatment events. This rebound effect is often observed due to the permanganate injections solubilizing VOC bound to soil particles. The soluble VOC are treated by the residual permanganate in the formation. However, once the residual permanganate in the area is consumed, VOC concentrations increase. An example of this is observed at deep overburden well OB12-DO, located north of Building 3 near Route 128. Pretreatment TCE and PCE concentrations at this well were 120 mg/L and 2 mg/L, respectively. Initial permanganate treatment was conducted at OB12-DO from 2003 to 2007, with subsequent treatment in 2009, 2011 and 2012 to address VOC increases above the remedial planning criteria. In April 2014, groundwater sampling indicated the TCE concentration increased to 28 mg/L at OB12-DO. Therefore, additional treatment was conducted during this reporting period. The October 2014 analytical data from OB12-DO will be evaluated to see if further treatment is warranted in the area. In April 2014, a similar increase to above the remedial planning criteria was observed at bedrock well OB25-BR, located west of Building 1. Treatment was also conducted at this well during the current reporting period. Additional wells where VOC trends indicate periodic VOC rebound to above the remedial planning criteria that has warranted subsequent permanganate treatment include AP12-DO, AP12-BR, AP26-DO, MW-13, OB19-DO, OB27-BR and OB36-DO. The VOC rebound observed at these wells indicates potential migration of VOC from under the existing building. Three angled wells (AP30R-DO, AP31-DO and AP32-DO) were installed in 2010 to provide permanganate treatment of deep overburden groundwater beneath Building 3. Permanganate injections were conducted at these wells in 2010, 2011 and 2013. However, as indicated by the graphs in **Appendix G**, subsequent VOC rebound was noted at wells downgradient of these treatment wells (e.g., OB12-DO, AP26-DO and OB25-DO). To limit additional VOC concentration rebound in groundwater, Varian may utilize the existing horizontal SVE wells and/or the new horizontal SVE wells discussed in section 2.4.2 for permanganate treatment during the upcoming reporting period.

At the deep overburden wells located at the northeast corner of Building 3, the graphs in **Appendix G** indicate a trend of continued elevated VOC concentrations above the remedial planning criteria. These wells include AP13-DO, AP23-DO and AP24-DO. Unlike other areas of the Site, groundwater sampling results also indicate elevated impacts of TCA and acetone in this area in addition to TCE and PCE. TCA and acetone are more effectively treated by bioremediation. Lactate injections began in this area in 2006 to address elevated VOC. Follow up injections were conducted in 2007, 2008, 2010 and 2011. Most recently deep overburden lactate injections were conducted in October 2013 at wells AP33-DO, AP34-DO and AP35-DO.

Based on the results of the April and August 2014 sampling at AP13-DO, AP23-DO and AP24-DO, target VOCs remain elevated at levels above the remedial planning criteria. For example, in August 2014, TCE, PCE and TCA were detected at concentrations of 320 mg/L, 92 mg/L and 26 mg/L, respectively. However, vinyl chloride and cis-1,2-DCE concentrations have increased at target wells AP23-DO and AP24-DO following the October 2013 treatment, indicating the TCE and PCE are being degraded.

Furthermore, increased or continuing elevated ethene concentrations were observed in the treatment area in April and August 2014. For example, ethene concentrations of 750 micrograms per liter (ug/L) and 850 ug/L were detected at AP23-DO and AP33-DO, respectively in August 2014. Ethene is the non-toxic end product of complete dechlorination of VOCs, including vinyl chloride.

Overall the data provide a strong indication that reductive dechlorination is occurring at wells AP23-DO, a moderate indication of reductive dechlorination at wells AP33-DO, AP34-DO and AP35-DO, and a limited indication of reductive dechlorination at wells AP13-DO and AP24-DO. Recommendations for additional bioremediation the Building 3 area are discussed in section 2.3.1.

Building 5 Treatment Area

Permanganate application to groundwater in the Building 5 treatment area was conducted at well AP27-DO, located east of Building 5, in 2004, 2005, and 2012, and at OB-35DO, located beneath Building 5, from 2005 to 2008, in 2011, and 2012. Permanganate injection during this reporting period was conducted at OB35-DO after the April 2014 sampling event.

The VOC trend graph for deep overburden well AP27-DO indicates a significant VOC decrease after the first treatment in 2004. In October 2011 and April 2012, the TCE concentration increased to 12 mg/L and 13 mg/L, respectively. To address the increased level of TCE noted at AP27-DO and nearby well OB35-DO, permanganate treatment was conducted at AP27-DO in 2012. VOC concentrations responded to treatment, with TCE at AP27-DO decreasing to non-detectable in November 2012. The TCE concentration at this well increased to 0.0039 mg/L April 2013 and to 11 mg/L in April 2014. These concentrations remain below the remedial planning criteria.

Permanganate treatment at deep overburden well OB35-DO, located inside Building 5, has had mixed results. Treatment reduced the concentration of TCE at OB35-DO from 440 mg/L in May 2005 to consistently below the remedial planning criteria (e.g., 5.2 mg/L in April 2014). This reflects approximately a 99 percent reduction in TCE concentrations. However, permanganate treatment has not consistently reduced the concentration of PCE at OB35-DO to below the remedial planning criteria. In April 2014 the PCE concentration at well OB35-DO was 33 mg/L compared to a pretreatment concentration of 11 mg/L. 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 is treated by the oxidizer. Additional treatment was conducted at well OB35-DO following the April 2014 sampling to address the elevated PCE level. October 2014 analytical data will be evaluated to determine if further treatment is warranted in the Building 5 Area.

Shallow overburden wells OB44-S is located inside Building 5. This well was first sampled in January 2014, and indicated the presence of TCE (24 mg/L) and PCE (47 mg/L) with cis-1,2-DCE reported as non-detectable. In April 2014, TCE and PCE concentrations decreased to 1.5 mg/L and 7.2 mg/L, respectively, but cis-1,2-DCE increased to 59 mg/L. Sample results from future sampling of well OB44-S will be reviewed to assess VOC concentration trends.

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. Permanganate injection during this reporting period was conducted at OB35-DO after the April 2014 sampling event.

VOC concentrations at shallow overburden well CL10-S, located just downgradient of the PSL 10 treatment wells on the 32 Tozer Road property, continue 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 increased to 1.8 mg/L in April 2014 from 0.011 mg/L in October 2013. Overall the PCE concentrations at CL10-S do not indicate a trend. TCE and PCE concentrations remained non-detectable in April 2014 at deep overburden well CL10-DO and bedrock well CL10-BR.

Deep overburden monitoring well MW2-32Tozer was installed west of the PSL10 injection wells on the 32 Tozer Road property in 2011. Overall the PCE concentrations at this well indicate a decreasing trend, with concentrations of PCE and TCE detected in April 2014 at 4.9 mg/L and 0.97 mg/L, respectively.

At bedrock well OB16-BR (32 Tozer Road), deep overburden well CL4-DO (30 Tozer Road) and bedrock well CL4-BR (30 Tozer Road), the graphs in **Appendix G** indicate a consistent or overall decreasing VOC trends.

October 2014 analytical data from this area will be evaluated to determine if further treatment is warranted in the PSL10 Area. Note that potential indoor air impacts at the 32 Tozer Road property are being monitored by sampling of indoor air as described in section 2.6.

North of Route 128

Historically, VOC concentrations in the area north of Route 128 have been low or non-detectable in the shallow and deep overburden aquifers. Impacts have been noted in the bedrock aquifer north of Route 128. Permanganate injection has not been performed directly in this area, but source area treatment beginning in 2002 south of Route 128 was conducted to address downgradient groundwater impacts north of the former Varian facility.

As shown in the VOC trend graphs provided in **Appendix G**, an overall decreasing VOC trend is occurring in the bedrock aquifer north of route 128. In particular, an overall decrease in VOC concentrations is noted in each zone of bedrock well BR-1, located on Walden Street. Over the last three sampling events, VOC have been non-detectable in each zone of this bedrock well. At bedrock well CL9, located on Commons Drive, TCE and PCE concentrations have decreased in each zone. For example, TCE at Zone 1 in CL9 has decreased from 5.2 mg/L in 2003 to 0.23 in April 2014. The TCE daughter products in each zone continue to show fluctuating concentrations. The concentration of cis-1,2-DCE at CL09-BR Zone 1 was detected at 4.9 mg/L in April 2014, but has ranged from 0.4 mg/L to 11 mg/L between 2009 and 2014.

Tozer Road Treatment Area South of 128

Initial permanganate injections were performed at 28 Tozer Road in 2006 and additional injections were conducted at CL3-DO in 2013 to address a TCE concentration rebound to 30 mg/L in April 2013, above the remedial planning criteria. Following the 2013 treatment, VOC concentrations decreased with TCE non-detectable in October 2013 and April 2014.

At bedrock well BR-5, located at 28 Tozer Road, VOC concentrations continue to fluctuate but remain at relatively low levels in each zone. Generally, cis-1,2-DCE concentrations are detected at levels higher than TCE and PCE. In April 2014, cis-1,2-DCE was detected at 0.09 mg/L in Zone 1 (deepest interval), 0.63 mg/L in Zone 2 (middle interval) and 0.23 mg/L in Zone 3 (shallowest interval).

At deep overburden well OB5-DO, located at 27 Tozer Road, lower VOC concentrations were observed after treatment began in 2002. However, an increasing VOC trend began in 2009 and since April 2010, generally consistent, higher VOC concentrations have been noted. In April 2014, TCE, PCE and cis-1,2-DCE were detected at concentrations of 1.8 mg/L, 0.59 mg/L and 1.7 mg/L, respectively. Although a trend graph is not provided for deep overburden well MW-36, located at 28 Tozer Road, analytical results from this well indicate a similar VOC concentration trend as described for OB5-DO. At the bedrock well OB5-BR, also located at 27 Tozer Road, an overall decreasing VOC trend is indicated by the graph in **Appendix G**. At OB5-BR, cis-1,2-DCE concentrations have decreased from 9 mg/L in 2002 to 0.016 mg/L in April 2014.

At deep overburden well OB06-DO, located on Sonning Road, concentrations of TCE and PCE have remained consistent for several sampling rounds while the cis-1,2-DCE level has decreased since 2010. In April 2014, TCE was detected at 0.14 mg/L and cis-1,2-DCE was reported at 0.39 mg/L at OB6-DO. In the adjacent bedrock well OB06-BR, VOC concentrations illustrate an overall decreasing trend since the start of treatment upgradient at 28 Tozer Road in 2002. For example, TCE has decreased from 1.8 mg/L in 2002 to 0.11 mg/L in April 2014.

31 Tozer Road Treatment Area

Shallow groundwater treatment was conducted in 2002 and 2003 and deep overburden permanganate injection occurred in this area in 2004.

Monitoring wells in this area of the site are sampled to assess shallow overburden impacts. These include AP15-S (31 Tozer Road), OB18-S (31 Tozer Road), OB41-S (39 Tozer Road), OB42-S (30 Tozer Road) and OB43-S (27 Tozer Road). The trend graphs for these wells in **Appendix G** indicate an overall decreasing VOC trend or generally consistent VOC concentrations. Wells AP15-S, OB18-S and OB43-S generally indicate the lowest VOC concentrations. Of these three wells, only OB43-S had detectable concentrations of TCE and PCE in April 2014 (0.004 mg/L and 0.0037 mg/L, respectively). Well OB42-S exhibits the highest VOC concentrations, with TCE and cis-1,2-DCE detected at 2.4 mg/L and 0.96 mg/L, respectively, in April 2014.

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.

At bedrock well BR6, located on Hill Street, TCE and PCE concentrations have been non-detectable in each zone over multiple years. Concentrations of vinyl chloride and cis-1,2-DCE at this well have fluctuated within each zone at relatively low levels. In April 2014, cis-1,2-DCE was detected in Zone 1 (deepest interval) at 0.012 mg/L, in Zone 2 (middle interval) at 0.35 mg/L and in Zone 3 (shallowest interval) at 0.17 mg/L.

Several monitoring wells in this downgradient area of the site are sampled to assess shallow overburden impacts. These include wells P-9R on Hill Street and OB20-S by Stream A, south of Sonning Road. VOCs remained non-detectable at well P-9R and decreased to non-detectable at OB20-S in April 2014.

At deep overburden well OB20-DO, TCE and PCE concentrations are generally low or non-detectable with higher cis-1,2-DCE concentrations. In April 2014, TCE and cis-1,2-DCE were reported at concentrations of 0.0076 mg/L and 0.3 mg/L, respectively, and PCE was non-detectable at OB20-DO. At the adjacent bedrock well OB20-BR, cis-1,2-DCE concentrations have increased over the last four sampling events. In April 2014, cis-1,2-DCE was detected at 0.98 mg/L at OB20-BR, which is comparable to the pretreatment concentration of 1.1 mg/L. However, TCE concentrations at OB20-BR remain below pretreatment levels, 0.3 mg/L in 2004 vs. 0.1 mg/L in April 2014.

2.2 Groundwater Permanganate Treatment Program

The permanganate injections in 2014 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 discussed section 1.2. Based on the results of the April 2014 sampling event, wells that exhibited concentrations of VOCs that exceeded the remedial planning criteria were OB12-DO (north of Building 3) and OB35-DO (inside Building 5). Although the concentrations of VOC at OB25-BR (west of Buildings 1) did not exceed the remedial planning criteria, the detected levels of each VOC did show an increase in April 2014, with cis-1,2-DCE detected at the highest concentration (25 mg/L). Therefore, additional injection was conducted at OB25-BR to reduce the VOC level at this well and to limit potential downgradient migration of VOC from this area.

Permanganate treatment was also conducted at wells AP-19 through AP-22 in the PSL 10 area upgradient of 32 Tozer Road. Residual permanganate in the area of these wells has decreased since the last injection in 2011 and sampling results from this area have indicated an increase in VOC concentrations. For example, PCE at AP-20 increased to 7.9 mg/l in October 2013 and cis-1,2-DCE increased to 4.9 mg/l at AP-21 in April 2014. Over the same period, sample results indicate a very low level of permanganate is present at AP-22, while data from the three other treatment wells indicate non-detectable permanganate concentrations. Permanganate treatment (100 gallons at each of the four existing application wells) was conducted in the PSL 10 area to help reduce the increases recently observed at source areas wells (e.g. AP-20) and to improve the decreasing VOC trend noted downgradient at well MW2-32Tozer, located downgradient on the 32 Tozer Road property. Well locations are illustrated on **Figure 2**.

2.2.1 Permanganate Injection Activities

The 2014 permanganate injection program was initiated on July 23, 2014 and continued until September 10, 2014. Volumes of sodium permanganate injected at each well during this reporting period as well as total volume injected during the 2014 treatment program (1,272 gallons) are summarized on **Table 7**.

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 is stored on site within the storage shed equipped with spill containment pending appropriate off-site disposal. The drum is inspected periodically.

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 monthly 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 E**.

Sampling for analytical parameters associated with permanganate treatment during this monitoring period was completed in April 2014. Groundwater samples were collected from select wells in April 2014 for bench-top colorimetric permanganate concentration analysis. The permanganate analysis results are

provided in **Table 6**. As would be expected, samples from wells where permanganate injection was conducted in 2013 indicated residual permanganate was present in April 2014. For example, permanganate injections were conducted in AP32-DO in 2013 and the concentration of permanganate was 236 mg/L in April 2014.

Typically, the dissolved iron concentrations (**Table 4**) 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 April 2014.

Generally, elevated dissolved manganese concentrations (**Table 4**) are noted where unreacted permanganate was observed. For example, at well OB36-DO located inside Building 6, permanganate was present at approximately 5,300 mg/L in April 2014 and dissolved manganese was detected at a concentration of 2,200 mg/L in April 2014. 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 0.11 mg/L in April 2014.

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 OB36-DO, located inside Building 6, where permanganate injections were conducted in 2013. In April 2014 VOC concentrations had decreased to non-detectable and chloride had increased to 419 mg/L from 9.54 during the prior sampling, in May 2008 **(Table 4**).

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 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 August 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.

The bioremediation program in the deep overburden near Building 3 has had limited success in sustaining reductive dechlorination of target VOC. Injection wells AP33-DO, AP34-DO and AP35-DO (**Figure 3**) were installed during the previous reporting period 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. The 2013 bioremediation injection program was conducted in October 2013 and included the application of DHC cultures seeded into a sodium lactate solution. These bioremediation

injections were discussed in the previous status report. Additional injections were not conducted during the current reporting period. Activities associated with the bioremediation program during the current reporting period included the April and August 2014 monitoring events discussed below.

2.3.1 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 April and August 2014 in in the deep overburden east of Building 3. Bioremediation parameters are summarized on **Table 5**.

As discussed in Section 2.2.2, 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 as a result of the bioremediation injections in October 2013. As indicated in **Table 5**, favorable conditions for reductive dechlorination were maintained in the groundwater (dissolved oxygen levels <1.0 mg/L and negative ORP readings). Additionally, the August 2014 analytical results showed a *Dehalococcoides* bacteria population is present in deep overburden groundwater of the treatment area.

Although the data suggest that active reductive dechlorination is occurring in several deep wells, the results also indicated lower levels of carbon are available to sustain bioremediation activity. For example, the total organic carbon concentration at well AP24-DO has decreased from 1,520 mg/L in January 2014 to 13.6 mg/l in August 2014. Due to the lower total organic carbon concentrations and the continued elevated TCA and TCE levels in this area, additional application of carbon will be conducted to continue reductive dechlorination. During the upcoming reporting period, Varian plans to inject emulsified vegetable oil (EVO) with a ferrous iron additive as a carbon source for reductive dechlorination in the deep overburden. EVO tends to remain in the formation for a longer time than lactate and was successfully used at the Site in the shallow overburden near the Unnamed Stream. Use of EVO should reduce the frequency of potential future treatment applications to treat residual daughter products in this area of the Site. The addition of ferrous iron will aid in both biological and abiotic VOC degradation. Iron will help support reducing conditions in groundwater which are favorable for the reduction of the VOCs and will bind sulfide, which at high levels can be toxic to DHC, as sulfate is reduced. Elevated sulfide was detected at AP13-DO during the August 2014 sampling event and may be a key limiting factor in reductive dechlorination at this well. Iron can also convert TCE and cis-1,2-DCE to ethane abiotically without forming vinyl chloride which gives a second pathway to aid in reducing concentrations of VOCs.

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

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

2.4.1 Building 3 Soil Vapor and Indoor Air Sampling

As discussed in the April 2014 ROS report, the concentrations of PCE detected at indoor air sample location BLDG2-6 in November 2013 (22 micrograms per cubic meter (ug/m^3)) indicated an increase compared to results from the last several sampling events, although this level was below the historic high of 40 ug/m^3. 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 elevated 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/m^3 in 2009). In April 2014 two soil vapor samples were collected in the basement of Building 2 in an effort to assess potential pathways for VOC migrating into the Building 2 basement. Installation of soil vapor points BLDG2-SV1 and BLDG2-SV2 (**Figure 11**) consisted of coring a hole through the basement walls in Building 2 and driving a three quarter inch (3/4") diameter metal probe using hand tools of approximately 1.5 feet into the soil behind the wall. The annular space around each soil vapor point at the basement wall was sealed to prevent short circuiting and the soil vapor point was finished with a flush- mounted road box.

On April 10, 2014, sub-slab soil vapor samples were collected from four vapor points, two in the basement of Building 2 (BLDG2-SV1, BLDG2-SV2), one in Building 3 (BLDG3-VP7) and one in Building 6 (BLDG6-SV1). The sub-slab soil vapor sampling points are illustrated on **Figure 11**. Each sample was collected using evacuated Summa® canisters over a four-hour sampling interval. The sub-slab soil vapor samples collected were submitted to ALS for laboratory analysis of select VOCs referencing EPA Method TO-15 (MADEP Method WSC-CAM-IXB). Analytical results of the soil vapor samples are summarized on **Table 8**. A complete copy of the laboratory analytical report is provided in **Appendix F**.

Analytical results of the April 10, 2014 sub-slab soil vapor samples collected beneath Building 2, 3, and 6 indicated:

- TCE was detected at concentrations ranging from 31 ug/m^3 at BLDG2-SV2 to 48,000 ug/m^3 at BLDG2-SV1;
- PCE was detected at concentrations ranging from 11 ug/m^3 at BLDG2-SV2 to 1,200,000 ug/m^3 at BLDG2-SV1; and
- cis-1,2- DCE was detected at a concentration of 13 ug/m^3 at BLDG3-VP7.

Additional VOCs detected in sub-slab soil vapor samples collected from beneath Building 2, 3 and 6 in April 2014 include acetone (at 130 ug/m^3), bromodichloromethane (at 1.6 ug/m^3), and chloroform (at 39 ug/m^3).

The higher VOC concentrations detected at location BLDG2-SV1 compared to BLDG2-SV2 indicate that impacts to indoor air in the Building 2 basement are most likely from the Building 3 Chem Lab source rather than the Building 6 source area. Furthermore, the elevated concentration of PCE detected at BLDG2-SV1 indicates further treatment is warranted.

In conjunction with the April 10, 2014 sub-slab soil vapor sampling, indoor air samples were collected from the Building 2 basement in the vicinity of the two new sub-slab soil vapor sampling points. These locations included BLDG2-6 (Building 2 Basement) and a new location BLDG2-7 (Storage Room, Building 2 Basement). The indoor air samples were collected using evacuated Summa® canisters over an eight-hour sampling interval. The indoor air sampling locations are also illustrated on **Figure 11**. The indoor air samples were submitted to ALS for laboratory analysis of select VOCs referencing EPA Method TO-15 (MADEP Method WSC-CAM-IXB). Analytical results of the indoor air samples are summarized on **Table 9**. A complete copy of the laboratory analytical report is provided in **Appendix F**.

Analytical results of the April 10, 2014 indoor air samples collected in the Building 2 basement indicate:

- TCE was detected at concentrations of 0.37 ug/m^3 at BLDG2-7 and 0.96 ug/m^3 at BLDG2-6; and
- PCE was detected at concentrations of 0.36 ug/m^3 at BLDG2-7 and 4 ug/m^3 at BLDG2-7.

Additional VOCs detected in indoor air samples collected from the Building 2 basement on April 10, 2014 include acetone (up to 95 ug/m^3), carbon tetrachloride (up to 0.48 ug/m^3), chloromethane (at 0.9 ug/m^3), and trichlorofluoromethane (at 1.3 ug/m^3).

Indoor air sampling results from BLDG2-6 on April 10, 2014 are similar to prior results from this location. Analytical results from indoor air sample BLDG2-7 indicate lower concentrations of VOC compared to BLDG2-6. This data also indicates indoor air impacts in the Building 2 basement are primarily the result of potential migration from the former Building 3 Chem Lab. Therefore, additional shallow treatment is warranted in the former Building 3 Chem Lab source area to address these indoor air impacts. To facilitate this additional treatment, a new horizontal well was installed beneath the former Building 3 Chem Lab source area (see section 2.4.2 below).

Based on lower concentrations of VOC in soil vapor recovered by the Building 3 SVE system and lower levels of VOCs detected in soil vapor beneath the northeast portion of Building 3, a temporary shutdown of the Building 3 SVE system was conducted from April 3, 2014 until April 29, 2014. At the end of the temporary system shutdown, soil vapor and indoor air samples were collected to assess static conditions with the building and in soil vapor beneath the building. Following sample collection, the SVE system was reactivated.

On April 29, 2014, sub-slab soil vapor samples were collected from three sub-slab soil vapor points (BLDG3-VP1, BLDG3-VP2 and BLDG3-VP3). The sub-slab soil vapor sampling points are illustrated on **Figure 11**. Each sample was collected using evacuated Summa® canisters over a four-hour sampling interval. The sub-slab soil vapor samples collected were submitted to ALS for laboratory analysis of VOCs referencing EPA Method TO-15 (MADEP Method WSC-CAM-IXB). Analytical results of the sub-slab soil vapor samples are summarized on **Table 8**. A complete copy of the laboratory analytical report is provided in **Appendix F**.

Analytical results of the April 29, 2014 sub-slab soil vapor samples collected beneath Building 3 indicated:

- TCE was detected at concentrations ranging from 460 ug/m^3 at BLDG3-VP3 to 960 ug/m^3 at BLDG3-VP-1;
- PCE was detected at concentrations ranging from 2,000 ug/m^3 at BLDG3-VP3 to 19,000 ug/m^3 at BLDG3-VP1; and
- cis-1,2- DCE was detected at a concentration of 20 ug/m^3 at BLDG3-VP3.

Additional VOCs detected in sub-slab soil vapor samples collected from beneath Building 3 on April 29, 2014 include chloroform (at 24 ug/m^3).

The April 29, 2014 soil vapor results indicated an increase in TCE and PCE concentrations at the three sub-slab vapor points sampled following the temporary shutdown of the Building 3 SVE system compared to prior results with the system operating. For example, the PCE concentration at BLDG3-VP1 increased from 1,000 ug/m^3 in November 2013 to 19,000 ug/m^3 at the end of the temporary shutdown.

In conjunction with the April 29, 2014 sub-slab soil vapor sampling, indoor air samples were collected from Building 2 and 3. The sampling included BLDG2-6 (Building 2 Basement), BLDG3-2 (Chemistry Laboratory Bench Testing Room), BLDG3-3 (Materials Inspection Department Room), and BLDG3-4 (Building 3 Machine Shop). Each sample was collected using evacuated Summa® canisters over an eight-hour sampling interval. The indoor air sampling locations are also illustrated on **Figure 11**. The indoor air samples were submitted to ALS for laboratory analysis of VOCs referencing EPA Method TO-15 (MADEP Method WSC-CAM-IXB). Analytical results of the indoor air samples are summarized on **Table 9**. A complete copy of the laboratory analytical report is provided in **Appendix F**.

Analytical results of the April 29, 2014 indoor air samples collected from the Building 3 area indicated:

- TCE was detected at concentrations ranging from non-detectable in BLD3-4 to 1.7 ug/m^3 in BLDG3-3; and
- PCE was detected at concentrations ranging from 1.9 ug/m^3 in BLD3-2 to 99 ug/m^3 in BLDG3-3.

Additional VOCs detected in indoor air samples collected from beneath Building 2 on April 29, 2014 include acetone (up to 2,300 ug/m^3), 2-butanone (up to 19 ug/m^3), 4-methyl-2-pentanone (at 4.1 ug/m^3), carbon tetrachloride (up to 0.49 ug/m^3), and toluene (up to 14 ug/m^3).

VOC concentrations detected in samples collected at in indoor air locations BLDG2-6 and BLDG3-2 (located the furthest form the SVE system) in April 2014 remained similar to concentration prior to the shutdown. At the sample location BLDG3-3, PCE in indoor air increased from 0.84 ug/m^3 in October 2013 when the SVE system was operating to 99 ug/m^3 at the end of the temporary SVE shutdown on April 29, 2014.

Based on the results of the April 29, 2014 indoor air samples, continued operation of the Building 3 system will be conducted. Several prior indoor air sampling events demonstrate that the current Building 3 SVE system is effectively maintaining a condition of no significant risk while operating. However, the April 2014 soil vapor and indoor air results indicate that the SVE system may not be completely treating residual VOC in soil beneath the northeast portion of Building 3. To provide further treatment of VOC impacts in the vadose zone beneath the northeast portion of Building 3, and to provide an additional means of potential shallow groundwater treatment, two new horizontal wells were installed beneath Building 3 in order to expand SVE treatment.

2.4.2 Building 3 Horizontal SVE Well Installation

Based on the data above, CB&I installed two new horizontal SVE wells beneath Building 3. **Figures 11** and **12** illustrate the location of the two new horizontal extraction wells BLDG3-SVE3 and BLDG3-SVE4. Well BLDG3-SVE3 was installed to provide further treatment of VOC impacts in the vadose zone beneath the northeast portion of Building 3 and to provide a means of potential shallow groundwater treatment. Well BLDG3-SVE4 was installed to provide treatment of VOC impacts in the vadose zone beneath the former Building 3 Chem Lab and to provide a means of potential shallow groundwater treatment.

From September 16 to 19, 2014, CB&I supervised the installation of two horizontal SVE wells beneath Building 3. Directional Technologies Inc. (DTI) of North Haven, CT completed installation of both horizontal wells using a Ditch Witch 2720 mud-rotary drill rig through the building foundation wall to the desired locations. Well BLDG3-SVE3 was advanced 40 feet beyond the foundation wall and well BLDG3-SVE4 was advanced 120 feet beyond the foundation. A copolymer mud specifically designed for horizontal drilling was used to help stabilize the bore hole and aid in well development. Each well was constructed of three-inch diameter schedule 80 PVC well screen and casing. BLDG3-SVE3 was completed with a 25 foot screen section installed approximately eight feet below the building floor. Well BLDG3-SVE4 was completed with a 40 foot screen section installed approximately 8.5 feet below the building floor. The screened section of extraction well BLDG3-SVE3 was located to treat soil impacts indicated from the soil sample collected eight feet below the floor at soil boring BLDG3-SB100 (15 mg/kg of PCE in 2012). The screened section of extraction well BLDG3-SVE4 was located to treat impacts indicated from the soil sample collected eleven feet below the floor at soil boring at BLDG3-SB105 (25 mg/kg of PCE in 2013) and the areas where holes in drain line 7 may have resulted in discharges to subsurface soils. Well completion diagrams are provided in the drilling log included in **Appendix D.** **Figure 11** shows the locations of the new horizontal SVE wells and well cross sections are also illustrated,

Although the horizontal drilling method used to advance the soil borings limited observations of the soil, soil encountered during the installation of BLDG3-SVE3 appeared to consist of mainly of a silty sand with abundant gravels. Soil encountered during the installation of BLDG3-SVE4 appeared to consist of clayey sand with some gravel. Due to the nature of the drilling procedure, headspace readings were not collected during well installation; however, headspace screening of the drilling mud that contained soil cuttings from each well was conducted. Headspace readings revealed a VOC concentration of 276 ppm in the soil cuttings collected from BLDG3-SVE3 and 411 ppm in the soil cuttings collected from BLDG3-SVE4.

The mud slurry that flushed drill cuttings from the bore hole at each wells was containerized in 300 gallon plastic totes pending characterization and off-site disposal.

After well installation, the extraction wells were developed by DTI by pumping tap water directly into the installed well. Water passing through the screen displaced the cuttings-laden drilling fluid, forcing it to exit through the end of the wellbore. Flushing continued until the bulk of drilling fluids and cuttings were been removed from the wellbore. The wellbore was then flooded with a solution containing a clay dispersant which was given at minimum four hours of residence time for the drilling fluid to de-flocculate. Then the well was flushed using tap water to remove remaining solids from the wellbore. Water produced during well development was containerized and stored on-site in 300 gallon plastic totes for future off-site disposal.

As discussed below, extraction wells BLDG3-SVE3 and BLDG3-SVE4 were connected to SVE system on September 25, 2014.

2.4.3 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 PID to assess VOC recovery and off-gas treatment removal efficiency. The results of regular O&M system monitoring conducted from April 1, 2014 to September 30, 2014 are summarized in **Table 10**. During this monitoring period the average total flow rate for the SVE system was approximately 172 cubic feet per minute (cfm), with an average pretreatment total VOC concentration of 11 ppm before extraction began at the two new wells. On September 25, 2014, soil vapor extraction began at wells BLDG3-SVE3 and BLDG3-SVE4. Screening of soil vapor from these two new wells indicated VOC concentrations of 56 ppm at BLDG3-SVE3 and 20 ppm at BLDG3-SVE4. Prior to these two new extraction wells, VOC recovery was highest at extraction well BLDG3-SVE2, with an average concentration of approximately 12 ppm during this reporting period.

Table 10 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. In addition, adjustments are made to the well packers installed in BLDG3-SVE1 and BLDG3-SVE 2 to vary the sections of well screen where vacuum is applied. 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.

As previously noted, a temporary SVE system shutdown was conducted on April 3, 2014 for soil vapor and indoor air testing purposes. The SVE system was reactivated on April 29, 2014 after sampling was conducted.

On May 1, 2014, PID screening of soil vapor from the primary carbon vessel effluent indicated potential breakthrough of the primary carbon (**Table 10**). 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 May 12, 2014, approximately 2,000 pounds of spent carbon were removed from the off-line vessel and new carbon was installed. The spent Building 3 carbon was transported off site for regeneration at Evoqua Water Technologies in Parker, Arizona. A copy of the Uniform Hazardous Waste Manifest for the shipment of carbon is provided in **Appendix C**. The off-line vessel with new carbon remained on site as a stand-by in the event that vapor screening indicates carbon breakthrough.

On June 13, 2014, PID screening of soil vapor from the primary carbon vessel effluent indicated potential breakthrough of the primary carbon (**Table 10**). 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 July 8, 2014, approximately 2,000 pounds of spent carbon were removed from the off-line vessel and new carbon was installed. The spent Building 3 carbon was transported off site for regeneration at Evoqua Water Technologies in Parker, Arizona. A copy of the Uniform Hazardous Waste Manifest for the shipment of carbon is provided in **Appendix C**. The off-line vessel with new carbon remained on site as a stand-by in the event that vapor screening indicates carbon breakthrough.

On July 8, 2014, PID screening of soil vapor from the primary carbon vessel effluent indicated potential breakthrough of the primary carbon (**Table 10**). 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 July 25, 2014, approximately 2,000 pounds of spent carbon were removed from the off-line vessel and new carbon was installed. The spent Building 3 carbon was containerized in drums and stored onsite pending transport and appropriate off-site disposal. The off-line vessel with new carbon remained on site as a stand-by in the event that vapor screening indicates carbon breakthrough.

On July 8, 2014, grab soil vapor samples were collected from the Building 3 SVE system to assess current VOC concentrations in the recovered vapor. Vapor samples were collected from BLDG3-SVE1, BLDG3-SVE2, and total carbon influent. Each grab sample was collected using evacuated Summa® canisters. The soil vapor samples collected were submitted to ALS for laboratory analysis of the full VOC list referencing EPA Method TO-15 (MADEP Method WSC-CAM-IXB). The full analyte list was reported to aid in determining non-target VOCs were contributing to increased carbon consumption. Analytical results of the soil vapor samples are summarized on **Table 11**. A complete copy of the laboratory analytical report is provided in **Appendix F**.

Analytical results of the July 8, 2014, grab soil vapor samples from the Building 3 SVE wells indicated:

- TCE was detected at 2,900 ug/m^3 in BLDG3-SVE2; and
- PCE was detected at 3.6 ug/m^3 in BLDG3-SVE Influent and 99,000 ug/m^3 in BLDG3-SVE2.

Other VOC reported above detection limits in soil vapor samples collected from the Building 3 SVE wells in July 2014 include 2-butanone (at 0.96 ug/m^3) acetone (up to 39 ug/m^3), and carbon tetrachloride (at 0.47 ug/m^3). In addition, estimated concentrations of a number of VOC below the method reporting limit, but above the method detection limit, were reported by the laboratory to evaluate carbon consumption. These estimated data indicate the presence of low levels of VOC that have high carbon consumption rates and which may be impacting carbon performance. For example, dichloromethane (methylene chloride) and vinyl chloride were reported at estimated concentrations of 0.38 ug/m^3 and 0.057 ug/m^3, respectively, in the carbon influent vapor sample (**Table 11**).

On September 25, 2014, grab soil vapor samples were collected from the Building 3 SVE system to assess VOC concentrations in the recovered vapor at existing well BLDG3-SVE1, and the two new SVE wells BLDG3-SVE3 and BLDG3-SVE4. Each grab sample was collected using evacuated Summa® canisters. The soil vapor samples collected were submitted to ALS for laboratory analysis of full VOC list referencing EPA Method TO-15 (MADEP Method WSC-CAM-IXB). Analytical results of the soil vapor samples are summarized on **Table 11**. A complete copy of the laboratory analytical report is provided in **Appendix F**.

Analytical results of the September 25, 2014, grab soil vapor samples from the Building 3 SVE wells indicated:

- TCE was detected at concentrations ranging from 3 ug/m^3 at BLDG3-SVE1 to 5,000 ug/m^3 at BLDG3-SVE3
- PCE was detected at concentrations ranging from 240 ug/m^3 at BLDG3-SVE1 to 410,000 ug/m^3 at BLDG3-SVE3
- Acetone was detected at concentrations ranging from 290 ug/m^3 at BLDG3-SVE1 to 37,000 ug/m^3 at BLDG3-SVE4

- 2-butanone (methyl ethyl ketone) was detected at concentrations ranging from 63 ug/m^3 at BLDG3-SVE1 to 13,000 ug/m^3 at BLDG3-SVE4

Additional VOC reported above detection limits in soil vapor samples collected from the Building 3 SVE wells in September 2014 include cis-1,2-DCE (at 120 ug/m^3), trans-1,2-DCE (at 8 ug/m^3), dichloromethane (at 7 ug/m^3) and toluene (at 1 ug/m^3).

2.4.4 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 12** and illustrated in **Figure 13**. Since the SVE system was activated in December 2009, it has removed an estimated 1,526 pounds of VOCs from beneath Building 3. During this reporting period a total of approximately 148 pounds of VOCs were removed by the Building 3 SVE system. Initial monitoring and sampling of vapor extracted from horizontal wells BLDG3-SVE3 and BLDG3-SVE4 indicate elevated concentrations of VOC. These data illustrate the wells are located in areas with residual VOC in vadose zone soil.

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 10** for the current reporting period and the locations of the sub-slab vapor monitoring are illustrated on **Figure 11**. 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.

2.5 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 14**. 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. In addition to the normal operation of the Building 5 SVE system, soil vapor and indoor air sampling was conducted in Building 5 and an additional extraction well was installed and connected to the system.

2.5.1 Building 5 Soil Vapor and Indoor Air Sampling

On April 1, 2014 indoor air samples were collected from three new locations inside Building 5 and adjacent Building 8. The sampling was conducted to assess potential indoor air impacts in Building 5 and in the Building 8 basement downgradient of well OB44-S where elevated VOC concentration were detected in shallow groundwater following installation of this well in December 2013. These new locations included BLDG5-5 (cathode spray room), BLDG5-6 (common office area), and BLDG8-1 (high power testing in Building 8 Basement). The samples were collected using evacuated Summa® canisters over an eight-hour sampling interval. The indoor air sampling locations are illustrated on **Figure 14**. The indoor air samples collected 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 13**. Complete copies of the laboratory analytical reports are provided in **Appendix F.**

Analytical results of the April 1, 2014 indoor air samples collected from within Building 5 indicate:

- TCE was detected at concentrations ranging from 0.79 ug/m^3 in BLDG5-5 to 5.2 ug/m^3 in BLDG5-6;
- PCE was detected at concentrations ranging from non-detectable in BLDG5-5 to 0.81 ug/m^3 in BLDG5-6; and
- Acetone was detected at concentrations ranging from 86 ug/m^3 in BLDG8-1 to 3900 ug/m^3 in BLDG5-5

Several additional VOC were reported at low levels in indoor air samples collected from the Building 5 in April 2014, including 2-butanone, carbon tetrachloride, cis-1,2-DCE, trans-1,2-DCE, 4-methyl-2-pentenone, toluene and xylenes.

The results of the April 2014 indoor air samples from Building 5 indicate concentrations of target VOC such as TCE and PCE are similar or lower than those previously detected in the Building 5 treatment area (e.g. locations BLDG5-1 and BLDG5-2). Therefore, it appears that potential impacts to indoor air are limited to the current Building 5 SVE treatment area and are nearly non-detectable in the Building 8 basement.

On June 17, 2014, sub-slab soil vapor samples were collected from six soil vapor points beneath Building 5 (BLDG5-SV1, BLDG5-SV2, BLDG5-SV3, BLDG5-SV4, BLDG5-SV5, and BLDG5-SV6, **Figure 14**). The samples were collected to evaluate current VOC concentrations beneath the building. The vapor samples were collected using an evacuated Summa® canister over a four-hour sampling interval and submitted to ALS for laboratory analysis of select VOCs by EPA Method TO-15. Analytical results of the June 17 2014 sub-slab soil vapor samples are summarized on **Table 14**. Complete copies of the laboratory analytical reports are provided in **Appendix F**.

Analytical results of the June 17, 2014 sub-slab soil vapor samples collected beneath Building 5 indicated:

- TCE was detected at concentrations ranging from 6 ug/m^3 in BLDG5-SV5 to 970 ug/m^3 in BLDG5-SV6;
- PCE was detected at concentrations ranging from 8.1 ug/m^3 in BLDG5-SV2 to 420 ug/m^3 in BLDG5-SV6;
- cis-1,2-DCE was detected at a concentration of 950 ug/m^3 in BLDG5-SV6;
- TCA was detected at a concentration of 680 ug/m^3 in BLDG5-SV6;
- 1,1-dichloroethene was detected at a concentration of 280 ug/m^3 in BLDG5-SV6; and
- 1,1-dichloroethane was detected at a concentration of 1,600 ug/m^3 in BLDG5-SV6.

Additional VOC reported above detection limits in sub-slab soil vapor samples collected from beneath Building 5 in June 2014 included: 2-buanone (up to 200 ug/m^3); 2-hexanone (at 15 ug/m^3); 4-methyl-2-pentanone (up to 98 ug/m^3); acetone (up to 960 ug/m^3); carbon tetrachloride (up to 0.49 ug/m^3); ethylbenzene (at 10 ug/m^3); toluene (up to 24 ug/m^3); vinyl chloride (19 ug/m^3); styrene (18 ug/m^3) and xylenes (up to 50 ug/m^3) .

Data from soil vapor sampling in June 2014 indicated VOC concentrations similar to or less than January 2014 sampling and continue to reflect a significant decrease in TCE and PCE concentrations compared to analytical results from before the Building 5 SVE system was activated.

In conjunction with the June 17, 2014 sub-slab soil vapor sampling, indoor air samples were collected from the Building 5 treatment area. 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 14**. This sampling was conducted to assess VOC concentration trends in indoor air of Building 5 with the SVE system operating. The indoor air samples collected 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 13**. Complete copies of the laboratory analytical reports are provided in **Appendix F**.

Analytical results of the June 17, 2014 indoor air samples collected from within Building 5 indicated:

- TCE was detected at concentrations ranging from 3.5 ug/m^3 in BLDG5-3 to 11 ug/m^3 in BLDG5-2; and
- PCE was detected at concentrations ranging from 3.3 ug/m^3 in BLDG5-3 to 11 ug/m^3 in BLDG5-2.

Additional VOC reported above detection limits in the indoor air samples collected in Building 5 in April 2014 included 2-butanone (up to 380 ug/m^3); acetone (4,100 ug/m^3); and 4-methyl-2-haxanone (up to 91 ug/m^3).

Concentrations of VOC detected in indoor air samples since the Building 5 SVE system began operation do not indicate a consistent decreasing trend, despite significantly lower VOC concentrations in soil vapor beneath the building. As a result, installation of a new SVE trench well was completed to provide additional treatment in the area of well OB44-S.

2.5.2 Building 5 SVE Trench Installation

Based upon the available data, it appears that the existing Building 5 SVE system has significantly reduced VOC concentrations in soil vapor beneath Building 5 and has reduced VOC concentrations in the indoor air at the Sanding Room. However, it appears that shallow VOC impacts indicated at OB44-S, adjacent to the former utility trench sump, are continuing to impact indoor air in the QA Area (BLDG5-1) and Shipping Area (BLDG5-2). The area of OB44-S is outside of the current radius of influence of the three existing SVE trench wells. Therefore, CB&I installed an additional SVE trench extraction well (BLDG5-SVE4) adjacent to well OB44-S in Building 5. Installation of the new SVE trench well was conducted by Enpro Services from August 8 to 11, 2014 under the direct supervision of CB&I. Installation was conducted during the manufacturing shutdown to limit impacts to facility operations. The trench SVE well was installed by cutting through the concrete floor and excavating to a depth of approximately 4 feet below the floor. An extraction well consisting of 15 feet of four inch PVC screen material and approximately 3.5 feet of 4 inch PVC riser was then installed within the excavation. The trench was then backfilled with approximately 3.5 feet of clean, graded stone around the screen and approximately six inches of clean fill over the stone. Once backfilled, new concrete was installed. The location of the new SVE well BLDG5-SVE4 is shown on **Figure 14**.

2.5.3 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 April 1, 2014 to September 30, 2014 are summarized in **Table 15**. From April 1, 2014 to September 30, 2014, the average total flow rate for the SVE system was approximately 128 cfm, with an average pretreatment total VOC concentration of 1.6 ppm. VOC recovery continues to be higher at vapor extraction well BLDG5-SVE1, with an average concentration of approximately 4.2 ppm during this reporting period. On August 11, 2014, soil vapor extraction began at well BLDG5-SVE4. Screening of soil vapor from the new SVE trench well indicated an initial VOC concentration of 0.4 ppm at BLDG5-SVE4. These results are discussed further below.

Table 15 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.

2.5.4 Building 5 SVE System Performance

Measured VOC concentrations in soil vapor recovered by the SVE system using a PID are evaluated to approximate the VOC mass removed by the treatment system. Both the mass removal rate and total mass removed by the Building 5 SVE system are presented in **Table 16** and illustrated in **Figure 15**.

Since the Building 5 SVE system was activated on March 11, 2013, through the end of this reporting period, it has removed an estimated 82 pounds of VOCs from beneath Building 5.

On May 14, 2014 and September 23, 2014, grab soil vapor samples were collected from the SVE system. In May vapor samples were collected from BLDG5-SVE1, BLDG5-SVE2, and the carbon influent. In September, vapor samples were collected from BLDG5-SVE1, BLDG5-SVE2, BLDG5-SVE4, and the carbon influent. 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 17**. A complete copy of the laboratory analytical report is provided in **Appendix F**.

Analytical results of the May 14, 2014, grab soil vapor samples from the Building 5 SVE system indicated:

- TCE was detected at concentrations ranging from 260 ug/m^3 in BLDG5-SVE2 to 9,900 ug/m^3 in BLDG5-SVE1;
- PCE was detected at concentrations ranging from 200 ug/m^3 in BLDG5-SVE2 to 920 ug/m^3 in BLDG5-SVE1; and
- cis-1,2-DCE was detected at concentrations ranging from 53 ug/m^3 in BLDG5-SVE2 to 230 ug/m^3 in BLDG5-SVE1.

Additional VOC reported above detection limits in soil vapor samples collected from the Building 5 SVE system in May 2014 include 1,1,-TCA (at 5.1 ug/m^3), 2-butanone up to 51 ug/m^3), 4-methyl-2-pentanone (at 13 ug/m^3), and acetone (up to 130 ug/m^3).

Analytical results of the September 23, 2014, grab soil vapor samples from the Building 5 SVE system indicated:

- TCE was detected at concentrations ranging from 7 ug/m^3 in BLDG5-SVE4 to 30,000 ug/m^3 in BLDG5-SVE1;
- PCE was detected at concentrations ranging from 59 ug/m^3 in BLDG5-SVE4 to 3,000 ug/m^3 in BLDG5-SVE1; and
- cis-1,2-DCE was detected at concentrations ranging from non-detectable in BLDG5-SVE4 to 300 ug/m^3 in BLDG5-SVE1.

Additional VOC reported above detection limits in soil vapor samples collected from the Building 5 SVE system in September 2014 included: 2-butanone (up to 21 ug/m^3), acetone (up to 73 ug/m^3), and dichloromethane (up to 27 ug/m^3).

As indicated on **Table 17**, VOC concentrations in soil vapor from the Building 5 Area extraction 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/m^3 during the pilot test in September 2012 to 30,000 ug/m^3 in September 2014 (after 539 days of SVE system operation). Based on September 2014 soil vapor analytical results from extraction well BLDG5-SVE4, VOC recovery is lower than would be expected considering the elevated VOC concentrations detected in soil and groundwater at adjacent well OB44-S.

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 14**). 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.

On September 24, 2014, sub-slab soil vapor and indoor air samples were collected in the Building 5 area to assess the impact of operating the new SVE trench well on VOC concentration in soil vapor and indoor air. Vapor samples were collected from five sub-slab soil vapor points beneath Building 5 (BLDG5-SV2, BLDG5-SV3, BLDG5-SV4, BLDG5-SV5, and BLDG5-SV6). Indoor air samples were collected at four locations within Building 5 (BLDG5-1, BLDG5-2, BLDG5-3 and BLDG5-6). Soil vapor samples were collected using an evacuated Summa® canister over a four-hour sampling interval. Indoor air samples were collected using an evacuated Summa® canister over an eight-hour sampling interval. The soil vapor and indoor air samples collected were submitted to ALS for laboratory analysis of VOC by EPA Method TO-15.

Analytical results of the September 24, 2014 sub-slab soil vapor samples are summarized on **Table 14**. A complete copy of the laboratory analytical report is provided in **Appendix F**. Analytical results of these sub-slab soil vapor samples collected beneath Building 5 indicated:

- TCE was detected at concentrations ranging from 4 ug/m^3 in BLDG5-SV5 to 390 ug/m^3 in BLDG5-SV6;
- PCE was detected at concentrations ranging from non-detectable in BLDG5-SV4 to 97 ug/m^3 in BLDG5-SV6;
- cis-1,2-DCE was detected at a concentration of 590 ug/m^3 in BLDG5-SV6;
- 1,1,1-TCA was detected at a concentration of 490 ug/m^3 in BLDG5-SV6; and
- 1,1-dichloroethene and 1,1-dichloroethane were detected in BLDG5-SV6 at a concentrations of 350 ug/m^3 and 1,800 ug/m^3, respectively.

Additional VOC reported above detection limits in sub-slab soil vapor samples collected from beneath Building 5 in June 2014 included: 2-buanone (up to 230 ug/m^3), 2-hexanone (up to 5 ug/m^3), 4-methyl-2-pentanone (up to 62 ug/m^3), acetone (up to 300 ug/m^3), 1,3 dichlorobenzene (up to 13 ug/m^3), benzene (up to 2 ug/m^3), ethylbenzene (up to 10 ug/m^3), toluene (up to 29 ug/m^3), dichloromethane (up to 350 ug/m^3); and xylenes (up to 54 ug/m^3) .

Analytical results of the September 24, 2014 indoor air samples are summarized on **Table 13**. A complete copy of the laboratory analytical report is provided in **Appendix F**. Analytical results of these indoor air samples from Building 5 indicated:

- TCE was detected at concentrations ranging from non-detectable at BLDG5-3 and BLDG5-6 to 9 ug/m^3 in BLDG5-1;
- PCE was detected at concentrations ranging from non-detectable at BLDG5-3 and BLDG5-6 to 8 ug/m^3 in BLDG5-SV1 and
- cis-1,2-DCE was detected at concentrations ranging from non-detectable at BLDG5-3 and BLDG5-6 to 1 ug/m^3 in BLDG5-SV6.

Additional VOC reported above detection limits in sub-slab soil vapor samples collected from beneath Building 5 in June 2014 included: 2-butanone (up to 340 ug/m^3), 4-methyl-2-pentanone (up to 100 ug/m^3), acetone (up to 620 ug/m^3), ethylbenzene (up to 2 ug/m^3), toluene (up to 4 ug/m^3), dichloromethane (up to 57 ug/m^3); and xylenes (up to 10 ug/m^3) .

Data from soil vapor samples collected in September 2014 continue to indicate lower VOC concentrations beneath Building 5. VOC concentrations from the September 2014 indoor air samples indicate mixed results. For example, TCE and PCE were both non detectable in the Sanding Room for the first time (BLDG5-3), but concentrations of these VOC indicated a slight increase in the QA Room sample (BLDG5-1). Lower than expected VOC concentrations have been measured in the soil vapor recovered by the new SVE trench well BLDG5-SVE4. These data suggest that indoor air impacts in the Building 5 area may be more directly from shallow groundwater rather than residual VOC in vadose zone soil. Even with operation of the SVE system, TCE concentrations in indoor air at Building 5 have periodically been detected above 8 ug/m^3, which MADEP has specified as the long-term remediation target for situations where workplace indoor air has been impacted by vapor intrusion. This MADEP target is intended to be protective of developmental toxicity as well as other potential effects. Therefore, it appears that shallow groundwater treatment may be warranted in the Building 5 area.

2.6 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 previous reporting periods in May 2013, October 2013, and February 2014, and in April 2014 during this reporting period.

On April 17, 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 16.** 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 April 17, 2014 are summarized in **Table 18**. A complete copy of the laboratory analytical report is included in **Appendix F**. The April 17, 2014 soil vapor analytical results indicated the following:

- TCE was detected at concentrations ranging from 0.41 ug/m^3 in 32 Tozer-SV5 to 4,500ug/m^3 in 32 Tozer-SV3;
- PCE was detected at concentrations ranging from 1.4 ug/m^3 in 32 Tozer-SV5 to 14,000 ug/m^3 in 32 Tozer-SV3;
- cis-1,2-DCE was reported at concentrations ranging from non-detectable in 32 Tozer-SV5 to 17,000 ug/m^3 in 32 Tozer-SV3;
- 1,1-dichloroethane was detected at 0.8 ug/m^3 in 32 Tozer-SV4; and
- vinyl chloride was detected at 1.2 ug/m^3 in 32 Tozer-SV4.

Data from the April 2014 soil vapor samples indicate similar results to previous sampling rounds at location 32 Tozer-SV5 and 32 Tozer-SV4, but indicate an increase in VOC concentrations in location 32 Tozer-SV3.

As shown on **Table 18,** concentrations of some VOC in sample 32Tozer-SV3 from April 17, 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.

In conjunction with sub-slab soil vapor sampling on April 17, 2014, three indoor air samples (32Tozer-1, 32Tozer-2, and 32Tozer-3) were collected using evacuated Summa® canisters over an eight-hour sampling interval (**Figure 16)**. 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 April 17, 2014 are also summarized in **Table 18**. A complete copy of the laboratory analytical report is included in **Appendix F**. The April 17, 2014 indoor air analytical results indicated the following:

- TCE was reported at concentrations ranging from non-detectable in 32Tozer-3 to 1.9 ug/m^3 in 32 Tozer-1;
- PCE was detected at concentrations ranging from 0.26 ug/m^3 in 32Tozer-3 to 18 ug/m^3 in 32 Tozer-1; and
- cis-1,2-DCE was reported at concentrations ranging from non-detectable in 32Tozer-3 to 3.9 ug/m^3 in 32 Tozer-1.

In general, VOC concentrations detected in the four indoor sampling events conducted in May 2013, October 2013, February 2014, and April 2014 at 32 Tozer Road indicate similar levels. As indicated in **Table 18**, PCE was detected in the April 2014 indoor air sample 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 4.3.

2.7 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 F**. 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 numbers R1302631, R1402601, R1402779, R1403116, 2027489, 2031945 and 2031370. 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 R1302631, R1402595 and R1402727, 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 R1405214, a faulty regulator on the summa canister of sample BLDG3-SVE1 resulted in ambient air dilution of the sample, As a result positive and non-detect results were assigned a "J" (estimated) qualifier.

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. One minor adjustment to the field monitoring plan was made during this reporting period. During previous years, well monitoring was conducted on a bi-weekly schedule following permanganate injections to confirm no adverse impacts resulted from the injections. As part of the 2014 permanganate treatment program, field monitoring was conducted monthly. It is anticipated that the monthly monitoring schedule will continue to provide data needed to confirm no adverse impacts resulted from the injections as required by MADEP guidance.

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. October 2014 groundwater analytical results will be reviewed in an effort to determine if further treatment is required.

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. However, the groundwater monitoring results indicated lower levels of carbon are available to sustain bioremediation activity. Due to the lower total organic carbon concentrations and the continued elevated TCA and TCE levels in this area, Varian plans to injection EVO as a carbon source for reductive dechlorination in the deep overburden during the next reporting period. Monitoring results from sampling events after these injections (e.g. January and April 2015) will be evaluated to determine future steps in the bioremediation program.

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 indoor air samples collected at the April 2014 temporary shutdown of the Building 3 SVE system in April 2014 continue to indicate that operation of the SVE system is needed to mitigate VOC impacts to indoor air. It is expected that operation of the two new SVE wells will address additional VOC impacts in the vadose zone and further reduce potential vapor migration into the building. Data from the Building 3 area will be evaluated over the next reporting period to assess the impact of the two new horizontal SVE wells on site conditions. In addition, the Building 3 horizontal SVE wells will be utilized to inject permanganate beneath Building 3 to provide groundwater treatment. Application of permanganate directly to VOC impacted groundwater where historic releases likely occurred will help to limit rebound of VOC concentrations at deep overburden wells in the Building 3 Area and may also reduce potential VOC migration into indoor air. After this additional treatment is conducted, further soil vapor and indoor air sampling will be conducted in the Building 3 area to evaluate remedial progress.

Data from the Building 5 area suggest that indoor air impacts in the building may be more directly related to VOC in shallow groundwater than residual VOC in vadose zone soil. Because TCE concentrations in indoor air at Building 5 have periodically been detected above MADEP's long-term remediation target for workplace indoor air (8 ug/m^3) with operation of the SVE system, it appears that shallow groundwater treatment may also be warranted in the Building 5 area. Over the next reporting period Varian will evaluate completing shallow groundwater treatment using the existing Building 5 SVE trench wells (e.g. permanganate or bioremediation injections) to further reduce potential impacts to 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. A subsequent round of indoor air samples in November 2013 confirmed 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 ug/m^3 (MADEP, 2014). It should be noted that, even during the temporary shutdown of the Building 3 system in April 2014, TCE concentrations in indoor air remained below MADEP's long-term remediation target of 8 ug/m^3 for workplace indoor.

4.2 Building 5 Indoor Air Evaluation

As shown in **Table 14**, 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 13**), 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 pre-treatment 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.

The April 2014 ROS report included a risk evaluation which considered four rounds of indoor air data collected since the installation of the Building 5 SVE system (CB&I, 2014). The risk evaluation concluded that the SVE system has achieved a condition of No Significant Risk (and no Imminent Hazard) while in operation. No new evaluation was conducted on analytical results collected during this reporting period. However, indoor air results from June and September 2014 indicated VOC concentrations consistent with the data evaluated in the April 2014 ROS report. Therefore, the SVE system continues to maintain a condition of No Significant Risk (and no Imminent Hazard) while in operation.

4.3 Evaluation of Off-Site Properties

4.3.1 32 Tozer Road

In April 2014, CB&I conducted the fourth round of indoor air and soil vapor sampling at the 32 Tozer Road property since the completion of building renovations in April 2013 (section 2.6 above). The results of these four rounds of indoor air sampling (May 2013, October 2013, February 2014 and April 2014) have been evaluated in accordance with the MCP to conservatively estimate potential risk from VOC in indoor air due to vapor intrusion.

CB&I used the maximum concentration of each VOC detected over the four sampling events to conservatively estimate risk in accordance with evaluation procedures established by MADEP. The

maximum indoor air concentrations of TCE, PCE and cis-1,2-dichloroethene detected in the four rounds were 1.9 ug/m^3, 18 ug/m^3, and 3.9 ug/m^3, respectively. The risk evaluation, including input parameters and calculations, is presented on **Table 19**. The estimated non-cancer hazard resulted in a Hazard Index of 0.5. This estimated Hazard Index does not exceed the MCP cumulative non-cancer risk limit of 1 for Significant Risk. The estimated cancer risk was $5x10^{-6}$, which is below the MCP cumulative cancer risk limit of 1 in 100,000 or $1x10^{-5}$. Based on this evaluation, the data demonstrate a condition of No Significant Risk exists at the 32 Tozer Road property in accordance with MADEP criteria. In addition, the TCE concentrations in indoor air at 32 Tozer Road (**Table 18**) have consistently been less than 8 ug/m^3, which MADEP has specified as the long-term remediation target for situations where workplace indoor air has been impacted by vapor intrusion to be protective of developmental toxicity as well as other potential effects.

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**). April 2014 groundwater analytical results indicate VOC concentrations similar to previous sampling rounds in OB42-S. Therefore, a condition of No Significant Risk would still be expected.

4.3.3 39 Tozer Road

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**). April 2014 groundwater analytical results indicate VOC concentrations similar to previous sampling rounds 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 ACTIVE EXPOSURE PATHWAY MITIGATION MEASURES (310 CMR 40.1026)

The two SVE systems being operated under this Remedy Operation Status were designed and implemented to mitigate exposure to VOCs from potential vapor migration into Building 3 and Building 5. As discussed above, the remediation system in Building 3 was installed in 2009 under an IRA. In 2013, an IRA Completion report was submitted along with a Phase IV Plan and Remedy Operation Status

Opinion (Shaw, 2013a). The Building 3 SVE system is operated as part of the ROS at this Site. The Building 5 SVE system was installed in 2013 as part of the Phase IV Plan (Shaw, 2013b) and is operated under the Phase V ROS at this Site. The SVE systems at both Building 3 and Building 5 are therefore part of the Remedy Operation Status for the Site and meet the definition of an Active Exposure Pathway Mitigation Measure established in the June 2014 revisions to the MCP. The following sections present information required by 310 CMR 40.1026 and discusses how the existing operation and maintenance plans and Site conditions meet those requirements.

6.1 Operational Regimen for Active Exposure Pathway Mitigation Measure (310 CMR 40.1026(3) (a), (b) & (c))

The Operation and Maintenance (OMM) Plan for the Building 3 system was provided to the MADEP as part of the March 2010 IRA Status Report (Shaw, 2010a). The OMM Plan for the Building 5 system was provided to the MADEP as part of the April 2013 ROS Status Report (Shaw, 2013b). Each OMM Plan includes the methods of monitoring and the frequency of planned maintenance activities. The Building 3 and Building 5 operating regimens were designed to ensure a level of No Significant Risk is maintained for the Receptor of concern under normal operating conditions. Monitoring and maintenance activities regularly conducted for the remedial systems demonstrate that the systems are operating in accordance with the OMM Plans and the objectives stated in appropriate MCP submittals, thereby effectively mitigating the exposure pathway.

6.3 Remote Monitoring for Active Exposure Pathway Mitigation Measure (310 CMR 40.1026(3)(d))

The MCP requires that an Active Exposure Pathway Mitigation Measure implemented as part of a Temporary Solution or Remedy Operation Status employ remote monitoring technology that will alert the owner and operator of the building protected by the Active Exposure Pathway Mitigation Measure and MADEP immediately upon failure of the system.

Currently the systems at Building 3 and 5 provide an automated text messages to CB&I when there is an alarm condition including a power failure. CB&I is currently working to reconfigure the system to also provide notice to the MADEP and the facility operator as required by the MCP. It is expected that these upgrades will be completed by the end of November 2014 and will be reported in the next status report.

6.4 Duration of Active Exposure Pathway Mitigation Measure Shutdown (310 CMR 40.1026(e))

The MCP specifies that the operating regimen for an Active Exposure Pathway Mitigation Measure document the longest duration of a shutdown that would be consistent with a level of exposure that does not pose an Imminent Hazard and a level of exposure that poses No Significant Risk.

A planned shutdown of the Building 3 SVE system was conducted in April 2014. The indoor air data collected at the end of the 26-day shutdown were discussed above. For the purpose of estimating the durations required in 310 CMR 40.1026(e), these results have been compared to risk-based indoor air concentrations provided in MADEP guidance (MADEP, 2014a, MADEP 2014b and MADEP 2013).

Based on this comparison, neither the PCE concentration (99 ug/m^3) nor the TCE concentration (1.7 ug/m^3) detected at the end of the April 2014 shutdown would be an imminent hazard or substantial hazard based on non-cancer effects. The April 2014 PCE concentration detected is above those values based on $1x10^{-5}$ or $1x10^{-6}$ risk, indicating an indoor air concentration that could be a Significant Risk if the Building 3 system was not operating for a sufficient period. Using this potential indoor air concentration, the estimated time to substantial hazard for potential PCE exposure is identified as 0.8 years, as that is the time that would result in an equivalent exposure to a cancer risk of $1x10^{-6}$ over 70 years. Although the actual target cancer risk for substantial hazard is $1x10^{-5}$, a value of $1x10^{-6}$ has been used to provide a margin of safety in estimated shutdown time. As a result, the estimated time for shutdown that could approach a Significant Risk is 0.8 years, based on PCE exposure.

A shutdown has not been conducted on the Building 5 SVE system since the system began operation in March 2013. For the purpose of estimating the durations required in 310 CMR 40.1026(e), indoor air analytical results from prior to system startup were used to compare to risk-based indoor air concentrations provided in MADEP guidance. Based on this comparison neither the PCE concentration (14 ug/m^3) nor the TCE concentration (18 ug/m^3) detected before the SVE system was activated would be an imminent hazard. The pre-treatment PCE and TCE concentrations detected are above those values based on $1x10^{-6}$ risk, indicating that indoor air concentration could be a Significant Risk if the Building 5 system was not operating for an extended period. In addition, the pretreatment TCE concentration is above the concentration associated with a Hazard Index of 1, indicating the potential for a non-cancer hazard were the system to be shutdown. The exact time for shutdown cannot be estimated since the concentration that results in non-cancer effects is not a function of time, although there is some minimum period of exposure for effects to occur. Due to concerns with short term exposure to TCE, a period of four weeks is specified for the longest shutdown period.

Regardless of this estimated time frame for either SVE system, the OMM Plans include taking prompt steps to maintain SVE system operation and it is not expected that the system would remain shut down for longer than two weeks.

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8.0 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 1

Summary of Soil Vapor Extraction Test Results
Building 3 Drain Lines and Injection Galleries
April 8 and 9, 2014

Former Varian Facility Site
150 Sohier Road
Beverly, MA

Extraction Location, Soil Vapor Extraction Rate (scfm), and Vacuum (" W.C.)	Soil Vapor Monitoring Point	Distance from Extraction Point (feet)	Vacuum (" W.C.)	Measured VOC Concentration (ppm) at SVE blower effluent (prior to carbon treatment)	Measured VOC Concentration (ppm) at carbon effluent (post treatment)
Drain Line 9 180 scfm, 5"W.C.	Drain Line 7	5.0	0.013	0.7	ND
	VP-1	5.0	0.039		
	VP-2	25.0	0.003		
	VP-3	20.0	0.002		
	VP-4	35.0	0.012		
	Injection Gallery 1	10.0	NA		
Drain Line 9 120 scfm, 2"W.C.	Drain Line 7	5.0	0.047	ND	ND
	VP-1	5.0	0.004		
	VP-2	25.0	ND		
	VP-3	20.0	ND		
	VP-4	35.0	0.005		
	Injection Gallery 1	10.0	0.020		
Drain Line 7 180 scfm, 5"W.C.	Drain Line 9	5.0	0.030	ND	ND
	VP-1	22.0	ND		
	VP-2	35.0	ND		
	VP-3	24.0	ND		
	VP-4	35.0	0.003		
	Injection Gallery 1	8.0	0.006		
Drain Line 7 120 scfm, 2"W.C.	Drain Line 9	5.0	0.018	ND	ND
	VP-1	22.0	ND		
	VP-2	35.0	ND		
	VP-3	24.0	ND		
	VP-4	35.0	0.004		
	Injection Gallery 1	8.0	0.005		
Injection Gallery 1 175 scfm, 12"W.C.	Drain Line 9	8.0	0.039	ND	ND
	VP-1	22.0	0.006		
	VP-2	25.0	0.015		
	VP-3	9.0	0.032		
	VP-4	14.0	0.041		
	Injection Gallery 2	2.0	10.57		
Injection Gallery 2 175 scfm, 12"W.C.	Drain Line 9	7.0	0.041	0.2	ND
	VP-1	10.0	0.006		
	VP-2	21.0	0.016		
	VP-3	11.0	0.024		
	VP-4	26.0	0.030		
	Injection Gallery 1	2.0	10.67		

Notes:
" W.C. = inches of water column vacuum
scfm = standard cubic feet per minute
ppm = parts per million
VOC = volatile organic compounds measured with a photoionization detector with detection limit of 0.1 ppm
ND = non-detect
NA = not available

Table 2A
Water Quality Sample Summary
April 2014
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Well ID	Location	Comments/Notes	Analysis
Building 3/6 Treatment Areas			
AP12-S	East Building 6	Monitor injection & Site conditions	VOC
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
AP13-S	East Building 3	Monitor injection & Site conditions	VOC
AP14-S	North Building 3	Monitor injection & Site conditions	VOC
AP26-DO	West Building 1 & 2	Monitor injection & Site conditions	VOC, Fe & Mn, Chloride, permanganate
AP31-DO	North Building 3	Monitor remediation and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP32-DO	North Building 3	Monitor remediation and VOC trends	VOC, Fe & Mn, Chloride, permanganate
B-3	East Building 3	Monitor injection & Site conditions	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 injection & Site conditions	VOC
CL-11S	Southwest Building 7	Monitor VOC trends	VOC
CL-11DO	Southwest Building 7	Monitor VOC trends	VOC
MW-5	East Building 4	Monitor VOC trends	VOC
MW-8	East Building 9	Monitor injection & Site conditions	VOC
MW-9A	By Unnamed Stream	Monitor shallow VOC trends	VOC
MW-13	North Building 3 by Rte 128	Monitor injection & Site conditions	VOC, Fe & Mn, Chloride, permanganate
MW-14A	North Building 1	Monitor injection & Site conditions	VOC
MW-16	South Building 4	Monitor VOC trends	VOC
MW-2R	16 Tozer	Monitor injection & Site conditions	VOC
MW-4R	16 Tozer	Monitor injection & Site conditions	VOC
OB9-DO	By Unnamed Stream	Monitor VOC trends	VOC
OB9-BR	By Unnamed Stream	Monitor VOC trends	VOC
OB10-S	East Building 4	Monitor shallow VOC trends	VOC
OB10-BR	East Building 4	Monitor injection & Site conditions	VOC
OB11-DO	North Building 3 by Rte 128	Monitor injection & Site conditions	VOC
OB11-BR	North Building 3 by Rte 128	Monitor injection & Site conditions	VOC
OB12-S	North Building 3 by Rte 128	Monitor shallow VOC trends	VOC
OB12-DO	North Building 3 by Rte 128	Monitor remediation	VOC, Fe & Mn, Chloride, permanganate

Table 2A
Water Quality Sample Summary
April 2014
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Well ID	Location	Comments/Notes	Analysis
OB14-DO	North Building 1	Monitor injection & Site conditions	VOC
OB19-S	West Building 1 & 2	Monitor injection & Site conditions	VOC
OB19-DO	West Building 1 & 2	Monitor remediation	VOC, Fe & Mn, Chloride, permanganate
OB25-BR	West Building 1 & 2	Monitor injection & Site conditions	VOC, Fe & Mn, Chloride, permanganate
OB26-DO	West Building 1 & 2	Monitor injection & Site conditions	VOC
OB26-BR	West Building 1 & 2	Monitor injection & Site conditions	VOC
OB27-BR	West Building 7	Monitor injection & Site conditions	VOC, Fe & Mn, Chloride, permanganate
OB28-BR	West Building 1 & 2	Monitor injection & Site conditions	VOC
OB32-DO	North Building 3	Monitor injection & Site conditions	VOC, Fe & Mn, Chloride, permanganate
OB36-DO	Inside Building 6	Monitor VOC trends	VOC, permanganate
OB37-DO	Inside Building 6	Monitor VOC trends	VOC
RW-22	North Building 1	Monitor injection & Site conditions	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
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

Table 2A
Water Quality Sample Summary
April 2014
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Well ID	Location	Comments/Notes	Analysis
OB15-S	Near Bldg. 9 and Unnamed Stream	Monitor VOC trends in shallow bioremediation area	VOC, methane, ethane, ethene, TOC
Building 5 Treatment Area			
B-2	East Building 5	Monitor shallow VOC concentrations	VOC
OB35-DO	Inside Building 5	Monitor injection 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 VOC trends	VOC
Tozer Road North Area			
CL6-BR	Walden Street	Monitor VOC trends	VOC
CL6-DO	Walden Street	Monitor VOC trends	VOC
CL9-DO	Commons Drive	Monitor Site conditions	VOC
CL9-BR ZONE 1	Commons Drive	Monitor Site conditions	VOC
CL9-BR ZONE 2	Commons Drive	Monitor Site conditions	VOC
CL9-BR ZONE 3	Commons Drive	Monitor Site conditions	VOC
BR-1 ZONE 1	Walden Street	Monitor VOC trends	VOC
BR-1 ZONE 2	Walden Street	Monitor VOC trends	VOC
BR-1 ZONE 3	Walden Street	Monitor VOC trends	VOC
BR-3 ZONE 1	Devon Street	Sentry Wells	VOC
BR-3 ZONE 2	Devon Street	Sentry Wells	VOC
BR-3 ZONE 3	Devon Street	Sentry Wells	VOC
MW-3R	16 Tozer	Monitor current VOC concentrations	VOC
MW-5R	16 Tozer	Monitor current VOC concentrations	VOC
OB17-DO	Commons Drive	Monitor Site conditions	VOC
OB17-BR	Commons Drive	Monitor Site conditions	VOC
OB23-BR	16 Tozer	Monitor Site conditions	VOC

Table 2A
Water Quality Sample Summary
April 2014
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Well ID	Location	Comments/Notes	Analysis
Tozer Road South Area			
MW-36	28 Tozer	Monitor Site conditions	VOC
CL3-DO	28 Tozer	Monitor VOC trends	VOC
CL3-S	28 Tozer	Monitor VOC trends	VOC
BR-5 ZONE 1	28 Tozer	Monitor Site conditions	VOC
BR-5 ZONE 2	28 Tozer	Monitor Site conditions	VOC
BR-5 ZONE 3	28 Tozer	Monitor Site conditions	VOC
CL8-BR ZONE 1	Longmeadow Rd	Sentry Wells	VOC
CL8-BR ZONE 2	Longmeadow Rd	Sentry Wells	VOC
CL8-BR ZONE 3	Longmeadow Rd	Sentry Wells	VOC
CL8-DO	Longmeadow Rd	Sentry Wells	VOC
OB4-DO	28 Tozer	Monitor Site conditions	VOC
OB5-BR	27 Tozer	Monitor Site conditions	VOC
OB5-DO	27 Tozer	Monitor Site conditions	VOC
OB6-BR	Sonning Rd	Monitor Site conditions	VOC
OB6-DO	Sonning Rd	Monitor Site conditions	VOC
OB42-S	30 Tozer Rd	Monitor shallow VOC trends	VOC
OB43-S	30 Tozer Rd	Monitor shallow VOC trends	VOC
31 Tozer Rd Treatment Area			
GZ-1	31 Tozer Road	Monitor Site conditions	VOC
GZ-4	31 Tozer Road	Monitor Site conditions	VOC
OB8-DO	39 Tozer Road	Monitor Site conditions	VOC
OB18-DO	31 Tozer Road	Monitor Site conditions	VOC
OB18-S	31 Tozer Road	Monitor Site conditions	VOC
OB41-S	39 Tozer Road	Monitor shallow VOC trends	VOC
AP15-S	31 Tozer Road	Monitor Site conditions	VOC
BR-7 ZONE 1	39 Tozer Road	Sentry Wells	VOC
BR-7 ZONE 2	39 Tozer Road	Sentry Wells	VOC
BR-7 ZONE 3	39 Tozer Road	Sentry Wells	VOC
MW-34	39 Tozer Road	Sentry Wells	VOC
STRHA-7A	39 Tozer Road	Monitor VOC trends in surface water	VOC
STRHA-7B	39 Tozer Road	Monitor VOC trends in surface water	VOC
Culvert Outfall	39 Tozer Road	Sentry Wells	VOC

Table 2A
Water Quality Sample Summary
April 2014
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Well ID	Location	Comments/Notes	Analysis
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
APBIO-01	SCDS field	Monitor VOC trends	VOC
P-9R	Hill Street	Monitor VOC trends	VOC
P-11R	Longview Terr	Monitor VOC trends	VOC
P-19A	Hill Street	Monitor VOC trends	VOC
P-20R	SCDS field	Monitor VOC trends	VOC
OB20-S	SCDS field	Monitor VOC trends	VOC
OB20-DO	SCDS field	Monitor VOC trends	VOC
OB20-BR	SCDS field	Monitor VOC trends	VOC
OB21-DO	SCDS field	Monitor VOC trends	VOC
OB21-BR	SCDS field	Monitor VOC trends	VOC
STRM-A-SCDS	SCDS field	Monitor VOC trends in surface water	VOC
PSL10 Treatment Area			
AP-19	PSL10	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP-20	PSL10	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP-21	PSL10	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
AP-22	PSL10	Monitor residual permanganate and VOC trends	VOC, Fe & Mn, Chloride, permanganate
MW2-32 Tozer	32 Tozer Rd	Monitor VOC trends	VOC
MW-33B	Base ball field	Monitor Site conditions	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
CL4-DO	30 Tozer Rd	Monitor VOC trends	VOC
CL4-BR	30 Tozer Rd	Monitor VOC trends	VOC
OB16-S	32 Tozer Rd	Monitor VOC trends	VOC
OB16-BR	32 Tozer Rd	Monitor VOC trends	VOC
OB24-S	32 Tozer Rd	Monitor VOC trends	VOC

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
Dissolved Iron and Manganese, analysis by Method 6010C
Dehalococcoides sp. analysis by polymerase chain reaction (PCR)

Table 2B
Water Quality Sample Summary
August 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, Nitrate/sulfate, dissolved iron and manganese, Dehalococcoides sp.
AP23-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Nitrate/sulfate, dissolved iron and manganese, Dehalococcoides sp.
AP24-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Nitrate/sulfate, dissolved iron and manganese, Dehalococcoides sp.
AP33-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Nitrate/sulfate, dissolved iron and manganese, Dehalococcoides sp.
AP34-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Nitrate/sulfate, dissolved iron and manganese, Dehalococcoides sp.
AP35-DO	East Building 3	Monitor remediation and VOC trends	VOC, methane, ethane, ethene, TOC, Nitrate/sulfate, dissolved iron and manganese, Dehalococcoides sp.
AP25-DO	East 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
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
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
nitrate/sulfate analysis via EPA Method 300
Dissolved Iron and Manganese, analysis by Method 6010C
Dehalococcoides sp. analysis by polymerase chain reaction (PCR)

Table 3
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)
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	<0.0020J	<0.0020J	<0.0020J	<0.010J	<0.0020J	<0.0020J	0.0036J	<0.0020J	<0.0020J	<0.0020J	<0.0020J	<0.0020J	<0.0020J	<0.0020J	<0.0020J
	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
	4/10/2014	73	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.016	<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
	4/10/2014	48	0.0032	<0.0020	<0.0020	<0.0020	<0.010	0.0074	<0.0020	0.11	<0.0020	<0.0020	1.9D	0.012	<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
	4/10/2014	26	0.0043	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	1.9D	1.8D	<0.0040	<0.0040	0.38	0.0067
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	<2.0UJ	<2.0UJ	---	<2.0UJ	<2.0UJ	<2.0UJ	<2.0UJ	<2.0UJ	70J	290J	<2.0UJ	<2.0UJ	5.8J	<2.0UJ
	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
	4/8/2014	51	25	<4.0	<4.0	<4.0	24	<4.0	<4.0	<4.0	<4.0	<4.0	85	340	<4.0	<4.0	5.4	<4.0
	8/6/2014	49	26	<4.0	<4.0	<4.0	28	<4.0	<4.0	<4.0	<4.0	<4.0	92	320	<4.0	<4.0	11	<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

Table 3
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)
AP-13-S (cont.)	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
	4/10/2014	16	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0087	0.0059	<0.0020	<0.0020	0.0022	<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	<0.020UJ	<0.020UJ	<0.020UJ	<0.10UJ	0.047J	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ	1.6J	0.58J	<0.020UJ	<0.020UJ	<0.020UJ	<0.020UJ
	4/5/2012	29	0.0093	<0.0050	<0.0050	<0.0050	<0.025	0.0064	<0.0050	<0.0050	<0.0050	<0.0050	0.35	0.048	<0.0050	<0.0050	<0.0050	<0.0050
	5/2/2013	29	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.21	0.022	<0.0040	<0.0040	<0.0040	<0.0040
	4/21/2014	29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.14	0.028	<0.0020	<0.0020	<0.0020	<0.0020
AP-15-S	4/2/2009	16	<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	12	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.01	0.054	<0.0010	<0.0010	0.017	<0.0010
	4/20/2010	14	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.012	0.036	<0.0010	<0.0010	0.0089	<0.0010
	10/14/2010	12	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0036	0.025	<0.0020	<0.0020	0.0061	<0.0020
	4/5/2011	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
	10/25/2011	12	<0.0020	<0.0020	<0.0020	<0.0020	0.023	<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	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
	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	12.2	<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	12.2	<0.0020	<0.0020	<0.0020	<0.0020	0.013	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020
	4/8/2014	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
AP-19	4/6/2009	27	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.4	0.06	<0.0050	<0.0050	<0.0050	<0.0050
	10/27/2009	27	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.32	0.054	<0.0025	<0.0025	<0.0025	<0.0025
	4/21/2010	29	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	1.1	0.13	<0.010	<0.010	<0.010	<0.010
	10/14/2010	28	<0.0040	<0.0040	<0.0040	<0.0040	---	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.22	0.024	<0.0040	<0.0040	<0.0040	<0.0040
	4/6/2011	27.5	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.71	0.071	<0.010	<0.010	<0.010	<0.010
	10/27/2011	29	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.26	0.036	<0.0040	<0.0040	<0.0040	<0.0040
	4/5/2012	27	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.94	0.085	<0.010	<0.010	<0.010	<0.010
	11/13/2012	19	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.28	0.03	<0.0040	<0.0040	<0.0040	<0.0040
	5/2/2013	27	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040UJ	<0.0040	1.3D	0.12	<0.0040	<0.0040	<0.0040	<0.0040
	10/24/2013	24.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.17D	0.026	<0.0020UJ	<0.0020	<0.0020	<0.0020
	4/11/2014	25	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.39	0.077	<0.0040	<0.0040	0.081	<0.0040
AP-20	4/6/2009	18	<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	16	0.0021	<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	19	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.45	0.012	<0.0050	<0.0050	<0.0050	<0.0050
	10/14/2010	15	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	1	0.14	<0.010	<0.010	<0.010	<0.010
	4/6/2011	15.1	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.25	0.017	<0.0040	<0.0040	0.01	<0.0040
	10/27/2011	19	<0.0020	<0.0020	<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
	4/5/2012	15	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.96D	0.1	<0.0020	<0.0020	0.06	<0.0020
	11/13/2012	19	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	2.1D	0.41	<0.020	<0.020	0.038	<0.020
	5/2/2013	15	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.39	0.038	<0.0050	<0.0050	0.03	<0.0050
	10/24/2013	15	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	7.9D	0.37	<0.040UJ	<0.040	0.2	<0.040
	4/11/2014	16	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.55	0.069	<0.010	<0.010	0.097	<0.010
AP-21	4/6/2009	28	<0.0010	0.002	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0081	<0.0010	<0.0010	<0.0010	<0.0010	0.0029	<0.0010	<0.0010	<0.0010
	11/23/2009	28	<0.0010	0.075	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0043	<0.0010	<0.0010	<0.0010	<0.0010	0.058	<0.0010	<0.0010	<0.0010
	4/21/2010	29	<0.0010	0.13	<0.0010	<0.0010	---	<0.0010	0.0014	0.002	<0.0010	<0.0010	<0.0010	<0.0010	0.068	<0.0010	<0.0010	<0.0010
	10/14/2010	29	<0.0020	0.17	<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	24	<0.0040	0.19	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	10/27/2011	29	<0.0020	0.19	<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
	4/5/2012	22.2	<0.0020	0.14	<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
	11/13/2012	29	<0.0020	0.15	<0.0020	<0.0020	0.01	<0.0020	0.0022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	5/2/2013	27	<0.0020	0.13	<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
	10/24/2013	22	<0.0020	0.13	<0.0020	<0.0020	<0.010	<0.0020	0.0022	<0.0020	<0.0020	<0.0020	0.19	0.048	<0.0020UJ	<0.0020	0.26D	<0.0020
	4/11/2014	23	<0.010	0.11	0.035	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.83	0.47	<0.010	<0.010	4.9D	<0.010

Table 3
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)
AP-22	4/6/2009	13	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	0.001	0.0023	<0.0010	<0.0010	<0.0010	<0.0010	0.001	<0.0010	<0.0010	<0.0010
	10/27/2009	17	<0.0010	0.015	<0.0010	<0.0010	---	<0.0010	0.0031	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	0.0099	<0.0010	<0.0010	<0.0010
	4/21/2010	19	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	0.0035	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	0.0019	<0.0010	<0.0010	<0.0010
	10/14/2010	19	<0.0020	0.017	<0.0020	<0.0020	---	<0.0020	0.0055	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/14/2011	19	<0.0020	<0.0020	<0.0020	<0.0020	0.014	<0.0020	0.0063	<0.0020	<0.0020	<0.0020	1.4D	0.15	<0.0020	<0.0020	0.33D	<0.0020
	10/27/2011	19	<0.0020	<0.0020	<0.0020	<0.0020	0.015	<0.0020	<0.0020	0.0028	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/5/2012	18	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	0.0036	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	11/13/2012	19	<0.0020	0.009	<0.0020	<0.0020	<0.010	<0.0020	0.0052	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/17/2013	20	<0.0020	<0.0020	<0.0020	<0.0020	0.012	<0.0020	0.0047	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/24/2013	20.8	<0.0020	0.0062	<0.0020	<0.0020	<0.010	<0.0020	0.0053	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020
	4/11/2014	20	<0.0020	0.0024	<0.0020	<0.0020	<0.010	<0.0020	0.005	<0.0020	<0.0020	<0.0020	0.025	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
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	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	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	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	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	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	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	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	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	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	40	390	<4.0	4.7	41	<4.0
	4/8/2014	48	<4.0	<4.0	<4.0	<4.0	21	<4.0	<4.0	<4.0	<4.0	<4.0	41	360	<4.0	5.2	32	<4.0
	8/6/2014	46	<4.0	<4.0	<4.0	<4.0	76	<4.0	<4.0	<4.0	<4.0	<4.0	61	440D	<4.0	<4.0	<4.0	<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
	4/8/2014	47	30	<4.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	<4.0	31	340	<4.0	7.9	64	<4.0
	8/6/2014	46	120	<4.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	<4.0	39	560D	<4.0	<4.0	12	<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	0.012	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	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	1.6	2.7	<0.040

Table 3
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)
AP-25-DO (cont.)	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	0.049	<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	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	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	1.5	6.1	<0.10
	4/8/2014	46	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.19	<0.040	0.12	2.4	<0.040
	8/6/2014	44	0.11	<0.040	0.05	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	3.4	11D	<0.040
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
	4/16/2014	60	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.01	<0.0020	<0.0020	0.44D	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
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	0.0027J	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	0.17	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	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
	4/16/2013	59	<0.0020	<0.0020	<0.0020	<0.0020	0.016	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.023	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	0.33D	5.5D	<0.0020	<0.0020	0.014	<0.0020
	4/11/2014	56	<0.0020	<0.0020	0.003	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.24D	11D	<0.0020	0.0023	0.072	0.023
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
	1/21/2014	30	0.67	<0.040	<0.040	<0.040	<0.20	0.56	<0.040	2.1	<0.040	<0.040	3.9D	17D	<0.040	<0.040	0.52	<0.040
	4/8/2014	30	0.53	<0.10	<0.10	<0.10	<0.50	0.47	<0.10	1.4	<0.10	<0.10	3.1	4.8	<0.10	<0.10	0.25	<0.10
	8/6/2014	50	0.27	<0.10	<0.10	<0.10	<0.50	0.23	<0.10	1.2	<0.10	<0.10	1.1	8.3	<0.10	<0.10	0.71	<0.10
AP-31-DO	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
	4/16/2014	30	0.6	<0.020	<0.020	<0.020	<0.10	0.15	<0.020	0.8	<0.020	<0.020	7.4D	4.6D	<0.020	<0.020	<0.020	<0.020
AP-32-DO	2/11/2010	NA	<1.2	<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

Table 3
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)
AP-32-DO (cont.)	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
	4/16/2014	30	1.2	<0.020	<0.020	<0.020	<0.10	0.45	<0.020	1.6	<0.020	<0.020	1.6	0.036	<0.020	<0.020	<0.020	<0.020
AP-33-DO	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
	4/8/2014	36	60	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	69	290	<5.0	10	290	<5.0
	8/6/2014	35	82	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	66	330	<5.0	5.6	170	<5.0
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
	4/8/2014	36	8.1	1	0.92	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.64	<0.50	2.1	55D	<0.50
	8/6/2014	33	1.1	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	77	<1.0
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
	4/8/2014	35	<2.0	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	<2.0	2.1	25	<2.0	<2.0	130	<2.0
	8/6/2014	33	0.81	<0.40	<0.40	<0.40	<2.0	<0.40	<0.40	0.59	<0.40	<0.40	1.8	46D	<0.40	0.53	230D	1.8
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	<0.010	0.021	<0.010	0.22	0.54	<0.010
	4/21/2014	77	<0.010	<0.010	0.015	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.14	<0.010	0.15	0.87	<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	<0.0020	<0.0020	<0.0020	<0.0020	0.017	<0.0020	0.19	0.18	0.0053
	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
	4/11/2014	11	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.074	<0.0050	0.015	0.33	<0.0050
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
	4/10/2014	12	0.034	<0.0020	0.0021	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.016	0.0061	<0.0020	<0.0020	<0.0020	<0.0020
BR-1_ZONE1	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
	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
	4/21/2014	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

Table 3
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)
BR-1_ZONE2	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
	10/18/2010	152	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.002	<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	<0.0020	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	<0.0020	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
	4/21/2014	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
BR-1_ZONE3	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
	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
	4/21/2014	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-3_ZONE1	4/6/2009	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
	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
	4/21/2014	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_ZONE2	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	<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
	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
	4/21/2014	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_ZONE3	4/3/2009	167	<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	167	<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	167	<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	167	<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	167	<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
	4/21/2014	167	<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-5_ZONE1	4/7/2009	209	<0.0025	<0.0025	0.0069	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.055	<0.0025	0.062	0.077	<0.0025
	4/28/2010	209	<0.0010	0.0012	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0014	<0.0010
	4/14/2011	209	<0.0020	<0.0020	0.0055	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.047	<0.0020	0.039	0.094	<0.0020
	4/4/2012	209	<0.0050	<0.0050	0.021	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.21	<0.0050	0.32	0.48D	<0.0050
	4/16/2013	209	<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	0.0029	0.006	<0.0020
	4/11/2014	209	<0.0020	<0.0020	0.0091	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.06	<0.0020	0.072	0.09	<0.0020
BR-5_ZONE2	4/7/2009	172	<0.0050	<0.0050	0.0095	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.17	<0.0050	0.18	0.43	<0.0050
	4/28/2010	172	<0.0010	0.0021	0.0045	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	0.078	<0.0010	0.089	0.064D	0.0013
	4/14/2011	172	<0.0020	0.0025	0.015	<0.0020	0.044	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0047	0.21D	<0.0020	0.21D	0.34D	0.002
	4/4/2012	172	<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	0.0062	0.012	<0.0020
	4/16/2013	172	<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	0.0028	0.0052	<0.0020
	4/11/2014	172	<0.0020	<0.0020	0.018	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.17D	<0.0020	0.28D	0.63D	0.0035
BR-5_ZONE3	4/7/2009	133	<0.0025	0.0028	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0063	0.048	<0.0025	0.029	0.18	<0.0025
	4/14/2011	133	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.14	0.77	<0.010	0.17	5.0D	0.013
	4/4/2012	133	<0.0020	0.0061	0.0039	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.064	0.27D	<0.0020	0.093	0.83D	0.0036
	4/16/2013	133	<0.0020	0.0077	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0055	0.0052	<0.0020	0.0054	0.074	<0.0020
	4/11/2014	133	<0.0020	0.0057	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0027	0.014	<0.0020	0.048	0.23D	<0.0020

Table 3
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)
BR-6_ZONE1	4/7/2009	94	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.058	0.22	<0.0025
	11/2/2009	94	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.047	0.22	<0.0025
	4/28/2010	94	<0.0010	0.002	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0084	0.0075	0.0014
	10/18/2010	94	<0.0020	0.0021	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.015	0.17	<0.0020
	4/19/2011	94	<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	0.024	0.26D	<0.0050
	10/27/2011	94	<0.0020	0.0023	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.024	0.20D	<0.0020
	4/2/2012	94	<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	0.0035	<0.0020
	4/16/2013	94	<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	0.0055	0.012	<0.0020
	10/24/2013	94	<0.0020	<0.0020	<0.0020	<0.0020	0.01	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020
	4/11/2014	94	<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	0.004	0.012	<0.0020
BR-6_ZONE2	4/7/2009	62	<0.0025	0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0052	<0.0025	0.013	0.31	<0.0025
	11/2/2009	62	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.04	0.21	<0.0025
	4/28/2010	62	<0.0025	<0.0025	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.014	0.3	<0.0025
	10/18/2010	62	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.046	0.31	<0.0050
	4/19/2011	62	<0.013	<0.013	<0.013	<0.013	<0.050	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.023	0.37	<0.013
	10/27/2011	62	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.021	0.4	<0.0050
	4/2/2012	62	<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	0.19D	<0.0020
	4/16/2013	62	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.024	0.34	<0.0040
	10/24/2013	62	<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	0.019	0.14	<0.0020
	4/11/2014	62	<0.0020	0.0031	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.023	0.35D	<0.0020
BR-6_ZONE3	4/7/2009	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	0.06	0.15	0.0026
	11/2/2009	42	<0.0010	0.001	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0024	<0.0010
	4/28/2010	42	<0.0010	0.002	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.038	0.04	0.0012
	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	0.0035	0.0057	<0.0020
	4/19/2011	42	<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	0.0076	<0.0050
	10/27/2011	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	0.017	0.061	<0.0020
	4/2/2012	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
	4/16/2013	42	<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
	10/24/2013	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	<0.0020UJ	<0.0020	<0.0020	<0.0020
	4/11/2014	42	<0.0020	0.0021	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.078	0.17	<0.0020
BR-7_ZONE1	4/7/2009	152	<0.0010	0.0069	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.11	0.085	<0.0010
	4/28/2010	152	<0.0020	0.0072	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.18	0.13	<0.0020
	4/14/2011	152	<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	0.051	0.012	<0.0020
	4/4/2012	152	<0.0020	0.0069	<0.0020	<0.0020	0.018	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.12	0.0048	<0.0020
	4/16/2013	152	<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	0.007	0.0037	<0.0020
	4/21/2014	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
BR-7_ZONE2	4/7/2009	112	<0.0050	0.0055	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.048	0.47	<0.0050
	4/28/2010	112	<0.0050	0.0054	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.039	0.5	<0.0050
	4/14/2011	112	<0.0040	0.0064	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.15	0.2	<0.0040
	4/4/2012	112	<0.0040	0.0069	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.2	0.0093	<0.0040
	4/16/2013	112	<0.0020	0.0085	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.16	0.0068	<0.0020
	4/21/2014	112	<0.0020	0.0038	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0097	0.0021	<0.0020
BR-7_ZONE3	4/7/2009	69	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.029	0.84	<0.010
	4/28/2010	69	<0.010	<0.010	0.012	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.021	1	<0.010
	4/14/2011	69	<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	0.036	1.1	<0.020
	4/4/2012	69	<0.010	<0.010	0.01	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.069	0.74	<0.010
	4/16/2013	69	<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	0.024	<0.020	<0.020
	4/21/2014	69	<0.0020	0.0065	0.0037	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.02	0.015D	0.0038
BW-01	1/13/2009	14	<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	<0.0010
	4/2/2009	12	<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	<0.0010
	7/14/2009	14	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0025	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/27/2009	12	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0036	0.002	<0.0010	<0.0010	<0.0010	<0.0010
	1/28/2010	12	<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	<0.0010
	4/22/2010	14	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.013	0.0073	<0.0050	0.13	0.44	<0.0050

Table 3
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)
BW-02	1/13/2009	14	<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	<0.0010
	4/2/2009	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
	7/14/2009	14	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0037	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	10/27/2009	13	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0028	0.0014	<0.0010	<0.0010	<0.0010	<0.0010
	1/28/2010	13	<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	<0.0010
	4/22/2010	14	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.12	0.4	<0.0050
BW-03	1/13/2009	15.5	<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	<0.0010
	4/2/2009	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
	7/14/2009	15.5	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0026	<0.0010	<0.0010	<0.0010	0.0011	<0.0010
	10/27/2009	13	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.003	0.0018	<0.0010	0.0037	0.0029	<0.0010
	1/28/2010	13	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	4/22/2010	15.5	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0012	<0.0010	0.04	0.11	<0.0010
	8/21/2012	15.5	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	0.0087	0.0026	<0.0020	<0.0020	<0.0020	<0.0020	0.0064	0.0039	<0.0020
BW-04	1/13/2009	13	0.0011	0.0028	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	0.095	0.065	<0.0010
	4/2/2009	12	0.0054	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.54	0.48	<0.0050
	7/14/2009	13	0.0051	0.005	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.59	0.15	<0.0050
	10/27/2009	12	0.05	0.035	<0.0025	<0.0025	---	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.3	0.02	<0.0025
	1/28/2010	12	<0.0010	0.0019	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	<0.0010	0.012	0.016	<0.0010
	4/22/2010	13	0.022	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.74	0.51	<0.010
	7/14/2010	13	<0.0010UJ	0.0016J	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.0014J	<0.0010UJ	0.013J	0.0075J	<0.0010UJ
	10/12/2010	13	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0027	0.0044	<0.0020
	1/4/2011	13	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.0024	<0.0020	<0.0020	<0.0020	<0.0020	0.016	0.0081	<0.0020
	4/5/2011	12.5	<0.0020	0.002	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.16	0.069	<0.0020
	7/28/2011	13	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.21	0.066	<0.0040
	10/25/2011	12	0.095	0.032	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0023	<0.0020	<0.0020	0.098	0.0031	<0.0020
	1/18/2012	12.5	<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
	4/3/2012	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
	8/21/2012	12.3	<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	0.40D	0.16D	<0.0020
	11/28/2012	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	0.052	0.01	<0.0020
	2/6/2013	12.35	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.0084	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<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	<0.0020	<0.0020
BW-05	1/13/2009	15	0.16	0.099	<0.050	<0.050	---	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	5.3	2.8	<0.050
	4/2/2009	9	0.019	0.018	<0.0010	<0.0010	---	<0.0010	<0.0010	0.004	<0.0010	<0.0010	0.0013	<0.0010	0.0045	0.021	0.015	<0.0010
	7/14/2009	15	0.018	0.011	<0.0010	0.0011	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0064	0.002	0.002	0.0013	<0.0010	<0.0010
	10/27/2009	9	0.0043	0.17	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	0.0025	<0.0020	<0.0020
	1/28/2010	9	<0.0010	0.02	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	<0.0010	0.0047	0.074	0.011	<0.0010
	4/22/2010	15	0.33	0.02	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	0.014	<0.010	<0.010	0.73	0.67	<0.010
	7/14/2010	15	<0.0010UJ	0.0059J	<0.0010UJ	0.0023J	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.0010J	0.0050J	<0.0010UJ	0.052J	0.066J	<0.0010UJ
	10/12/2010	10	<0.0020	0.0041	<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
	1/4/2011	15	<0.0020	<0.0020	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.0047	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/5/2011	9.5	0.022	0.013	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.86	0.22	<0.010
	7/28/2011	9	<0.0020	0.0049	<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
	10/25/2011	9	1.5D	4.3D	0.02	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0047	<0.0020	0.003	<0.0020	<0.0020	0.97D	0.064	<0.0020
	1/18/2012	9.5	<0.0020	0.021	<0.0020	<0.0020	0.018	<0.0020	<0.0020	<0.0020	0.024	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/3/2012	9	<0.0020	0.0021	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.005	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	8/21/2012	9.4	0.0022	<0.0020	<0.0020	<0.0020	0.014	<0.0020	<0.0020	0.019	<0.0020	<0.0020	0.0027	<0.0020	<0.0020	0.02	0.014	<0.0020
	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
	4/10/2014	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
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	0.0059	<0.0020	<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

Table 3
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)
BW-06 (cont.)	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	0.0045	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	0.011	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	0.0021	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	0.0044	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
	4/10/2014	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	<0.0020	<0.0020
BW-08	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
	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	0.005	<0.0020	<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	0.0088	<0.0010	<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	0.0023
	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	0.003	<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
	4/10/2014	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	<0.0020	<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	0.0024	<0.0020	<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	0.0087	<0.0010	<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	0.0072	<0.0050	<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
	4/10/2014	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
CL02-BR	4/27/2009	42	<0.0020J	<0.0020J	<0.0020J	<0.0020J	---	<0.0020J	<0.0020J	<0.0020J	<0.0020J	<0.0020J	0.011J	0.086J	<0.0020J	<0.0020J	0.16J	<0.0020J
	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	0.017	<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	0.011	<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

Table 3
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 (cont.)	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
	4/29/2014	80	<0.0020	<0.0020	<0.0020	<0.0020	0.069	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.015	<0.0020	0.0044J	0.36D	0.0034
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
	4/9/2014	71	<0.0020	0.016	<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
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
	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
	4/7/2014	18	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0097	0.017	<0.0020	<0.0020	<0.0020	<0.0020
CL04-BR	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
	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
	4/10/2014	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	0.065	<0.0020
CL04-DO	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
	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
	4/10/2014	28	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.045	<0.0020	<0.0020	0.0036	<0.0020
CL05-DOA	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
	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
CL06-BR	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
	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
	4/7/2014	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	4/2/2009	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
	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
	4/7/2014	41	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0045	<0.0020	<0.0020	<0.0020	<0.0020
CL08-BR_ZONE1	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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/16/2013	159	<0.010	<0.010	<0.010	<0.010	0.08	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	4/11/2014	159	<0.010	<0.010	<0.010	<0.010	0.095	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
CL08-BR_ZONE2	4/7/2009	102	<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	102	<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	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
	4/2/2012	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

Table 3
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)
CL08-BR_ZONE2 (cont.)	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
	4/11/2014	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
	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
	4/11/2014	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	4/6/2009	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
	4/9/2014	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
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
	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
	4/11/2014	160	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	0.23	<0.10	<0.10	4.9	<0.10
CL09-BR_ZONE2	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
	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
	4/11/2014	119	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.25	0.4	<0.050	0.085	6.7D	<0.050
CL09-BR_ZONE3	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
	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
	4/11/2014	81	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.066	0.071	<0.020	0.052	1	<0.020
CL09-DO	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
	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
	4/7/2014	32	<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	<0.0020	<0.0020	<0.0020
CL09-S	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

Table 3
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)
CL10-BR (cont.)	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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	10/23/2013	46	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0031	<0.0020UJ	<0.0020	<0.0020	0.0033
	4/10/2014	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
CL10-DO	4/6/2009	30	0.0026	0.0022	<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	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
	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
	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
	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
	4/10/2014	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	<0.0020	<0.0020	<0.0020
CL10-S	4/6/2009	13	<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	0.0064	<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	0.64	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	0.013	<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	0.87	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	0.045	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	0.13	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	0.013	<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	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	0.011	<0.0020	<0.0020UJ	<0.0020	<0.0020	<0.0020
	4/10/2014	12	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.8D	0.13	<0.0020	<0.0020	0.046	<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
	4/11/2014	48	0.0028	0.005	0.0063	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	0.025	<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
	4/11/2014	24	0.0049	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01	0.0052	<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
CULVERT_OUTFALL	11/10/1999	NA	<0.0020	<0.0020	0.002	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0050	<0.0020	0.017	0.079	<0.0050	<0.0020	0.051	<0.0020
	6/5/2000	NA	<0.0020	<0.0020	<0.0010	<0.0020	---	<0.0020	<0.0020	<0.0020	<0.010	<0.010	0.007	0.026	<0.0020	<0.0020	0.012	<0.0020
	12/11/2000	NA	<0.0020U	<0.0020U	<0.0010U	<0.0020U	---	<0.0020U	<0.0020U	<0.0020U	<0.010U	<0.010U	<0.0020U	0.003	<0.0020U	<0.0020U	0.004	<0.0020U
	6/4/2001	NA	<0.0020U	<0.0020U	<0.0010U	<0.0020U	---	<0.0020U	<0.0020U	<0.0020U	<0.010U	<0.010U	0.004	0.024	<0.0020U	<0.0020U	0.019	<0.0020U
	11/26/2001	NA	<0.0020U	0.002	0.002	<0.0020U	---	<0.0020U	<0.0020U	<0.0020U	<0.010U	<0.010U	0.012	0.079	<0.0020U	<0.0020U	0.055	<0.0020U
	5/15/2003	NA	<0.0020U	0.002	0.003	<0.0020U	---	<0.0020U	<0.0020U	<0.0020U	<0.010U	<0.010U	0.019	0.096	<0.0020U	<0.0020U	0.071	<0.0020U
	12/22/2003	NA	<0.0010U	0.0019	0.0019	<0.0010U	---	<0.0010U	<0.0020U	<0.0010U	<0.0020U	<0.0050U	0.02	0.091	<0.0010U	<0.0020U	0.063	<0.0010U
	1/4/2005	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0020	<0.0010	<0.0020	<0.0050	<0.0010	0.0013	<0.0010	<0.0020	0.0018	<0.0010
	1/4/2006	NA	<0.0010U	0.0013	<0.0010U	<0.0010U	---	<0.0010U	<0.0020U	<0.0010U	<0.0020U	<0.0050U	0.019	0.082	<0.0010U	<0.0020U	0.059	<0.0010U
	4/15/2007	NA	<0.0010U	<0.0010U	<0.0010U	<0.0010U	---	<0.0010U	<0.0020U	<0.0010U	<0.0020U	<0.0050U	0.0046	0.024	<0.0010U	<0.0020U	0.018	<0.0010U
	4/25/2008	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0020	<0.0010	<0.0020	<0.0050	0.0088	0.04	<0.0010	<0.0020	0.034	<0.0010
	4/3/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.016	0.077	<0.0010	<0.0010	0.064	<0.0010

Table 3
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)
CULVERT_OUTFALL	4/28/2010	NA	<0.0010	0.0011	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.016	0.075	<0.0010	<0.0010	0.074	<0.0010
(Cont.)	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	0.0021	<0.0020	<0.0020	0.0032	<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	<0.0020	0.0021	<0.0020	<0.0020	0.0029	<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	0.0093	0.056	<0.0020	<0.0020	0.058	<0.0020
	4/9/2014	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0085	0.043	<0.0020	<0.0020	0.043	<0.0020
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
	4/8/2014	12	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.013	0.047	<0.0020	<0.0020	0.0089	<0.0020
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	0.11	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
	4/8/2014	12	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0045	0.0063	<0.0020	0.0044	0.055	<0.0020
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	<0.0010J	<0.0010J	<0.0010J	<0.0010J	---	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	0.0020J	0.0070J	<0.0010J	<0.0010J	<0.0010J	<0.0010J
	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
	4/29/2014	9	<0.0020	<0.0020	<0.0020	<0.0020	0.067	<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
	4/7/2014	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	0.0023	<0.0020	<0.0020
MW-004	4/10/2014	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	<0.0020	<0.0020	<0.0020	<0.0020
MW-004R	4/27/2009	38	<0.0010J	<0.0010J	<0.0010J	<0.0010J	---	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	0.019J	<0.0010J	<0.0010J	0.0025J	<0.0010J
	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-005	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	0.0022	<0.0020	<0.0020	<0.0020	<0.0020
	4/10/2014	21	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.016	0.0057	<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

Table 3
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-005R (cont.)	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
	4/7/2014	17	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0084	0.022	<0.0020	<0.0020	0.0051	<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
	4/10/2014	17	<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-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	19.8	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0028	<0.0020	<0.0020	<0.0020	<0.0020	0.003	0.0028	<0.0020
	7/28/2011	19	<0.0020	<0.0020	<0.0020	<0.0020	0.015	<0.0020	<0.0020	<0.0020	0.0056	<0.0020	<0.0020	<0.0020	<0.0020	0.03	0.023	<0.0020
	10/25/2011	20	<0.0020	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	<0.0020	0.0096	<0.0020	<0.0020	<0.0020	<0.0020	0.016	0.02	<0.0020
	1/17/2012	20	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.006	<0.0020	<0.0020	0.0034	<0.0020	0.0093	0.039	<0.0020
	4/3/2012	20	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0029	<0.0020	<0.0020	0.0061	<0.0020	0.012	0.027	<0.0020
	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
	4/8/2014	20	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2.4	4.1D	<0.050
	8/6/2014	19	<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	0.69	2.6	<0.040
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
	4/10/2014	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	0.032J	0.028	<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

Table 3
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-013 (cont.)	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
	4/9/2014	41	0.19	0.0051	<0.0050	<0.0050	<0.025	0.23	0.0052	0.36	<0.0050	<0.0050	0.014	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
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	<0.0050	0.41	<0.0050	<0.0050	0.087	<0.0050
	4/9/2014	58	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0031	0.057	<0.0020	<0.0020	0.19	<0.0020
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
	4/10/2014	35	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.058	1.7D	<0.010	<0.010	0.36	<0.010
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	<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
	4/11/2014	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	<0.0020	<0.0020	<0.0020	<0.0020
MW-034	4/9/2009	0	<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
	4/9/2014	62	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.13	<0.020	<0.020	1.3	<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	<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
	4/7/2014	52	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.95	2.4	<0.040	0.18	1.4	<0.040
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	0.41	<0.0050	<0.0050	0.098	<0.0050
	4/16/2013	12	<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	0.11	<0.0020
MW-2_32-TOZER	2/24/2011	NA	<0.25	<0.25	<0.25	<0.25	<2.5	<0.25	<0.25	<0.25	<0.50	<0.50	11	1.8	<0.25	<0.25	3.4	<0.25
	11/8/2011	NA	<0.20	<0.20	<0.20	<0.20	<2.0	<0.20	<0.20	<0.20	<0.40	<0.40	10	1.5	<0.20	<0.20	3.7	<0.20
	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
	4/10/2014	17	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	4.9	0.97	<0.10	<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	0	<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

Table 3
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)
OB-04-BR (cont.)	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
	4/7/2014	68	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.079	0.19	<0.0020	0.021	0.12	<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
	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
OB-05-BR	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
	4/8/2014	100	<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	0.0084	0.016	<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	<0.0050
	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
	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
	4/8/2014	80	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.59	1.8	<0.020	0.078	1.7	<0.020
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	0.0034	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	0.0024	<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
	4/9/2014	99	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.039	0.11	<0.0020	<0.0020	0.017	<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	0.11D	0.31D	<0.0020	0.027	1.2D	0.0044

Table 3
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)
OB-06-DO (cont.)	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
	4/9/2014	65	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.051	0.14	<0.0050	0.013	0.39	<0.0050
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	2.5D	<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	0.26D	1.9D	<0.0020	0.0084	2.2D	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	3.3D	<0.0050	0.0052	1.5D	0.0062
	4/8/2014	78	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.35	2.6	<0.040	<0.040	1.2	<0.040
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	0.45D	<0.0020	<0.0020	0.23D	<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	0.39D	<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	<0.050	0.35	0.66	<0.050	0.14	5.5	<0.050
	7/14/2010	121	<0.025UJ	<0.025UJ	0.031J	<0.025UJ	---	<0.025UJ	<0.025UJ	<0.025UJ	<0.025UJ	<0.025UJ	0.049J	0.054J	<0.025UJ	0.23J	4.9J	0.031J
	10/12/2010	117	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	0.18	0.27	<0.10	0.1	7.9	<0.10
	1/5/2011	121	<0.10	<0.10	<0.10	<0.10	---	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.22	6.5	<0.10
	4/6/2011	117.7	<0.010	<0.010	0.021	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.025	0.01	<0.010	0.28	5.5D	<0.010
	7/28/2011	117	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	0.55	1.2	<0.10	0.15	6.5	<0.10
	10/25/2011	121	<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	1.6	1.1	<0.040
	1/18/2012	121	<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	0.046	1.4	0.033
	4/3/2012	117	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	1.9	3.2	<0.040	<0.040	2.5	<0.040
	8/21/2012	100	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	1.6	2.1	<0.040	0.041	7.7D	<0.040
	11/28/2012	121	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	2.6	3.1	<0.050	<0.050	2.9	<0.050
	2/6/2013	101	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	2.1	3.1	<0.10	<0.10	4.7	<0.10
	4/11/2013	120	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	2.4	3.1	<0.050	<0.050	2.7	<0.050
	10/22/2013	121	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.21	5	<0.050
	4/10/2014	117	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.11	0.11	<0.050	0.74J	4.6	<0.050
OB-09-DO	1/13/2009	95	<0.0050	<0.0050	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.59	0.12	<0.0050
	4/9/2009	92	<0.0010	0.0016	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0025	0.014	<0.0010	<0.0010	0.007	<0.0010
	7/14/2009	95	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.97	0.11	<0.010
	10/28/2009	95	<0.010	<0.010	<0.010	<0.010	---	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.87	0.06	<0.010
	1/28/2010	92	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0022	0.0043	<0.0010
	4/22/2010	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	0.3	0.21	<0.0025
	7/14/2010	95	<0.0010UJ	0.0033J	<0.0010UJ	<0.0010UJ	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.033J	0.0059J	<0.0010UJ
	10/12/2010	93	<0.0050	0.0071	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.42	0.064	<0.0050

Table 3
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)
OB-09-DO (cont.)	1/5/2011	95	<0.020	<0.020	<0.020	<0.020	---	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1.3	0.35	<0.020
	4/6/2011	92.3	<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	1.4D	0.45	<0.010
	7/28/2011	92	<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	2	0.57	<0.040
	10/25/2011	92	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.41	1	<0.040	0.15	5.1D	<0.040
	1/18/2012	92	<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	1.9	1.6	<0.040
	4/3/2012	92	<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	1.9	2	<0.040
	8/21/2012	92	<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	1.8D	1.4	<0.020
	11/28/2012	95	<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	1.1	0.27	<0.020
	2/6/2013	87.2	<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	1.5	1.4	<0.020
	4/11/2013	94	<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	1.5	1.8	<0.020
	10/22/2013	95	<0.020	<0.020	0.023	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1.3J	2.2D	<0.020
	4/10/2014	92	<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	1.9J	2.3	<0.040
OB-09-S	1/13/2009	29	0.039	0.38	<0.010	<0.010	---	<0.010	<0.010	<0.010	0.13	<0.010	0.012	0.062	<0.010	1.2	0.43	0.02
	4/9/2009	27.5	0.055	0.023	<0.020	<0.020	---	<0.020	<0.020	<0.020	0.024J	<0.020	<0.020	<0.020	<0.020	1.9	1.4	<0.020
	7/14/2009	29	0.002	0.049	<0.0010	0.0011	---	<0.0010	<0.0010	<0.0010	0.046J	<0.0010	0.0045	0.035	0.0049	0.073	0.025	0.0037
	10/28/2009	29	<0.0050	0.078	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	0.046	<0.0050	<0.0050	<0.0050	<0.0050	0.63	0.24	0.0056
	1/28/2010	27.5	<0.0050	0.097	<0.0050	<0.0050	---	<0.0050	<0.0050	<0.0050	0.042	<0.0050	<0.0050	0.009	<0.0050	0.49	0.15	0.0098
	4/22/2010	29	0.014	0.046	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0036	0.029	<0.0010	0.0019	0.029	<0.0010	0.14	0.048	0.0047
	7/14/2010	29	0.019J	0.25DJ	<0.0010UJ	0.0024J	---	<0.0010UJ	<0.0010UJ	<0.0010UJ	0.087J	<0.0010UJ	0.0018J	0.0035J	<0.0010UJ	0.020J	0.020J	0.0024J
	10/12/2010	27	0.0045	0.053	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.12	<0.0020	<0.0020	<0.0020	<0.0020	0.023	0.061	0.0021
	1/5/2011	29	<0.0020	0.0089	<0.0020	<0.0020	---	<0.0020	<0.0020	<0.0020	0.04	<0.0020	<0.0020	0.0074	<0.0020	0.0054	0.0065	<0.0020
	4/5/2011	26.5	0.018	0.039	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.047	<0.0020	<0.0020	0.003	<0.0020	0.076	0.081	0.0028
	7/28/2011	26	<0.0020	<0.0020	<0.0020	0.0025	0.019	<0.0020	<0.0020	<0.0020	0.044	<0.0020	<0.0020	<0.0020	<0.0020	0.0031	0.0063	<0.0020
	10/25/2011	23	0.14	0.89D	0.0042	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.45D	<0.0020	<0.0020	<0.0020	<0.0020	0.095	0.018	<0.0020
	1/18/2012	23.5	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.56D	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	<0.0020
	4/3/2012	23	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	0.27	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	8/21/2012	23	<0.0020	<0.0020	<0.0020	<0.0020	0.014	<0.0020	<0.0020	<0.0020	0.0059	<0.0020	<0.0020	0.0048	<0.0020	<0.0020	0.0027	<0.0020
	11/28/2012	29	<0.0020	<0.0020	<0.0020	<0.0020	0.01	<0.0020	<0.0020	<0.0020	0.0082	<0.0020	0.0077	0.033	<0.0020	0.0037	0.017	<0.0020
	2/6/2013	23.1	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0056	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.019	<0.0020
	4/11/2013	23	<0.0020	0.0024	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.011	<0.0020	<0.0020	0.003	<0.0020	0.035	0.023	<0.0020
	10/22/2013	29	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.008	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0033	<0.0020
	1/21/2014	23.1	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/9/2014	23	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0023	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0029	<0.0020
	8/6/2014	18	<0.0020	0.0043	0.0023	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.11	<0.0020	<0.0020	<0.0020	<0.0020	0.14	0.37D	<0.0020
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
	4/10/2014	72	<0.10	<0.10	<0.10	<0.10	<0.50	<0.10	<0.10	<0.10	<0.10	<0.10	0.89	4.9	<0.10	<0.10	0.76	<0.10
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	0.013	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	0.013	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

Table 3
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)
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	0.0081	0.02	<0.0020	<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	0.0038	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	0.0023	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	0.0051	0.032	<0.0020	<0.0020	0.0093	<0.0020
	4/10/2014	29	<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	<0.0020	<0.0020	<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
	4/9/2014	86	<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	0.035	0.0067
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
	4/9/2014	60	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.091	<0.0020	<0.0020	0.02	<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	<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	0.088	<0.0010	<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	0.27DJ	0.0038J	<0.0010UJ	<0.0010UJ	<0.0010UJ	<0.0010UJ
	10/13/2010	46	<0.0020	0.0076	0.024	<0.0020	0.011	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.4D	21D	<0.0020	<0.0020	8.7D	0.014
	1/5/2011	59	<0.0050	0.0075	0.053	<0.0050	0.015J	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	2.2D	45D	<0.0050	0.0066	24D	0.018
	4/6/2011	49.1	<0.50	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.50	2.1	33	<0.50	<0.50	17	<0.50
	7/28/2011	59	<0.0020	0.0068	<0.0020	0.0022	0.02	<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	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	15D	<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
	4/9/2014	47	<0.0020	0.0059	0.059	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	2.0D	28D	<0.0020	0.0053	16D	0.11

Table 3
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)
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
	4/9/2014	27	0.0022	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.0029	<0.0020	<0.0020	0.16	0.096	<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
	4/9/2014	55	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.11	1.3	<0.020	<0.020	0.17	<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	<0.10	0.21	<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	<0.050	0.092	<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	<0.010	0.05	<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
	4/8/2014	18	<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	0.011	0.0029	<0.0020
	8/6/2014	17	<0.0020	0.0022	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	0.0029	<0.0020	<0.0020	<0.0020	<0.0020	0.0038	0.006	<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	<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	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	<0.0020	<0.0020	<0.0020
	4/16/2013	34	<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
	4/10/2014	20	<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 3
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)
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
	4/10/2014	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
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	<0.0020J	<0.0020	<0.0020	0.097J	0.016	<0.0020
	4/7/2014	95	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0021	<0.0020	0.012	0.006	<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
	4/7/2014	41	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0066	0.0078	<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
	4/8/2014	23	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.017	<0.0020	<0.0020	0.013	<0.0020
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	0.0011	<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
	4/8/2014	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
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

Table 3
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)
OB-19-DO (cont.)	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
	4/16/2014	56	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.41	2	<0.040	0.061J	0.83	0.057
OB-19-S	4/3/2009	34	<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	34	<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	32.7	<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	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	<0.0020	<0.0020	<0.0020
	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
	4/21/2014	32	<0.0020	<0.0020	<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
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	0.0031	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
	4/21/2014	94	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.1	<0.020	<0.020	0.98	<0.020
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
	4/21/2014	74	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.022	0.19	<0.0040
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	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.003	<0.0020UJ	<0.0020	0.0029	<0.0020
	4/21/2014	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
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	0.013	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
	4/21/2014	98	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.073	<0.010	0.027	0.86	<0.010
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

Table 3
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)
OB-21-DO (cont.)	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
	4/21/2014	78	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.26	0.97	<0.020	<0.020	0.32	<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	<0.0020	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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.062J	0.013	<0.0020
	4/5/2012	83.5	<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	0.1	0.07	<0.0020
	4/12/2013	83	0.0069	<0.0020	<0.0020	<0.0020	<0.010	0.0047J	<0.0020	0.0064	<0.0020	<0.0020	0.26DJ	0.077	<0.0020	0.038J	0.0076	<0.0020
	4/7/2014	80	<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-24-S	4/3/2009	NA	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	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
	4/10/2014	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
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
	4/16/2014	86	<0.050	<0.050	0.064	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.32	4.5	<0.050	5.6DJ	25D	0.056
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	<0.10UJ
	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
	4/9/2014	46	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	0.47	17	<0.20	<0.20	0.48	<0.20
	8/6/2014	65	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	0.56	16	<0.20	<0.20	0.45	<0.20
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	<0.0020	<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
	4/16/2014	90	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0077	0.24D	<0.0020	0.0068J	0.13	<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	<0.050	1.3	5	<0.050	<0.050	0.27	<0.050
	4/16/2014	59	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	1.8	6.6D	<0.050	<0.050	0.74	<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	<0.0050	7.4D	22D	<0.0050	0.03	4.9D	0.012
	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
	4/11/2014	74	<0.0020	0.014	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.057	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020

Table 3
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)
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
	4/16/2014	89	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0042	0.98D	<0.0020	<0.0020	0.17	0.0026
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	0.057	<0.0020	0.015	<0.0020	<0.0020	0.055	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	4/21/2014	57	0.026	<0.0020	<0.0020	<0.0020	<0.010	0.037	<0.0020	0.014	<0.0020	<0.0020	0.063	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
OB-33-DO	4/6/2009	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
OB-34-DO	4/6/2009	63	<0.0010	<0.0010	<0.0010	<0.0010	---	<0.0010	<0.0010	0.0027	<0.0010	<0.0010	0.059	0.0022	<0.0010	<0.0010	<0.0010	<0.0010
	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	<0.20
	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
	4/21/2014	47	<0.20	<0.20	<0.20	<0.20	<1.0	<0.20	<0.20	<0.20	<0.20	<0.20	33D	5.2	<0.20	<0.20	0.94	<0.20
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
	4/21/2014	51	0.003	<0.0020	<0.0020	<0.0020	0.024	<0.0020	<0.0020	0.0026	<0.0020	<0.0020	<0.0020	<0.0020	<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

Table 3
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)
OB-37-DO (cont.)	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	<0.0020J	<0.0020J	<0.0020J	<0.0020J	0.014J	<0.0020J	<0.0020J	<0.0020J	<0.0020J	<0.0020J	0.0028J	<0.0020J	<0.0020J	<0.0020J	<0.0020J	<0.0020J
	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
	4/21/2014	46	<0.0020	<0.0020	<0.0020	<0.0020	0.016	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.066	0.35D	<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
	4/11/2014	44	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.057	0.099	<0.0020	<0.0020	0.045	0.0034
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	<0.0010	<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-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
	4/8/2014	13	<0.0020	<0.0020	0.0021	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.064	0.28D	<0.0020	<0.0020	0.082	<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
	4/9/2014	14	<0.040	<0.040	<0.040	<0.040	<0.20	<0.040	<0.040	<0.040	<0.040	<0.040	0.082	2.4	<0.040	<0.040	0.96	<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
	4/8/2014	15	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	0.004	<0.0020	<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
	4/21/2014	17	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.2	1.5	<1.0	<1.0	59	<1.0
OB-45-DO	4/15/2014	45	<0.0050	<0.0050	<0.0050	<0.0050	0.035	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0059	0.27	<0.0050	<0.0050	0.37	<0.0050
OB-45-S	4/15/2014	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	<0.0020	<0.0020
P-05R	4/27/2009	NA	<0.0010J	<0.0010J	<0.0010J	<0.0010J	---	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J
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	0.016	<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
	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	0.0036	<0.0010

Table 3
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)
P-09R (cont.)	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
	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	0.0021	<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
	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
	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
	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
	4/29/2014	4	<0.0020	<0.0020	<0.0020	<0.0020	0.074	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
P-11R	4/27/2009	NA	<0.0010J	<0.0010J	<0.0010J	<0.0010J	---	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J	<0.0010J
	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
	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
	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
	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
	4/21/2014	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
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	<0.0010	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
	4/21/2014	10	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0048	0.027	<0.0040	<0.0040	0.2	<0.0040
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
	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
	4/21/2014	10	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0038	0.009	<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
	4/9/2014	37	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.48	4.3	<0.050
	8/6/2014	36	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.050	<0.050	<0.050	0.77	0.45	<0.050	0.49	7.7D	0.078
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
	4/9/2014	104	<0.0040	<0.0040	<0.0040	<0.0040	<0.020	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.035	<0.0040	0.011	0.52D	<0.0040

Table 3
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)
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	0.0067	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
	4/10/2014	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	0.0023	<0.0020
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
	4/10/2014	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0088	<0.0020	<0.0020	0.0097	<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
	4/10/2014	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0099	0.042	<0.0020	<0.0020	0.013	<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
	4/21/2014	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	0.0038	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020

Table 3
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)
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
	4/10/2014	NA	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0026	0.003	<0.0020	<0.0020	0.012	<0.0020
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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.039	1.0D	<0.0020	<0.0020	0.49D	0.0054
	11/12/2012	9	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0067	0.17	<0.0020	<0.0020	0.025	<0.0020
	5/2/2013	10.8	<0.0020	<0.0020	0.0021	<0.0020	<0.010	<0.0020	<0.0020	<0.0020	<0.0020UJ	<0.0020	0.055	1.3D	<0.0020	<0.0020	0.48D	0.007
	4/9/2014	10	<0.020	<0.020	<0.020	<0.020	<0.10	<0.020	<0.020	<0.020	<0.020	<0.020	0.033	0.98	<0.020	<0.020	0.42	<0.020

Table 3
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 - Determined to be non-detect through expert validation protocol.

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

TABLE 4
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)	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
	10/23/2013	137	ND(0.50)	230
	4/10/2014	75.5	0.9	0.56
AP-12-DO	4/20/2010	34.4	0.47	5.4
	11/27/2012	538	9.2	3400
	4/18/2013	156	ND(0.50)	720
	10/23/2013	109	ND(0.10)	36
	4/10/2014	124	ND(<0.10)	0.32
AP-13-DO	1/14/2009	150	0.26	9.3
	4/2/2009	273	0.2	13
	8/14/2014	---	ND(<0.10)	25.3
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
	10/24/2013	26.3	0.12	1.0
	4/11/2014	25.4	ND(<0.10)	1.1
AP-20	10/27/2009	11.1	ND(0.10)	6.9
	4/21/2010	31.3	ND(0.10)	0.011
	10/14/2010	29.4	ND(0.10)	0.012
	4/6/2011	15.4	ND(0.10)	ND(0.010)
	10/27/2011	2	ND(0.10)	0.028
	4/5/2012	86	ND(0.10)	23
	11/13/2012	68.2	0.39	8.5
	5/2/2013	45	ND(0.10)	2.1
	10/24/2013	109	ND(0.10)	0.17
	4/11/2014	14.1	ND(<0.10)	4.0
AP-21	11/23/2009	850	8.5	14000
	4/21/2010	900	10	15000
	10/14/2010	1690	ND(2.0)	9000
	4/14/2011	450	3.2	3400
	10/27/2011	190	ND(2.5)	1100
	4/5/2012	286	ND(1.0)	970
	11/13/2012	271	ND(0.10)	640
	5/2/2013	275	ND(0.10)	190
	10/24/2013	323	ND(0.10)	0.24
	4/11/2014	227	ND(<0.10)	0.51
AP-22	10/27/2009	378	ND(0.50)	3800
	4/21/2010	489	ND(1.0)	73
	10/14/2010	491	ND(1.0)	240
	4/14/2011	208	ND(0.10)	0.37
	10/27/2011	225	ND(2.5)	1200
	4/5/2012	1360	ND(2.0)	2000
	11/13/2012	794	ND(1.0)	4100
	4/17/2013	425	ND(0.10)	150

TABLE 4
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)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
AP-22 (cont.)	10/24/2013	892	ND(0.50)	440
	4/11/2014	919	0.26	51
AP-23-DO	1/14/2009	43.6	1.7	6.4
	4/2/2009	60.7	3.2	19
	8/6/2014	---	0.57	7.6
AP-24-DO	1/14/2009	117	0.48	7.5
	4/2/2009	283	0.25	11
	8/6/2014	---	1.7	1.2
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
	4/16/2014	43	ND(<0.10)	0.81
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
	4/11/2014	342	ND(<0.10)	0.19
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
	4/16/2014	720	ND(<0.10)	0.86
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
	4/16/2014	608	ND(<0.10)	110
AP-33-DO	8/6/2014	---	4.3	1.9
AP-34-DO	8/6/2014	---	0.89	9.1
AP-35-DO	8/6/2014	---	0.82	0.31
BR-5_ZONE3	4/11/2014	136	ND(<0.10)	3.1
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

TABLE 4
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)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
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
	4/9/2014	12.4	ND(<0.10)	0.099
CL10-DO	10/23/2013	25.1	ND(0.10)	510
	4/10/2014	50.1	ND(<0.10)	180
MW-009	1/14/2009	822	60	7
	4/2/2009	711	70	6
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
	4/9/2014	506	ND(<0.10)	23
MW-030	4/9/2009	135	0.16	0.012
OB-05-DO	4/8/2014	32.4	0.3	0.23
OB-06-DO	4/9/2014	32.7	0.11	0.13
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
	4/9/2014	39.4	ND(<0.10)	0.18
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
	4/16/2014	33	ND(<0.10)	0.11
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
	4/16/2014	114	ND(<0.10)	6.4
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
	4/11/2014	36.6	0.76	370

TABLE 4
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)	Iron Dissolved (mg/l)	Manganese Dissolved (mg/l)
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
	4/21/2014	107	ND(<0.10)	60
OB-34-DO	10/27/2009	38.7	ND(0.50)	10
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
	4/21/2014	96.1	ND(<0.10)	6.2
OB-36-DO	4/21/2014	419	0.13	2200
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)
Dup. = Duplicate sample
J = Estimated value.

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
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-13-DO 4/8/2014	AP-13-DO 8/14/2014	AP-23-DO 1/14/2009	AP-23-DO 4/2/2009	AP-23-DO 1/28/2010	AP-23-DO 4/22/2010	AP-23-DO 7/14/2010
Dissolved Metals																				
Iron	mg/L	0.26	0.2	---	---	---	---	---	---	---	---	---	---	---	<0.1	1.73	3.2	---	---	---
Manganese	mg/L	9.27	13	---	---	---	---	---	---	---	---	---	---	---	25.3	6.44	19	---	---	---
Sulfate	mg/L	<2.0	2.6	---	---	---	---	---	---	---	---	---	---	---	319	<2.0	5.2	---	---	---
Nitrate	mg/L	<0.50	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.50	---	---	---	---
Nitrate/Nitrogen	mg/L	---	<0.50	---	---	---	---	---	---	---	---	---	---	---	<1.0	---	<0.50	---	---	---
Metabolic Acids																				
Acetic acid	mg/L	78	180	460	630J	980	2500	1600	2700	2500	1300	1200	---	---	---	220	290	28	320	260J
Lactic Acid	mg/L	<1.0	<1.0	<5.0	<10J	360	16000	930	35000	6300	740	290	---	---	---	6.1	33	5.7	15	<10J
n-Butanoic acid	mg/L	<2.0	6.3	<10	<20J	18	<200	68	<400	<100	<40	20	---	---	---	36	77	3.1	22	41J
Propionic acid	mg/L	26	48	74	85J	150	220	93	270	210	41	16	---	---	---	500	670D	41	770	620J
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	<5.0J
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	<1.0	2.3	3.9	36	27	14	19J
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	<1.0	<1.0	2.2	2.1	<2.0	<1.0	<1.0J
Ethene	ug/L	<1.0	<1.0	17	5.6J	17	21	5	71	35	7.8	3.3	1.9	9.9	57	22	36	170	65	65J
Chloride	mg/L	150	273	---	---	---	---	---	---	---	---	---	---	---	---	43.6	60.7	---	---	---
TOC	mg/L	65.1	106	---	---	----	---	---	---	---	---	---	484	569	616	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}	$<2.8 \times 10^{1}$	$<4.2 \times 10^{1}$	$<9.2 \times 10^{1}$	11J	42	3.1×10^{6}	4.5×10^{4}	3.5×10^{4}	1.0×10^{5}	3.6×10^{4}
Dehalococcoides sp.	(1)	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(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	7.3
ORP	mV	-170	-153.5	---	-32	-71	-181.9	-354	---	---	---	---	-7	---	---	54.3	-36.3	-231	-390	-156
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	0.43
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	16.707

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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-23-DO 4/8/2014	AP-23-DO 8/6/2014	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	AP-24-DO 4/5/2011	AP-24-DO 7/28/2011
Dissolved Metals																				
Iron	mg/L	---	---	---	---	---	---	---	---	---	570	0.48	0.25	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	7560	7.46	11	---	---	---	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	6.6	<2.0	48.4	---	---	---	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	---	<0.50	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	<1.0	---	0.58	---	---	---	---	---	---	---
Metabolic Acids																				
Acetic acid	mg/L	620	2800	2000	920	220	26	190	---	---	---	440	780D	73	260	190J	480	2500	480	280
Lactic Acid	mg/L	<10	20000	11000	150	5.5	6	4.1	---	---	---	<10	4600D	4.8	340	<1.0J	<5.0	11000	33	20000
n-Butanoic acid	mg/L	240	<400	1200	140	25	<2.0	17	---	---	---	53	130	11	21	16J	15	250	120	<400U
Propionic acid	mg/L	1100	5200	3100	1800	390	42	290	---	---	---	930	1200D	48	330	200J	340	4900	740	<200U
Pyruvic Acid	mg/L	<5.0	430	<50	19	<1.0	<0.50	<1.0	---	---	---	<5.0	2.5	<0.50	<1.0	<0.50J	<2.5	89	<5.0	<100U
Miscellaneous Analyses																				
Methane	ug/L	700D	200	240	340	120	26	130	120J	280	110	59	110	<4.0	<20	<20J	<50	<100	<100	<40U
Ethane	ug/L	2.5	<10	<10	<10U	<2.0	<2.0	<4.0	17J	<5.0	<10	<1.0	<2.0	<2.0	<10	<10J	<25	<50	<50	<20U
Ethene	ug/L	310D	2500D	640	500	65	230D	510D	4700DJ	610D	750	1.6	3.9	160	680	1900DJ	4600D	4500	2600	1400
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	117	283	---	---	---	---	---	---	---
TOC	mg/L	---	---	---	---	---	---	---	2270	387	231	629	1950	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	7.1×10^5	6.0×10^4	3.7×10^5	2.1×10^4	2.7×10^6	5.5×10^5	1.4×10^7	3.16×10^3	9J	3.17×10^3	3.2×10^4	6.2×10^3	5.1×10^4	2.1×10^6	8.8×10^4	1.8×10^5	1.5×10^5	1.8×10^6	8.0×10^3
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																				
pH	--	7.28	6.52	7.2	---	---	---	---	6.52		6.52	7.83	7.74	8.38	8.05	7.29	7.1	6.35	7.27	---
ORP	mV	-200	-348.6	-360	---	---	---	---	-238.2		-130.6	-238.3	-92.7	-223	-195	-33	-191	-133.1	-360	---
Dissolved Oxygen	mg/L	0.21	0.21	0.35	---	---	---	---	0.87		0.38	0.28	0.69	0.32	0.49	0.41	0.39	0.39	0.59	---
Specific Conductivity	ms/cm	17.112	16.25	16.20	---	---	---	---	3.162		5.327	14.33	8.644	3.816	3.262	3.473	3.415	12.112	3.542	---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	AP-24-DO 10/25/2011	AP-24-DO 4/3/2012	AP-24-DO 1/20/2014	AP-24-DO 4/8/2014	AP-24-DO 8/6/2014	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-25-DO 4/8/2014	AP-25-DO 8/6/2014	AP-33-DO 1/20/2014	AP-33-DO 4/8/2014	AP-33-DO 8/6/2014
Dissolved Metals																		
Iron	mg/L	---	---	---	---	1670	0.28	<0.10	---	---	---	---	---	---	---	--	---	4300
Manganese	mg/L	---	---	---	---	1190	0.243	0.11	---	---	---	---	---	---	---	--	---	1890
Sulfate	mg/L	---	---	---	---	13.4	<2.0	7.9	---	---	---	---	---	---	---	---	---	<2.0
Nitrate	mg/L	---	---	---	---	---	<0.50	---	---	---	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	<1.0	---	<0.50	---	---	---	---	---	---	---	---	---	<1.0
Metabolic Acids																		
Acetic acid	mg/L	780	380	---	---	---	24	59	<1.0	8.2	---	--	---	---	---	--	---	---
Lactic Acid	mg/L	750	<5.0	---	---	---	<1.0	1.9	<1.0	<1.0	---	--	---	---	---	--	---	---
n-Butanoic acid	mg/L	710	54	---	---	---	<2.0	<2.0	<2.0	<2.0	---	--	---	---	---	--	---	---
Propionic acid	mg/L	1600	420	---	---	---	5.8	15	<1.0	<1.0	---	--	---	---	---	--	---	---
Pyruvic Acid	mg/L	6.5	<2.5	---	---	---	<0.50	<0.50	<0.50	<0.50	---	--	---	---	---	--	---	---
Miscellaneous Analyses																		
Methane	ug/L	<8.0	<8.0	2.1	<1.0	<1.0	<10	57	16	130D	---	5.7	13J	9.1	<1.0	61J	60	24
Ethane	ug/L	<4.0	<4.0	1.1	<1.0	<1.0	<5.0	<20	<1.0	<1.0	---	<1.0	<1.0UJ	<1.0	<1.0	100DJ	<50	13
Ethene	ug/L	300	5100D	100D	16	10	440	1100	18	320D	---	<1.0	110DJ	47	<1.0	4800DJ	2400	850D
Chloride	mg/L	---	---	---	---	---	34.9	61.1	---	---	---	---	---	---	---	--	---	---
TOC	mg/L	---	---	1520	38.2	13.6	19.3	32.2	---	---	---	1.8	3.3	2.5	4.4	3100	625	177
Dehalococcoides sp.	cells/ml	3.4×10^4	2.2×10^7	---	3J	5.6J	9.5×10^5	2.3×10^4	2.6×10^4	1.1×10^4	---	---	---	---	---	1.2×10^1 JD	<92	<10
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Field Parameters																		
pH	--	---	---	6.6	---	7.28	7.03	8.17	8.04	7.62	10.02	8.02	7.13	---	7.97	6.57	---	6.73
ORP	mV	---	---	-7.6	---	-165.7	-110.3	-133.5	-165	-175.9	-351	111.1	-73.9	---	-114.4	-205.7	---	-135
Dissolved Oxygen	mg/L	---	---	4.27	---	0.44	0.2	0.22	0.13	0.38	0.8	2.05	0.52	---	0.77	0.49	---	0.94
Specific Conductivity	ms/cm	---	---	1.834	---	2.152	0.357	0.495	0.185	0.271	0.116	0.106	3.503	---	0.275	9.869	---	2.591

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	AP-34-DO 1/20/2014	AP-34-DO 4/8/2014	AP-34-DO 8/6/2014	AP-35-DO 1/20/2014	AP-35-DO 4/8/2014	AP-35-DO 8/6/2014	BW-01 1/13/2009	BW-01 4/2/2009	BW-01 7/14/2009	BW-01 10/27/2009	BW-01 1/28/2010	BW-01 4/22/2010	BW-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
Dissolved Metals																			
Iron	mg/L	--	---	890	--	--	820	2.1	3.8	---	---	---	---	8.16	6.4	---	---	---	---
Manganese	mg/L	--	---	9090	--	--	313	2.27	3.2	---	---	---	---	2.32	2.4	---	---	---	---
Sulfate	mg/L	---	---	3.1	---	---	2.2	16.1	8.6	---	---	---	---	16.4	14.6	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	<0.50	---	---	---	---	---	<0.50	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	<1.0	---	---	1.8	---	1.03	---	---	---	---	---	0.6	---	---	---	---
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
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
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
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
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
Miscellaneous Analyses																			
Methane	ug/L	19J	25	43	24	62	19	1700	260	170	77	54	1300	1900	1300	71	100	170	1400
Ethane	ug/L	39J	<4.0	<1.0	4.3	4.3	1.0	<20U	<5.0	<2.0	<1.0	<1.0	<25	<20	<25	<1.0	<1.0	<2.0	<25
Ethene	ug/L	240DJ	210	42	36	38	5.6	<20U	<5.0	<2.0	<1.0	<1.0	<25	<20	<25	1.9	<1.0	<2.0	<25
Chloride	mg/L	--	---	---	--	--	---	86.1	67.3	---	---	---	---	87.2	97.8	---	---	---	---
TOC	mg/L	1010	215	112	1330	670	7.7	2.4	1.6	---	---	---	---	2.3	3.8	---	---	---	---
Dehalococcoides sp.	cells/ml	2.3 X 10^{1} JD	<85	2.4J	3.68 X 10^{3} D	<92	7.3J	5.7 x 10^{2}	1.2 x 10^{4}	3.2 x 10^{3}	1.1 x 10^{4}	7.8 x 10^{3}	8.6 X 10^{3}	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}
Dehalococcoides sp.	(1)	--	---	---	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	--	---	---	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	--	---	---	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																			
pH	--	6.59	---	6.69	7.49	--	6.16	6.15	6.46	6.01	6.21	---	---	6.12	6.46	6.11	6.25	---	---
ORP	mV	-153.7	---	-149.6	-56.0	--	-138.4	-45.5	35.3	59	-0.8	---	---	-49.5	11.4	4	13.9	---	---
Dissolved Oxygen	mg/L	0.48	---	0.53	10.51	--	0.6	0.29	5.5	0.27	0.17	---	---	0.35	2.53	0.48	0.22	---	---
Specific Conductivity	ms/cm	5.261	---	2.169	0.061	--	6.626	0.348	0.174	0.216	0.253	---	---	0.361	0.219	0.192	0.213	---	---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-03 1/13/2009	BW-03 4/2/2009	BW-03 7/14/2009	BW-03 10/27/2009	BW-03 1/28/2010	BW-03 4/22/2010	BW-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
Dissolved Metals																				
Iron	mg/L	12.6	18	---	---	---	---	9.46	10	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	5.64	8	---	---	---	---	3.82	3.2	---	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/L	14.8	13.3	---	---	---	---	7.7	3.2	---	---	---	---	---	---	---	---	---	---	---
Nitrate	mg/L	<0.50	---	---	---	---	---	<0.50	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	0.59	---	---	---	---	---	<0.50	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																				
Acetic acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	86	<1.0	<1.0	2	280J	3.9	<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	<10J	<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	35J	<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	110	<1.0	<1.0	<1.0	660J	<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	0.58	<5.0J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Miscellaneous Analyses																				
Methane	ug/L	1900	2300	1300	45	800	2000	4800	9200	2700	2300	37	1800	2200J	3200D	2000	1100	590	240	17
Ethane	ug/L	<20	<40	<20	<1.0	<10	<20	<50	<100	<50	130	<1.0	<25	68J	99	110	40	62	19	<1.0
Ethene	ug/L	<20	<40	<20	<1.0	<10	<20	99	1300	1100	550	26	830	950J	66	110	370	330	130	5.1
Chloride	mg/L	80.8	91.3	---	---	---	---	96.5	95.1	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	3.8	2.8	---	---	---	---	22.1	15.2	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	2.0×10^3	1.5×10^3	1.7×10^4	1.0×10^4	---*	$<2.9 \times 10^1$	6.2×10^4	$<2.2 \times 10^1$	2.4×10^6	7.6×10^4	1.4×10^4	$<2.9 \times 10^1$	2.5×10^5	$<8.0 \times 10^2$	2.3×10^3	$<6.3 \times 10^1$	1.4×10^2	5.5×10^4	1.8×10^4
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																				
pH	--	6.43	6.67	6.19	6.43	---	---	7.17	7.38	6.81	6.9	---	---	---	---	---	7.52	7.17	7.1	---
ORP	mV	-102.1	-16.7	-84	-53.7	---	---	-154	-140.4	-138	-116.7	---	---	---	---	---	-367	-179.5	-141	---
Dissolved Oxygen	mg/L	0.62	1.27	0.25	0.12	---	---	0.39	0.36	0.13	0.2	---	---	---	---	---	0.24	0.24	0.43	---
Specific Conductivity	ms/cm	0.398	0.237	0.29	0.279	---	---	1.134	0.821	1.186	0.701	---	---	---		---	0.69	0.484	0.567	---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-04 4/3/2012	BW-04 8/21/2012	BW-04 11/28/2012	BW-04 2/6/2013	BW-04 4/11/2013	BW-05 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
Dissolved Metals																				
Iron	mg/L	---	---	---	---	---	20.1	27	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	4.7	4.9	---	---	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	<2.0	3.2	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	<0.50	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	0.57	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																				
Acetic acid	mg/L	<1.0	---	---	---		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	<1.0	<1.0J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	---	---	---		2.1	<2.0	---	<2.0	<2.0	<2.0	4.8J	<2.0	<2.0	<2.0	6.6	<2.0	<2.0	<2.0
Propionic acid	mg/L	<1.0	---	---	---		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	<0.50	---	---	---		<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
Miscellaneous Analyses																				
Methane	ug/L	1200D	960	970D	1200D	3100D	<100	210	340	260	490	<100	1600J	1400	8900D	200	970	110	710	600D
Ethane	ug/L	28	60	140	14	23	<50	<100	<50	23	<40	<50	<25J	130	1000	<50	31	<25	<25	67
Ethene	ug/L	70	310	180	<5.0U	<20	4400	5100	3600	1900	2300	4700	1900J	700	59	3700	1500	1700	4000D	750D
Chloride	mg/L	---	---	---	---	---	205	130	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	---	5.5	3.9	15.3	6.8	106	42.1	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	$<1.1 \times 10^{1}$	$<3.7 \times 10^{1}$	4.1×10^{6}	$<1.0 \times 10^{2}$	$<1.2 \times 10^{1}$	3.3×10^{4}	1.8×10^{4}	1.2×10^{5}	4.5×10^{4}	3.4×10^{4}	1.1×10^{6}	2.4×10^{4}	8.7×10^{3}	6.5×10^{2}	5.9×10^{4}	5.5×10^{2}	1.9×10^{5}	1.2×10^{4}	$<1.0 \times 10^{1}$
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																				
pH	--	---	---	6.79	6.79	---	7.2	7.41	7.18	7.22	---	---	---	---	---	7.67	7.34	7.36	---	---
ORP	mV	---	---	-89.1	-93.5	---	-171.3	-165.6	-185	-138.8	---	---	---	---	---	-366	-170.8	-145.5	---	---
Dissolved Oxygen	mg/L	---	---	0.26	0.32	---	1.11	0.27	0.34	0.43	---	---	---	---	---	0.34	0.43	0.66	---	---
Specific Conductivity	ms/cm	---	---	0.602	0.635	---	0.952	0.862	0.692	0.571	---	---	---	---	---	0.617	0.816	0.64	---	---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	BW-05 8/21/2012	BW-05 11/28/2012	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	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	3.7	2.5	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	<0.50	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.50	---	---	---	---
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	4800D	11000D	20000	18000	210D	51	270	1700	350	6300D	11000D	13000D	220	350	520	1000	81	210
Ethane	ug/L	49	<50	<200U	<200	<1.0	<5.0	<5.0	62	20	68	<100U	<100	<20	<100	<100	<100	12	<10
Ethene	ug/L	170	<50	<200U	<200	2800D	380	3900D	3500	77	140	<100U	<100	1500	7300	6900	5900	280	620
Chloride	mg/L	---	---		---	---	---		---	---	---	---	---	124	104	---	---	---	---
TOC	mg/L	800	700	105	180	---	---	---	---	271	167	34.1	72.2	10.1	34.4	---	---	---	---
Dehalococcoides sp.	cells/ml	$<3.3 \times 10^3$	1.2×10^6	$<1.2 \times 10^2$	$<1.4 \times 10^1$	9.9×10^3	2.5×10^4	3.1×10^4	1.2×10^5	$<3.3 \times 10^3$	$<4.6 \times 10^1$	$<1.1 \times 10^2$	$<2.4 \times 10^1$	4.5×10^2	1.3×10^3	1.4×10^5	5.6×10^5	4.8×10^4	$<2.6 \times 10^1$
Dehalococcoides sp.	(1)	---	---		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																			
pH	--	---	6.34	6.55	---	7.15	7.29	---	---	---	---	6.3	---	6.95	7.36	7.1	7.39	---	---
ORP	mV	---	-135.6	15.4	---	-157	-87.9	---	---	---	---	-62.5	---	-160.2	-138.4	-162	-191.5	---	---
Dissolved Oxygen	mg/L	---	0.21	0.52	---	0.16	0.92	---	---	---	---	0.41	---	0.2	0.16	0.14	0.06	---	---
Specific Conductivity	ms/cm	---	2.559	2.078	---	1.174	0.508	---	---	---	---	0.525	---	0.659	0.647	1.122	0.96	---	---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
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	BW-09 10/27/2009	BW-09 1/28/2010
Dissolved Metals																		
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	19.6	41	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	7.09	11	---	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	10.3	2.4	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	<0.50	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.50	---	---	---
Metabolic Acids																		
Acetic acid	mg/L	130J	270	290	21	220	1.8	12	100	---	---	---	---	5.6	17	260	56	<1.0
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	1.5	<1.0
n-Butanoic acid	mg/L	22J	4.8	5.9	<2.0	11	<2.0	<2.0	<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	<1.0	<1.0
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	<0.50	<0.50
Miscellaneous Analyses																		
Methane	ug/L	1500DJ	4900D	16000D	8900	2800	250	1600D	4300D	1700	15000D	21000D	19000	650	660	2500	2800	370
Ethane	ug/L	29J	75	1700	650	<100	17	20	82	40	40	<200U	<200	42	<20	74	140	57
Ethene	ug/L	3800DJ	1300D	250	1900	4800	1000D	760	3400D	39	<20	<200U	<200	1200	2000	4600	4600	830
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	131	174	---	---	---
TOC	mg/L	---	---	---	---	---	---	---	---	194	630	181	52	9.8	13.8	---	---	---
Dehalococcoides sp.	cells/ml	2.3×10^4	1.0×10^4	$<1.0 \times 10^1$ U	3.7×10^4	2.1×10^2	4.6×10^4	2.9×10^5	1.8×10^5	$<3.7 \times 10^1$	$<3.1 \times 10^1$	$<8.3 \times 10^1$	3.3×10^3	1.9×10^3	6.7×10^3	4.0×10^4	1.2×10^5	8.3×10^4
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	7.51	---
ORP	mV	---	---	---	-373	-167.6	-116.7	---	---	---	-88.1	-106.3	---	-167.1	-106.5	-174	-197.9	---
Dissolved Oxygen	mg/L	---	---	---	0.22	0.36	0.82	---	---	---	0.26	0.72	---	0.22	0.2	0.11	0.14	---
Specific Conductivity	ms/cm	---	---	---	0.608	1.408	0.565	---	---	---	2.384	1.754	---	0.724	0.699	1.463	1.094	---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	MW-009 4/22/2010	MW-009 7/14/2010	MW-009 10/12/2010	MW-009 1/4/2011
Dissolved Metals																			
Iron	mg/L	---	---	---	---	---	---	---	---	---	59.5	70	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	6.98	6	---	---	---	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	<2.0	<2.0	---	---	---	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	<0.50	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---	<0.50	---	---	---	---	---	---	---
Metabolic Acids																			
Acetic acid	mg/L	<1.0	530	<1.0	32	85	---	---	---	---	210E	390	1000	500	250	600	320J	6.1	<1.0
Lactic Acid	mg/L	<1.0	<5.0	<1.0	<1.0	<1.0	---	---	---	---	<1.0	<1.0	370	<5.0	<2.0	<5.0	<2.0J	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	31	<2.0	<2.0	<2.0	---	---	---	---	4.9	11	---	30	12	63	11J	<2.0	<2.0
Propionic acid	mg/L	<1.0	680	<1.0	4.1	4.2	---	---	---	---	7.7	17	2900	810	200	370	74J	<1.0	<1.0
Pyruvic Acid	mg/L	<0.50	<2.5	<0.50	<0.50	<0.50	---	---	---	---	<0.50	<0.50	<20	<2.5	<1.0	<2.5	<1.0J	<0.50	<0.50
Miscellaneous Analyses																			
Methane	ug/L	640	7500D	7400	2200	4500D	9400D	17000D	22000D	17000	15000	17000	9500	14000	16000	15000	15000J	12000	20000D
Ethane	ug/L	<10	200	1500	160	350	450	<100	<200U	<200	1300	1900	360	330	870	1200	1200J	930	1500
Ethene	ug/L	900	3500D	280	1100	4100D	370	<100	<200U	<200	<250	<250	1600	690	<250	1000	<250J	220	430
Chloride	mg/L	---	---	---	---	---	---	---	---	---	822	711	---	---	---	---	---	---	---
TOC	mg/L	---	---	---	---	---	1010	630	124	144	109	183	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	$<2.4 \times 10^1$	5.1×10^1	1.2×10^3	1.5×10^5	3.1×10^5	$<3.1 \times 10^1$	$<3.1 \times 10^1$	$<7.7 \times 10^1$	$<3.1 \times 10^1$	8.8×10^3	1.5×10^4	2.7×10^5	1.2×10^5	2.5×10^4	5.6×10^5	9.0×10^3	$<6.4 \times 10^1$	3.3×10^3
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																			
pH	--	---	6.71	7.17	---	---	---	6.3	6.55	---	6.83	6.87	6.51	6.51	---	---	---	---	---
ORP	mV	---	-163.4	-113.6	---	---	---	-111.7	-118.1	---	-168.2	-143.3	-116	-105.1	---	---	---	---	---
Dissolved Oxygen	mg/L	---	0.62	0.55	---	---	---	0.15	0.22	---	0.52	0.74	0.74	0.31	---	---	---	---	---
Specific Conductivity	ms/cm	---	3.207	0.636	---	---	---	2.362	1.725	---	3.53	3.435	7.494	5.223	---	---	---		---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	MW-009 4/8/2014	MW-009 8/6/2014	OB-09-BR 1/14/2009	OB-09-BR 4/9/2009	OB-09-BR 7/14/2009	OB-09-BR 10/28/2009
Dissolved Metals																		
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	1.5	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	0.166	0.24	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	<2.0	<2.0	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.50	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.50	---	---
Metabolic Acids																		
Acetic acid	mg/L	6	<1.0U	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	<1.0	<1.0	<1.0	1.1
Lactic Acid	mg/L	<1.0	<1.0U	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	<1.0	<1.0	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	<2.0U	<2.0	<2.0	<2.0	---	---	---	---	---	---	---	---	<2.0	<2.0	---	<2.0
Propionic acid	mg/L	1.6	<1.0U	<1.0	<1.0	<1.0	---	---	---	---	---	---	---	---	<1.0	<1.0	<1.0	<1.0
Pyruvic Acid	mg/L	<0.50	<0.50U	<0.50	<0.50	<0.50	---	---	---	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50
Miscellaneous Analyses																		
Methane	ug/L	24000	15000	9500	17000D	16000	16000	20000	23000	15000	15000	12000	13000	9600	210	12000	170	500
Ethane	ug/L	1900	1400	830	1900	2000	2500	2600	2200	1200	1000	690	670	540	<2.5	<200	<2.5	<5.0
Ethene	ug/L	910	1400	1100	2000	1200	1600	2700	6800	5400	3000	4000	5300	1500	4.5	<200	6.4	8.4
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	16	20	---	---
TOC	mg/L	---	---	---	---	---	28000	11900	7200	5800	1910	1370	1110	890	6.5	4.1	---	---
Dehalococcoides sp.	cells/ml	1.5×10^5	2.1×10^2	---	$<4.0 \times 10^1$	$<3.7 \times 10^1$	$<3.3 \times 10^3$	$<1.0 \times 10^1$	$<3.3 \times 10^3$	$<3.3 \times 10^3$	2.0×10^5	---	19J	---	2.7×10^4	$<3.2 \times 10^1$	8.5×10^3	1.8×10^4
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	7.17	7.07	7.05		---	---	---	5.43	---	6.06	6.26	---	---	9.18	7.69	7.91	8.83
ORP	mV	-368	-169.8	-128.4		---	---	---	12	---	41.3	-89.2	---	---	-335.4	-156	-323	-415.7
Dissolved Oxygen	mg/L	0.59	0.2	0.39		---	---	---	1.56	---	0.89	0.78	---	---	1.2	0.36	0.11	0.86
Specific Conductivity	ms/cm	5.494	4.105	2.545		---	---	---	3.539	---	5.052	4.527	---	---	0.111	0.136	0.139	0.144

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-BR 1/28/2010	OB-09-BR 4/22/2010	OB-09-BR 7/14/2010	OB-09-BR 10/12/2010	OB-09-BR 1/5/2011	OB-09-BR 4/6/2011	OB-09-BR 7/28/2011	OB-09-BR 10/25/2011	OB-09-BR 1/18/2012	OB-09-BR 4/3/2012	OB-09-BR 8/21/2012	OB-09-BR 11/28/2012	OB-09-BR 2/6/2013	OB-09-BR 4/11/2013	OB-09-DO 1/13/2009	OB-09-DO 4/9/2009	OB-09-DO 4/27/2009	OB-09-DO 7/14/2009
Dissolved Metals																			
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.100	<0.10	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.0100	<0.010	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.4	4.7	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.12	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1.63	---	---
Metabolic Acids																			
Acetic acid	mg/L	<1.0	<1.0	2.7J	2.4	6	2.8	8.6	1.5	110	6.2	---	---	---	---	<1.0	---	<1.0	<1.0
Lactic Acid	mg/L	<1.0	<1.0	<1.0J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	---	<1.0	---	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	<2.0	<2.0J	<2.0	<2.0	<2.0	<2.0	<2.0	2.7	<2.0	---	---	---	---	<2.0	---	<2.0	---
Propionic acid	mg/L	<1.0	<1.0	1.3J	<1.0	<1.0	<1.0	<1.0	<1.0	58	<1.0	---	---	---	---	<1.0	---	<1.0	<1.0
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	<0.50	---	<0.50	<0.50
Miscellaneous Analyses																			
Methane	ug/L	170	340	560DJ	490	1300D	720	1600D	1200	660	1700D	2500D	2100	2300	1800	<2.0	10000	---	2100
Ethane	ug/L	<2.0	<5.0	<5.0J	<10	<10	<10	<10	<20	<10	<10	<20	<50	<25U	<25	<1.0	320	---	130
Ethene	ug/L	3	8.1	16J	13	28	20	34	<20	11	42	66	57	64	58	<1.0	370	---	73
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	32.6	44.6	---	---
TOC	mg/L	---	---	---	---	---	---	---	---	---	---	12.3	13.2	10.3	11.5	5.7	4.4	---	---
Dehalococcoides sp.	cells/ml	<6.7 x 10^1	<3.1 x 10^4	---	---	3.6 x 10^3	---	---	---	1.5 x 10^3	---	---	---	---	---	<2.0 x 10^1	<1.0 x 10^1	---	3.0 x 10^5
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																			
pH	--	7.48	---	8.51	7.65	8.51	8.10	---	---	---	---	---	---	7.53	---	6.48	6.22	6.52	6.95
ORP	mV	-174	---	-63	-311	-405.5	-363	---	---	---	---	---	---	-172.1	---	7.6	-41	37.9	-126
Dissolved Oxygen	mg/L	0.36	---	0.26	0.31	0.67	0.31	---	---	---	---	---	---	0.4	---	0.77	0.14	0.34	0.12
Specific Conductivity	ms/cm	0.146	---	0.157	0.17	0.173	0.190	---	---	---	---	---	---	0.31	---	0.105	0.233	0.161	0.21

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	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
Dissolved Metals																			
Iron	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	16	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<2.0	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.50	---	---
Metabolic Acids																			
Acetic acid	mg/L	2.8	<1.0	72	4.0J	3.7	1.5	1.2	2.1	7.8	1.4	<1.0	---	---	---	---	---	150	660
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	---	---	<1.0	<20
n-Butanoic acid	mg/L	<2.0	<2.0	2.5	<2.0J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	---	---	---	---	31	---
Propionic acid	mg/L	<1.0	<1.0	140	<1.0J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---	---	---	230	1700
Pyruvic Acid	mg/L	<0.50	<0.50	<0.50	<0.50J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	<0.50	<10
Miscellaneous Analyses																			
Methane	ug/L	610	180	4500	13000DJ	3000	12000D	3000	600	1800D	1200	1200	1800	330	240	840D	10000	---	10000
Ethane	ug/L	16	<2.0	140	240J	80	410	100	<10	<10	<25	<20	<20	<5.0	<5.0U	<5.0	<200	---	<200
Ethene	ug/L	31	<2.0	110	210J	57	330	80	11	37	<25	<20	<20	<5.0	<5.0U	5.6	4300	---	2000
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	122	---	---
TOC	mg/L	---	---	---	---	---	---	---	---	---	---	---	29.7	8.8	6.4	5.5	231	---	---
Dehalococcoides sp.	cells/ml	3.5×10^5	5.1×10^3	6.1×10^5	---	---	2.4×10^5	---	---	---	1.8×10^5	---	---	---	---	---	---	1.0×10^4	9.6×10^5
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																			
pH	--	6.69	6.52	---	6.71	6.75	6.82	6.43	---	---	---	---	---	6	6.54	---	6.43	6.43	6.3
ORP	mV	-130.7	-65	---	-34	-135	-171.6	-390	---	---	---	---	---	-99.2	-16.1	---	-126	-106.4	-100
Dissolved Oxygen	mg/L	0.32	0.26	---	0.19	0.27	0.32	0.16	---	---	---	---	---	0.15	2.26	---	0.53	0.24	0.17
Specific Conductivity	ms/cm	0.226	0.124	---	0.266	0.259	0.225	0.105	---	---	---	---	---	0.212	0.112	---	14	11.583	10.859

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-S 10/28/2009	OB-09-S 1/28/2010	OB-09-S 4/22/2010	OB-9-S 7/14/2010	OB-09-S 10/12/2010	OB-09-S 1/5/2011	OB-09-S 4/5/2011	OB-09-S 7/28/2011	OB-09-S 10/25/2011	OB-09-S 1/18/2012	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
Dissolved Metals																		
Iron	mg/L	---		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Metabolic Acids																		
Acetic acid	mg/L	92	53	310	160J	250	870	390	940	360	<1.0	54	---	---	---	---	---	---
Lactic Acid	mg/L	<1.0	<1.0	290	220J	<2.0	<10	<5.0	<10	<2.0	<1.0	<1.0	---	---	---	---	---	---
n-Butanoic acid	mg/L	16	9	100	17J	8.5	270	100	48	74	<2.0	<2.0	---	---	---	---	---	---
Propionic acid	mg/L	110	57	830	210J	170	1700	510	1100	300	<1.0	19	---	---	---	---	---	---
Pyruvic Acid	mg/L	<0.50	<0.50	<2.5	<1.0J	<1.0	<5.0	<2.5	<5.0	<1.0	<0.50	<0.50	---	---	---	---	---	---
Miscellaneous Analyses																		
Methane	ug/L	3700	12000	12000	13000J	9000	25000D	25000	21000D	18000	18000	27000D	13000	15000	21000D	18000	10000	16000D
Ethane	ug/L	<50	320	<200	240J	370	470	<500	330	290	310	690	<200	<200	<200U	<200	<200	170
Ethene	ug/L	580	820	1300	1700J	290	1000	1000	<200	<250	<250	<250	<200	<200	<200U	<200	<200	<130
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	---	---	---	---	---	---	---	---	---	---	---	210	32.7	23	34.9	81	28.1
Dehalococcoides sp.	cells/ml	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}	4.9×10^{5}	4.8×10^{4}	6.4×10^{5}	$<3.3 \times 10^{3}$	$<9.1 \times 10^{1}$	$<9.7 \times 10^{1}$	$<1.2 \times 10^{2}$	$<6.8 \times 10^{1}$	---
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
pH	--	---	6.45	---	6.42	6.3	6.16	6.8	---	---	---	---	---	5.8	6.43	---	6.52	6.65
ORP	mV	-102	-102	---	-43	-98	-144.9	-367	---	---	---	---	---	-62.2	-77.9	---	-34.8	-90.8
Dissolved Oxygen	mg/L	0.31	1.49	---	0.44	0.19	0.40	0.54	---	---	---	---	---	0.08	0.3	---	3.11	0.93
Specific Conductivity	ms/cm	7.857	12.945	---	6.045	6.144	---	11.86	---	---	---	---	---	0.276	1.539	---	2.151	1.88

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	OB-09-S 1/21/2014	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	OB-15-S 1/17/2012
Dissolved Metals											
Iron	mg/L	---	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---
Metabolic Acids											
Acetic acid	mg/L	---	---	180	<1.0	12	12	120	670	230	57
Lactic Acid	mg/L	---	---	420	<1.0	490	<1.0	<1.0	<10	<2.0	<1.0
n-Butanoic acid	mg/L	---	---	---	<2.0	<10	<2.0	4.6	120	37	<2.0
Propionic acid	mg/L	---	---	310	<1.0	24	11	110	1200	310	31
Pyruvic Acid	mg/L	---	---	<1.3U	<0.50	<2.5	<0.50	<0.50	<5.0	<1.0	<0.50
Miscellaneous Analyses											
Methane	ug/L	15000	14000	55	92	390	5400D	12000D	8100	11000D	21000D
Ethane	ug/L	<250	<250	<1.0U	<1.0	<5.0	<5.0	150	<100	210	400
Ethene	ug/L	<250	<250	90	24	170	540D	210	230	480	160
Chloride	mg/L	---	---	---	---	---	---	---	---	---	---
TOC	mg/L	26.4	29.8	---	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	---	---	8.5×10^{4}	5.2×10^{3}	$<7.7 \times 10^{1}$	8.8×10^{4}	1.1×10^{5}	6.1×10^{1}	1.8×10^{7}	$<6.6 \times 10^{1}$
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---
Field Parameters											
pH	--	---	---	6.64	---	---	---	---	6.29	6.52	6.52
ORP	mV	---	---	-163	---	---	---	---	-145	-94.2	-94.2
Dissolved Oxygen	mg/L	---	---	0.37	---	---	---	---	0.24	0.41	0.41
Specific Conductivity	ms/cm	---	---	9.071	---	---	---	---	14.038	3.543	3.543

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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	OB-15-S 4/8/2014	OB-15-S 8/6/2014	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	STR-03 1/5/2011
Dissolved Metals																			
Iron	mg/L	---	---	---	---	---	---	---	---	---	1.44	3.5	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---	0.577	2.6	---	---	---	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---	32.6	22	---	---	---	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---	1.58	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---	---	0.86	---	---	---	---	---	---	---
Metabolic Acids																			
Acetic acid	mg/L	9.4	---	---	---	---	---	---	---	---	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	1.5J	<1.0	<1.0
Lactic Acid	mg/L	<1.0	---	---	---	---	---	---	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J	<1.0	<1.0
n-Butanoic acid	mg/L	<2.0	---	---	---	---	---	---	---	---	<2.0	<2.0	---	<2.0	<2.0	<2.0	<2.0J	<2.0	<2.0
Propionic acid	mg/L	<1.0	---	---	---	---	---	---	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0J	<1.0	<1.0
Pyruvic Acid	mg/L	<0.50	---	---	---	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50J	<0.50	<0.50
Miscellaneous Analyses																			
Methane	ug/L	21000	21000	18000	24000	15000	13000	12000	11000	15000D	20	39	270	4.5	24	46	4.3J	<2.0	5.5
Ethane	ug/L	370	300	300	280	280	340	310	340	440	<1.0	1.3	13	<1.0	1.1	1.5	<1.0J	<1.0	<1.0
Ethene	ug/L	310	280	<250	<250U	<250	<250U	210	160	<130	<1.0	6.2	13	<1.0	3.6	3.5	<1.0J	<1.0	<1.0
Chloride	mg/L	---	---	---	---	---	---	---	---	---	1790	1320	---	---	---	---	---	---	---
TOC	mg/L	---	1750	1670	620	543	187	59	17.5	36.5	1.7	1.6	---	---	---	---	---	---	---
Dehalococcoides sp.	cells/ml	7.5×10^5	$<3.3 \times 10^3$	$<1.7 \times 10^2$	$<1.1 \times 10^2$	1.1×10^5	$<8.6 \times 10^1$	---	<150	---	$<1.0 \times 10^1$	5.9×10^2	$<1.0 \times 10^1$	2.0×10^4	5.2×10^3	$<2.2 \times 10^1$	4.2×10^3	$<6.4 \times 10^1$	1.6×10^3
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																			
pH	--	---	---	---	6.48	---	6.65	6.61	---	---	---	---	---	---	---	---	---	---	---
ORP	mV	---	---	---	-96.5	---	-105.2	-40.3	---	---	---	---	---	---	---	---	---	---	---
Dissolved Oxygen	mg/L	---	---	---	0.99	---	0.2	2.09	---	---	---	---	---	---	---	---	6.05	8.02	---
Specific Conductivity	ms/cm	---	---	---	2.18	---	2.505	1.046	---	---	---	---	---	---	---	---	---	---	---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	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
Dissolved Metals												
Iron	mg/L	---	---	---	---	---	47.8	22	---	---	---	---
Manganese	mg/L	---	---	---	---	---	6.89	6.1	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	20.8	20.7	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	<0.50	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	<0.50	---	---	---	---
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
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
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
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
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
Miscellaneous Analyses												
Methane	ug/L	2	5	49	170D	7.7	470	240	240	2300	360	260
Ethane	ug/L	<1.0	<1.0	2.5	10	<1.0	37	15	14	110	31	11
Ethene	ug/L	<1.0	<1.0	7.8	36	<1.0	37	24	65	61	70	46
Chloride	mg/L	---	---	---	---	---	1460	1170	---	---	---	---
TOC	mg/L	---	---	---	---	---	16.7	3.7	---	---	---	---
Dehalococcoides sp.	cells/ml	3.1×10^3	$<1.0 \times 10^1$	4.8×10^3	1.5×10^4	---	6.7×10^3	3.8×10^2	1.2×10^5	2.1×10^4	9.7×10^2	$<2.2 \times 10^1$
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---	---	---
Field Parameters											---	
pH	--	---	---	---	---	---	---	---	---	---	---	---
ORP	mV	---	---	---	---	---	---	---	---	---	---	---
Dissolved Oxygen	mg/L	10.12	2.87	---	---	---	---	---	---	---	---	---
Specific Conductivity	ms/cm	---	---	---	---	---	---	---	---	---	---	---

TABLE 5
Water Quality Data
Bioremediation Parameters
2009 to Present
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

CONSTITUENT	UNITS	UNNAMED STREAM 10/12/2010	UNNAMED STREAM 1/4/2011	UNNAMED STREAM 4/5/2011	UNNAMED STREAM 10/25/2011	UNNAMED STREAM 1/17/2012	UNNAMED STREAM 4/3/2012	UNNAMED STREAM 8/21/2012	UNNAMED STREAM 2/6/2013	UNNAMED STREAM 4/11/2013
Dissolved Metals										
Iron	mg/L	---	---	---	---	---	---	---	---	---
Manganese	mg/L	---	---	---	---	---	---	---	---	---
Sulfate	mg/L	---	---	---	---	---	---	---	---	---
Nitrate	mg/L	---	---	---	---	---	---	---	---	---
Nitrate/Nitrogen	mg/L	---	---	---	---	---	---	---	---	---
Metabolic Acids										
Acetic acid	mg/L	4.5	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---
Lactic Acid	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---	---	---
n-Butanoic acid	mg/L	<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	---	---	---
Pyruvic Acid	mg/L	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	---
Miscellaneous Analyses										
Methane	ug/L	<2.0	780D	290	620D	200	350D	160	540D	370D
Ethane	ug/L	<1.0	57	19	52	12	26	14	33	17
Ethene	ug/L	<1.0	61	21	32	9.6	49	55	100	35
Chloride	mg/L	---	---	---	---	---	---	---	---	---
TOC	mg/L	---	---	---	---	---	---	16.2	4.5	13.8
Dehalococcoides sp.	cells/ml	1.6×10^{3}	5.2×10^{2}	$<1.0 \times 10^{1}$	1.4×10^{5}	$<4.0 \times 10^{1}$	4.5×10^{3}	$<5.0 \times 10^{1}$	$<5.9 \times 10^{4}$ J	$<1.1 \times 10^{1}$
Dehalococcoides sp.	(1)	---	---	---	---	---	---	---	---	---
Dehalococcoides sp.	(2)	---	---	---	---	---	---	---	---	---
Mn Degraders	(3)	---	---	---	---	---	---	---	---	---
Field Parameters										
pH	--	---	---	---	---	---	---	---	---	---
ORP	mV	---	---	---	---	---	---	---	---	---
Dissolved Oxygen	mg/L	8.48	---	4.39	---	---	---	---	---	---
Specific Conductivity	ms/cm	---	---	---	---	---	---	---	---	---

Notes:
< = Less than detection limit
--- = Not Sampled
mg/L = Milligrams per liter
ug/L = Micrograms per liter
mV = Millivolt
ms/cm = Millisiemen per centimeter
TOC = total organic carbon
cells/ml = cells per milliliter
D = Result reported is from a diluted sample
Field parameter results reported are from the closest date to the analytical sampling
(1) = results from RNA analysis
(2) = results from biotraps analysis by Microbial Insights (cells/grams of beads)
(3) = results from biotraps 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 6
Permanganate Concentrations in Groundwater
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	April 2011		October-November 2011		April 2012		November 2012		April-May 2013		October 2013		April 2014	
Well ID	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)	NaMnO4 Result (mg/L)	Result (percent)
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	ND(<0.1)	NA
AP-12-DO	0.3	0.00003	ND(<0.2)	NA	0.2	0.00002	9,100	0.910	17,000	1.700	180	0.018	1.5	0.00015
AP-12-S	---	---	---	---	ND(<0.2)	NA	---	---	0.5	0.00005	---	---	---	---
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	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	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	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	110	0.011
AP-26-DO	---	---	ND(<0.2)	NA	ND(<0.2)	NA	17.0	0.00170	ND(<0.2)	NA	12	0.001	5.6	0.00056
AP-27-DO	---	---	0.4	0.00004	ND(<0.2)	NA	57.0	0.00570	0.3	0.00003	ND(<0.1)	NA	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	5.0	0.0005
AP-32-DO	3.7	0.00037	ND(<0.2)	NA	0.2	0.00002	---	---	ND(<0.2)	NA	590	0.059	240	0.0240
B-2	---	---	---	---	---	---	ND(<0.2)	NA	---	---	---	---	---	---
BR-5_ZONE3	---	---	---	---	---	---	---	---	---	---	---	---	ND(<0.1)	NA
CL03-DO	---	---	---	---	---	---	---	---	---	---	---	---	0.7	0.00007
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	430	0.0430
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	57.0	0.00570
OB-05-DO	---	---	---	---	---	---	---	---	---	---	---	---	2.5	0.00025
OB-06-DO	---	---	---	---			---	---			---	---	0.3	0.00003
OB-10-S	87	0.0087	---	---	---	---	---	---	---	---	---	---	---	---
OB-12-DO	---	---	190	0.01903	ND(<0.2)	NA	2,000	0.200	47.0	0.0047	ND(<0.1)	NA	1.3	0.00013
OB-19-DO	---	---	ND(<0.2)	NA	---	---	---	---	ND(<0.2)	NA	ND(<0.1)	NA	1.9	0.00019
OB-25-BR	9,200	0.9	---	---	ND(<0.2)	NA	17,000	1.700	1,200	0.120	ND(<0.1)	NA	0.2	0.00002
OB-26-BR	---	---	---	---	0.2	0.00002	12,000	1.200	ND(<0.2)	NA	ND(<0.1)	NA	---	---
OB-26-DO	---	---	---	---	---	---			---	---	---	---	---	---
OB-27-BR	14,000	1.4	1,500	0.1500	5,700	0.570	---	---	2,000	0.200	1200	0.120	1030	0.1030
OB-28-BR	15	0.0015	---	---	ND(<0.2)	NA	---	---	0.5	0.00005	---	---	---	---
OB-32-DO	1,200	0.1	670	0.0670	630.0	0.063	470	0.047	300	0.030	180	0.018	150	0.0150
OB-34-DO	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	14.0	0.00140
OB-36-DO	ND(<0.1)	NA	---	---	0.3	0.00003	ND(<0.2)	NA	---	---	---	---	5300	0.5300
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	ND(<0.1)	NA

Notes:

Color Key:

Sample Dark Purple	No color indicates groundwater sample was clear
Sample Medium Purple	--- = sample not collected
Sample Light Purple	ND (<0.2) = Not detected at estimated detection limit.
Sample Pink	NA = Not applicable or value does not appear when reporting to 2 significant figures.
Sample Pale Pink	mg NaMnO4/L = milligrams of sodium permanganate per liter
Light Brown	

Table 7
Permanganate Injection Volume
2014 Treatment Program
Former Varian Facility Site
150 Sohier Road
Beverly, MA

Location	Sodium Permanganate Injection Volume (in gallons of 20% solution)	
	Total Injection Volume During This Reporting Period [1]	Planned Injection Volume 2014 Treatment Program
OB12-DO	395	380
OB25-BR	400	370
OB35-DO	77.25	75
AP-19	100	100
AP-20	100	100
AP-21	100	100
AP-22	100	100
Total	**1272.25**	**1225**

Notes:
1 - Injections conducted from July 23, 2014 through September 10, 2014

TABLE 8
Sub-Sab Soil Vapor Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG2-SV1	BLDG2-SV2	BLDG3-VP1											BLDG3-VP2				
CONSTITUENT (ug/m3)	4/10/2014 (2)	4/10/2014 (2)	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	4/29/2014 (2)	11/7/2012	3/29/2013	8/5/2013	11/1/2013	4/29/2014 (2)
1,1,1-Trichloroethane	<11000	<20	<19	<4.2	<26	<14	<13	<30	<17	<5.7	<45	<11	<260	<13	<9.5	<1.8	<2.0	<130
1,1,2,2-Tetrachloroethane	<2900	<4.9	<4.7	<1.1	<6.5	<3.4	<3.3	<7.4	<4.2	<1.4	<11	<2.6	<66	<3.2	<2.4	<0.44	<0.50	<32
1,1,2-Trichloroethane	<11000	<20	<19	<4.2	<26	<14	<13	<30	<17	<5.7	<45	<11	<260	<13	<9.5	<1.8	<2.0	<130
1,1-Dichloroethane	<8600	<15	<14	<3.2	<20	<10	<10	<22	<13	<4.3	<34	<7.9	<200	<9.7	<7.2	<1.3	<1.5	<95
1,1-Dichloroethene	<8400	<14	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<7.7	<190	<9.5	<7.0	<1.3	<1.5	<93
1,2-Dibromoethane (EDB)	---	---	---	---	<7.4	<3.8	<3.8	<8.4	---	---	---	---	<74	---	---	---	---	<36
1,2-Dichlorobenzene	---	---	---	---	<57	<30	<29	<66	---	---	---	---	<580	---	---	---	---	<280
1,2-Dichloroethane	<8600	<15	<14	<3.2	<20	<10	<10	<22	<13	<4.3	<34	<7.9	<200	<9.7	<7.2	<1.3	<1.5	<95
1,2-Dichloropropane	<9700	<17	<16	<3.6	<22	<12	<11	<25	<14	<4.8	<38	<9.0	<220	<11	<8.1	<1.5	<1.7	<110
1,3-Dichlorobenzene	---	---	---	---	<57	<30	<29	<66	---	---	---	---	<580	---	---	---	---	<280
1,4-Dichlorobenzene	---	---	---	---	<57	<30	<29	<66	---	---	---	---	<580	---	---	---	---	<280
1,4-Dioxane	---	---	---	---	---	<110	<110	<250	---	---	---	---	<2200	---	---	---	---	<1100
2-Butanone	---	---	---	---	<28	<15	15	<32	---	---	---	---	<280	---	---	---	---	<140
2-Hexanone	---	---	---	---	<20	<10	<10	<22	---	---	---	---	<200	---	---	---	---	<95
4-Methyl-2-pentanone	---	---	---	---	<39	<20	<20	<45	---	---	---	---	<390	---	---	---	---	<190
Acetone	<95000	<160	---	---	800	110	140	<250	150	120	<380	120	<2200	360	320	220D	140D	<1100
Benzene	---	---	---	---	<15	<7.9	<7.8	<17	---	---	---	---	<150	---	---	---	---	<74
Bromodichloromethane	<2900	<4.9	<4.7	<1.1	<6.5	<3.4	<3.3	<7.4	<4.2	<1.4	<11	<2.6	<66	<3.2	<2.4	<0.44	<0.50	<32
Bromoform	<22000	<37	<36	<8.0	<50	<26	<25	<57	<32	<11	<86	<20	<500	<25	<18	<3.4	<3.8	<240
Bromomethane	<8200	<14	<14	<3.0	<19	<9.7	<9.5	<21	<12	<4.1	<32	<7.6	<190	<9.2	<6.8	<1.3	<1.4	<91
Carbondisulfide	---	---	---	---	<15	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbontetrachloride	<1300	<2.3	<2.2	0.64	<3.0	<1.6	<1.6	<3.5	<2.0	<0.66	<5.3	<1.2	<31	<1.5	<1.1	0.52	0.54	<15
Chlorobenzene	<9700	<17	<16	<3.6	<22	<12	<11	<25	<14	<4.8	<38	<9.0	<220	<11	<8.1	<1.5	<1.7	<110
Chloroethane	<11000	<19	<18	<4.1	<25	---	---	---	<16	<5.5	<44	<10	---	<12	<9.2	2.5	<1.9	---
Chloroform	<10000	<18	<17	4.4	29	22	17	29	<15	9.5	<41	16	<240	19	13	25	14	<110
Chloromethane	<8600	<15	<14	<3.2	<20	---	---	---	<13	<4.3	<34	<7.9	---	<9.7	<7.2	<1.3	<1.5	---
cis-1,2-Dichloroethene	<8400	<14	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<7.7	<190	<9.5	<7.0	<1.3	<1.5	<93
cis-1,3-Dichloropropene	<19000	<33	<31	<7.0	<44	<23	<22	<50	<28	<9.5	<75	<18	<440	<22	<16	<3.0	<3.3	<210
Dibromochloromethane	<3600	<6.2	<6.0	<1.3	<8.3	<4.3	<4.2	<9.4	<5.3	<1.8	<14	<3.3	<83	<4.1	<3.0	<0.56	<0.63	<40
Dichloromethane	<7200	<12	<12	<2.7	<17	<8.6	<8.4	<19	<11	<3.6	<29	<6.7	<170	<8.2	<6.0	<1.1	<1.3	<81
Ethylbenzene	---	---	---	---	160	240	150	120	79	26	---	---	<420	24	<15	---	---	<200
Freon 113	---	---	---	---	<7.4	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	---	---	<68	<66	<150	---	---	---	---	<1300	---	---	---	---	<640
Methyltert-butylether	---	---	---	---	<34	<18	<18	<39	---	---	---	---	<350	---	---	---	---	<170
Naphthalene	---	---	---	---	---	<45	<44	<99	---	---	---	---	<880	---	---	---	---	<420
Styrene	---	---	---	---	<41	<21	<21	<47	---	---	---	---	<410	---	---	---	---	<200
Tetrachloroethene	1200000	11	1600	480	2100	2100D	1100	2100	1300	500	3200	1000	19000	61	26	130	31	9600
Toluene	---	---	---	---	<18	<9.3	<9.1	<20	---	---	---	---	<180	---	---	---	---	<87
trans-1,2-Dichloroethene	<8400	<14	<14	<3.1	<19	<10	<9.7	<22	<12	<4.2	<33	<7.7	<190	<9.5	<7.0	<1.3	<1.5	<93
Trans-1,3-Dichloropropene	<9500	<16	<16	<3.5	<22	<11	<11	<25	<14	<4.7	<38	<8.8	<220	<11	<8.0	<1.5	<1.7	<110
Trichloroethene	48000	31	510	130	1500	630	350	810	320	150	670	290	960	12	11	25	11	820
Trichlorofluoromethane	<12000	<20	<19	<4.4	<27	---	---	---	<17	<5.9	<47	<11	---	<13	<9.9	<1.8	<2.1	---
Vinyl acetate	---	---	---	---	<220	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	<1100	<2.0	<1.9	<0.42	<2.6	<1.4	<1.3	<3.0	<1.7	<0.57	<4.5	<1.1	<26	<1.3	<0.95	<0.18	<0.20	<13
m/p-xylene	---	---	---	---	610	990	600	480	340	100	---	---	<840	86	<30	---	---	<410
o-Xylene	---	---	---	---	57	87	57	<47	37	14	---	---	<420	32	<15	---	---	<200
Xylene (total)	---	---	---	---	670	1100	660	480	380	110	---	---	<840	120	<30	---	---	<410

TABLE 8
Sub-Sab Soil Vapor Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG3-VP3												BLDG3-VP5			
CONSTITUENT (ug/m3)	**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**	**4/29/2014 (2)**	**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	<26	<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	<6.5	<810	<430	<340	<46
1,1,2-Trichloroethane	<400	<39	<290	<260	<19	<67	<71	<19	<10	<7.7	<12	<26	<3200	<1700	<1400	<180
1,1-Dichloroethane	<300	<29	<220	<200	<14	<50	<53	<14	<7.9	<5.8	<8.7	<19	<2400	<1300	<1000	<140
1,1-Dichloroethene	<290	<29	<210	<190	<14	<49	<52	<14	<7.7	<5.6	<8.5	<19	<2400	<1200	<1000	<140
1,2-Dibromoethane (EDB)	---	---	<81	<74	---	<19	<20	---	---	---	---	<7.3	---	<480	<390	---
1,2-Dichlorobenzene	---	---	<630	<570	---	<150	<160	---	---	---	---	<57	---	<3700	<3000	---
1,2-Dichloroethane	<300	<29	<220	<200	<14	<50	<53	<14	<7.9	<5.8	<8.7	<19	<2400	<1300	<1000	<140
1,2-Dichloropropane	<340	<33	<240	<220	<16	<57	<60	<16	<8.9	<6.5	<9.9	<22	<2800	<1400	<1200	<160
1,3-Dichlorobenzene	---	---	<630	<570	---	<150	<160	---	---	---	---	<57	---	<3700	<3000	---
1,4-Dichlorobenzene	---	---	<630	<570	---	<150	<160	---	---	---	---	<57	---	<3700	<3000	---
1,4-Dioxane	---	---	---	<2200	---	<560	<590	---	---	---	---	<220	---	<14000	<11000	---
2-Butanone	---	---	<310	<280	---	<73	<77	---	---	---	---	<28	---	<1800	<1500	---
2-Hexanone	---	---	<220	<200	---	<50	<53	---	---	---	---	<19	---	<1300	<1000	---
4-Methyl-2-pentanone	---	---	<430	<390	---	<100	<110	---	---	---	---	<39	---	<2600	<2000	---
Acetone	---	---	<2400	<2200	1300	<560	<590	260	140	160	160	<220	<27000	<14000	<11000	<1500
Benzene	---	---	<170	<150	---	<39	<41	---	---	---	---	<15	---	<990	<790	---
Bromodichloromethane	<100	<9.8	<72	<65	<4.7	<17	<18	<4.8	<2.6	<1.9	<2.9	<6.5	<810	<430	<340	<46
Bromoform	<760	<74	<550	<490	<36	<130	<130	<36	<20	<15	<22	<49	<6200	<3200	<2600	<350
Bromomethane	<290	<28	<210	<190	<14	<48	<51	<14	<7.5	<5.5	<8.3	<19	<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	<3.0	<380	<200	<160	<22
Chlorobenzene	<340	<33	<240	<220	<16	<57	<60	<16	<8.9	<6.5	<9.9	<22	<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	24	<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	20	<2400	<1200	<1000	<140
cis-1,3-Dichloropropene	<670	<65	<480	<430	<31	<110	<120	<32	<17	<13	<19	<43	<5400	<2800	<2300	<310
Dibromochloromethane	<130	<12	<91	<82	<6.0	<21	<22	<6.1	<3.3	<2.4	<3.7	<8.2	<1000	<540	<430	<59
Dichloromethane	<250	<25	<180	<160	<12	<42	<45	<12	<6.6	<4.9	<7.3	<16	<2100	<1100	<860	<120
Ethylbenzene	---	---	<460	<410	<30	<110	<110	<30	<17	---	---	<41	120000	60000	36000	8100
Freon 113	---	---	130	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	<1300	---	<340	<360	---	---	---	---	<130	---	<8500	<6800	---
Methyltert-butylether	---	---	<380	<340	---	<88	<93	---	---	---	---	<34	---	<2200	<1800	---
Naphthalene	---	---	---	<870	---	<220	<240	---	---	---	---	<86	---	<5700	<4500	---
Styrene	---	---	<450	<410	---	<100	<110	---	---	---	---	<40	---	<2700	<2100	---
Tetrachloroethene	36000	3000	51000	27000	410	4800	5000	2200	960	1200D	620	2000	<430	<230	350	62
Toluene	---	---	<200	<180	---	<46	<49	---	---	---	---	<18	---	<1200	<930	---
trans-1,2-Dichloroethene	<290	<29	<210	<190	<14	<49	<52	<14	<7.7	<5.6	<8.5	<19	<2400	<1200	<1000	<140
Trans-1,3-Dichloropropene	<330	<33	<240	<220	<16	<56	<59	<16	<8.7	<6.4	<9.7	<22	<2700	<1400	<1100	<150
Trichloroethene	3600	1000	4900	2100	42	640	620	600	390	380	270	460	<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	<2.6	<320	<170	<140	<18
m/p-xylene	---	---	<920	<830	<60	<210	<230	110	<33	---	---	<82	470000	240000	140000	40000D
o-Xylene	---	---	<460	<410	<30	<110	<110	38	<17	---	---	<41	47000	29000	18000	5700
Xylene (total)	---	---	<920	<830	<60	<210	<110	150	<33	---	---	<82	520000	270000	158000	46000D

TABLE 8
Sub-Sab Soil Vapor Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG3-VP6							BLDG3-VP7		BLDG6-SV1					
CONSTITUENT (ug/m3)	**8/5/2010**	**8/30/2010**	**11/22/2010**	**2/22/2011**	**6/27/2011**	**10/6/2011**	**1/10/2012**	**3/27/2012**	**4/10/2014 (2)**	**2/22/2011**	**6/3/2011**	**8/22/2011**	**10/6/2011**	**1/10/2012**	**4/10/2014 (2)**
1,1,1-Trichloroethane	<57	<17	<11	<1700	<990	<8600	<8200	<95	<8.4	<1200	<2300	<1100	<280	<1600	<640
1,1,2,2-Tetrachloroethane	<14	<4.2	<2.8	<420	<250	<2200	<2000	<24	<2.1	<300	<570	<270	<69	<400	<160
1,1,2-Trichloroethane	<57	<17	<11	<1700	<990	<8600	<8200	<95	<8.4	<1200	<2300	<1100	<280	<1600	<640
1,1-Dichloroethane	<43	<13	<8.5	<1300	<740	<6500	<6100	<71	<6.3	<890	<1700	<820	<210	<1200	<480
1,1-Dichloroethene	<42	<12	<8.3	<1200	<730	<6300	<6000	<69	<6.2	<870	<1700	<800	<200	<1200	<470
1,2-Dibromoethane (EDB)	---	<4.8	---	<480	<280	---	<2300	<27	---	<340	---	---	---	<450	---
1,2-Dichlorobenzene	---	<37	---	<3700	<2200	---	<18000	<210	---	<2600	---	---	---	<3500	---
1,2-Dichloroethane	<43	<13	<8.5	<1300	<740	<6500	<6100	<71	<6.3	<890	<1700	<820	<210	<1200	<480
1,2-Dichloropropane	<48	<14	<9.7	<1400	<840	<7300	<6900	<80	<7.1	<1000	<1900	<930	<230	<1300	<540
1,3-Dichlorobenzene	---	<37	---	<3700	<2200	---	<18000	<210	---	<2600	---	---	---	<3500	---
1,4-Dichlorobenzene	---	<37	---	<3700	<2200	---	<18000	<210	---	<2600	---	---	---	<3500	---
1,4-Dioxane	---	<140	---	---	<8300	---	<68000	<790	---	---	---	---	---	<13000	---
2-Butanone	---	<18	---	<1800	<1100	---	<8800	<100	---	<1300	---	---	---	<1700	---
2-Hexanone	---	<13	---	<1300	<740	---	<6100	<71	---	<890	---	---	---	<1200	---
4-Methyl-2-pentanone	---	<25	---	<2500	<1500	---	<12000	<140	---	<1800	---	---	---	<2400	---
Acetone	---	410	---	24000	<130000D	150000	<68000	<790	130	<9900	<19000	---	<2300	<13000	<5300
Benzene	---	<9.8	---	<980	<580	---	<4800	<55	---	<700	---	---	---	<920	---
Bromodichloromethane	<14	<4.2	<2.8	<420	<250	<2200	<2000	<24	1.6	<300	<570	<270	<69	<400	<160
Bromoform	<110	<32	<22	<3200	<1900	<16000	<16000	<180	<16	<2300	<4300	<2100	<520	<3000	<1200
Bromomethane	<41	<12	<8.1	<1200	<710	<6200	<5800	<68	<6.0	<850	<1600	<790	<200	<1100	<460
Carbondisulfide	---	---	---	<950	---	---	---	---	---	<680	---	---	---	---	---
Carbontetrachloride	<6.6	<2.0	<1.3	<200	<120	<1000	<950	<11	<0.98	<140	<270	<130	<32	<180	<75
Chlorobenzene	<48	<14	<9.7	<1400	<840	<7300	<6900	<80	<7.1	<1000	<1900	<930	<230	<1300	<540
Chloroethane	<55	---	<11	<1600	---	<8400	---	---	<8.1	<1200	<2200	<1100	<270	---	<620
Chloroform	<51	<15	<10	<1500	<890	<7800	<7300	<85	39	<1100	<2000	<990	<250	<1400	<570
Chloromethane	<43	---	69	<1300	---	<6500	---	---	<6.3	<890	<1700	<820	<210	---	<480
cis-1,2-Dichloroethene	<42	<12	<8.3	<1200	<730	<6300	<6000	<69	13	<870	<1700	<800	<200	<1200	<470
cis-1,3-Dichloropropene	<94	<28	<19	<2800	<1700	<14000	<14000	<160	<14	<2000	<3800	<1800	<460	<2600	<1100
Dibromochloromethane	<18	<5.3	<3.6	<530	<310	<2700	<2600	<30	<2.7	<380	<720	<350	<87	<500	<200
Dichloromethane	<36	<11	<7.2	<1100	<630	<5500	<5200	<60	<5.3	<750	<1400	<690	<170	<1000	<400
Ethylbenzene	---	40	---	190000D	300000D	200000	180000	4700	---	<1900	---	<1700	<440	<2500	---
Freon 113	---	---	---	<480	---	---	---	---	---	<340	---	---	---	---	---
Hexachlorobutadiene	---	<84	---	---	<5000	---	<41000	<470	---	---	---	---	---	<7900	---
Methyltert-butylether	---	<22	---	<2200	<1300	---	<11000	<120	---	<1600	---	---	---	<2100	---
Naphthalene	---	<56	---	---	<3300	---	<27000	<320	---	---	---	---	---	<5300	---
Styrene	---	<26	---	<2600	<1600	---	<13000	<150	---	<1900	---	---	---	<2500	---
Tetrachloroethene	8.9J	<2.2	<1.5	<220	<130	<1200	<1100	210	520	85000	130000	70000	32000	100000	48000
Toluene	---	<11	---	<1100	1000	---	<5600	<65	---	<810	---	---	---	<1100	---
trans-1,2-Dichloroethene	<42	<12	<8.3	<1200	<730	<6300	<6000	<69	<6.2	<870	<1700	<800	<200	<1200	<470
Trans-1,3-Dichloropropene	<47	<14	<9.5	<1400	<830	<7200	<6800	<79	<7.0	<990	<1900	<910	<230	<1300	<530
Trichloroethene	<5.7	<1.7	1.2	<170	<99	<860	<820	170	95	34000	45000	40000	14000	41000	22000
Trichlorofluoromethane	<59	---	<12	<1700	---	<8900	---	---	<8.7	<1200	<2400	<1100	<280	---	<660
Vinyl acetate	---	---	---	<14000	---	---	---	---	---	<9900	---	---	---	---	---
Vinyl chloride	<5.7	<1.7	<1.1	<170	<99	<860	<820	<9.5	<0.84	<120	<230	<110	<28	<160	<64
m/p-xylene	---	240	---	680000D	1100000D	700000	640000	15000D	---	<3800	---	<3500	<880	<5000	---
o-Xylene	---	<27	---	68000	100000D	62000	61000	1200	---	<1900	---	<1700	<440	<2500	---
Xylene (total)	---	240	---	748000D	1200000D	760000	700000	16000D	---	<3800	---	<3500	<880	<5000	---

Notes:

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

ug/m^3 = 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.

(2) = sample collected following scheduled temporary SVE system shutdown from 4/3/14 to 4/29/14

TABLE 9
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG2-6															
	Environmental Testing Room Building 2 Basement															
CONSTITUENT (ug/m3)	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	4/10/2014 (2)	4/29/2014 (2)
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	<1.0
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	<0.27	<0.26
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	<1.0
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	<0.80	<0.78
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	<0.79	<0.76
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---	<0.31	---	---	---	---	<0.29
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---	---	---	<2.3
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	<0.80	<0.78
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	<0.91	<0.88
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---	---	---	<2.3
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---	---	---	<2.3
1,4-Dioxane	---	---	---	---	---	---	---	---	---	---	<9.1	---	---	---	---	<8.6
2-Butanone	---	---	---	---	---	---	---	---	---	---	3.2	---	---	---	---	14
2-Hexanone	---	---	---	---	---	---	---	---	---	---	<0.82	---	---	---	---	<0.78
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	<1.6	---	---	---	---	4.1
Acetone	---	---	---	---	---	---	---	330	290	240	210D	160	340D	440	95D	75D
Benzene	---	---	---	---	---	---	---	---	---	---	<0.64	---	---	---	---	<0.60
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	<0.27	<0.26
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	<2.0	<2.0
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	<0.77	<0.74
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	0.48	0.49
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	<0.91	<0.88
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	<1.0	---
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	<0.97	<0.93
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	0.9	---
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	<0.79	<0.76
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	<1.8	<1.7
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	<0.34	<0.33
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	<0.68	<0.66
Ethylbenzene	---	---	---	---	---	---	---	<1.5	<2.3	<12	<1.7	<8.3	---	---	---	<1.6
Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	<5.5	---	---	---	---	<5.2
Methyltert-butylether	---	---	---	---	---	---	---	---	---	---	<1.4	---	---	---	---	<1.4
Naphthalene	---	---	---	---	---	---	---	---	---	---	<3.6	---	---	---	---	<3.5
Styrene	---	---	---	---	---	---	---	---	---	---	<1.7	---	---	---	---	<1.6
Tetrachloroethene	12	3.3	40	12	9	8.9	9.3	13	3.1	1.7	2.9	5.4	7.5	22	4.0	3.2
Toluene	---	---	---	---	---	---	---	---	---	---	1.8	---	---	---	---	1.3
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	<0.79	<0.76
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	<0.89	<0.86
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	0.96	0.55
Trichlorofluoromethane	<41	1.1	1.7	2.1	2	1.6	1.4	1.9	1.7	<7.9	---	<5.4	1.8	<18	1.3	---
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	<0.11	<0.10
m/p-xylene	---	---	---	---	---	---	---	<2.9	<4.5	<24	<3.5	<17	---	---	---	<3.3
o-Xylene	---	---	---	---	---	---	---	<1.5	<2.3	<12	<1.7	<8.3	---	---	---	<1.6
Xylene (total)	---	---	---	---	---	---	---	<2.9	<4.5	<24	<1.7	<17	---	---	---	<3.3

TABLE 9
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG2-7	BLDG3-1							
	Storage Room Building 2 Basement	Main Chemical Laboratory							
CONSTITUENT (ug/m3)	4/10/2014 (2)	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	<1.7	<75	<3.0	<4.6	<2.8	<1.5	<0.88	<0.91	<1.1
1,1,2,2-Tetrachloroethane	<0.43	<19	<0.74	<1.2	<0.70	<0.38	<0.22	<0.23	<0.27
1,1,2-Trichloroethane	<1.7	<75	<3.0	<4.6	<2.8	<1.5	<0.88	<0.91	<1.1
1,1-Dichloroethane	<1.3	<56	<2.2	<3.5	<2.1	<1.1	<0.66	<0.68	<0.82
1,1-Dichloroethene	<1.2	<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	<1.3	<56	<2.2	<3.5	<2.1	<1.1	<0.66	<0.68	<0.82
1,2-Dichloropropane	<1.4	<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	87D	---	---	---	---	---	---	---	300D
Benzene	---	---	---	---	---	---	---	---	<0.64
Bromodichloromethane	<0.43	<19	<0.74	<1.2	<0.70	<0.38	<0.22	<0.23	<0.27
Bromoform	<3.2	<140	<5.6	<8.8	<5.3	<2.9	<1.7	<1.7	<2.1
Bromomethane	<1.2	<53	<2.1	<3.3	<2.0	<1.1	<0.63	<0.65	<0.78
Carbontetrachloride	0.46	<8.7	0.36	<0.54	0.58	0.3	0.55	0.58	0.56
Chlorobenzene	<1.4	<63	<2.5	<3.9	<2.4	<1.3	<0.75	<0.78	<0.93
Chloroethane	<1.6	<72	<2.9	<4.5	<2.7	<1.5	<0.85	<0.88	---
Chloroform	<1.5	<67	<2.7	<4.2	<2.5	<1.4	<0.79	<0.82	<0.98
Chloromethane	<1.3	<56	<2.2	<3.5	<2.1	<1.1	1.1	1.2	---
cis-1,2-Dichloroethene	<1.2	<55	<2.2	<3.4	<2.0	<1.1	<0.65	<0.67	<0.80
cis-1,3-Dichloropropene	<2.8	<120	<4.9	<7.7	<4.7	<2.5	<1.5	<1.5	<1.8
Dibromochloromethane	<0.54	<24	<0.94	<1.5	<0.88	<0.48	<0.28	<0.29	<0.35
Dichloromethane	<1.1	<47	<1.9	<2.9	<1.8	0.96	2.5	<0.58	<0.59
Ethylbenzene	---	---	---	---	---	---	---	---	<1.7
Hexachlorobutadiene	---	---	---	---	---	---	---	---	<5.5
Methyltert-butylether	---	---	---	---	---	---	---	---	<1.4
Naphthalene	---	---	---	---	---	---	---	---	<3.6
Styrene	---	---	---	---	---	---	---	---	<1.7
Tetrachloroethene	0.36	18	23	3.8	0.72	2	1.1	1.3	3
Toluene	---	---	---	---	---	---	---	---	1.1
trans-1,2-Dichloroethene	<1.2	<55	<2.2	<3.4	<2.0	<1.1	0.67	<0.67	1.4
Trans-1,3-Dichloropropene	<1.4	<62	<2.5	<3.9	<2.3	<1.3	<0.74	<0.76	<0.91
Trichloroethene	0.37	<7.5	8.2	4.4	<0.28	0.61	0.37	0.13	0.31
Trichlorofluoromethane	<1.8	<77	<3.1	<4.8	<2.9	<1.6	1.6	1.4	---
Vinyl chloride	<0.17	<7.5	<0.30	<0.46	<0.28	<0.15	<0.088	0.16	<0.11
m/p-xylene	---	---	---	---	---	---	---	---	<3.5
o-Xylene	---	---	---	---	---	---	---	---	<1.7
Xylene (total)	---	---	---	---	---	---	---	---	<3.5

TABLE 9
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG3-2													
	Chemical Laboratory Bench Testing Room													
CONSTITUENT (ug/m3)	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	4/29/2014 (2)
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	<2.3
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	<0.57
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	<2.3
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	<1.7
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	<1.7
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---	<0.31	---	---	<0.65
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---	<5.1
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	<1.7
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	<2.0
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---	<5.1
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	<2.4	---	---	<5.1
1,4-Dioxane	---	---	---	---	---	---	---	---	---	---	<9.2	---	---	<19
2-Butanone	---	---	---	---	---	---	---	---	---	---	3.6	---	---	19
2-Hexanone	---	---	---	---	---	---	---	---	---	---	<0.83	---	---	<1.7
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	<1.7	---	---	<3.4
Acetone	---	---	---	---	---	---	---	1900	400	550	410D	2900D	1100D	2000D
Benzene	---	---	---	---	---	---	---	---	---	---	<0.64	---	---	<1.3
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	<0.57
Bromoform	<190	<8.6	<17	<12	<3.5	<2.0	<2.9	<6.5	<2.8	<35	<2.1	<6.8	<7.6	<4.4
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	<1.6
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	0.46
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	<2.0
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	<2.1
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	<1.7
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	<3.8
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	<0.73
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	<1.5
Ethylbenzene	---	---	---	---	---	---	---	<5.4	<2.3	<29	<1.7	---	---	<3.6
Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	<5.5	---	---	<11
Methyltert-butylether	---	---	---	---	---	---	---	---	---	---	<1.4	---	---	<3.0
Naphthalene	---	---	---	---	---	---	---	---	---	---	<3.7	---	---	<7.7
Styrene	---	---	---	---	---	---	---	---	---	---	<1.7	---	---	<3.6
Tetrachloroethene	46	6.4	3.7	2	2.3	3.1	1.3	1.2	1	<2.4	1.7	1.6	2.4	1.9
Toluene	---	---	---	---	---	---	---	---	---	---	1.4	---	---	13
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	<1.7
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	<1.9
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	0.37
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	<0.23
m/p-xylene	---	---	---	---	---	---	---	<11	<4.6	<58	<3.5	---	---	<7.3
o-Xylene	---	---	---	---	---	---	---	<5.4	<2.3	<29	<1.7	---	---	<3.6
Xylene (total)	---	---	---	---	---	---	---	<11	<4.6	<58	<3.5	---	---	<7.3

TABLE 9
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG3-3																	
	MID Stockroom																	
CONSTITUENT (ug/m3)	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	4/29/2014 (2)
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	<2.6
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	<0.66
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	<2.6
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	<2.0
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	<1.9
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.32	---	---	---	<0.74
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	<2.5	---	---	---	<5.8
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	<2.0
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	<2.2
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	<2.5	---	---	---	<5.8
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---	---	---	<2.5	---	---	---	<5.8
1,4-Dioxane	---	---	---	---	---	---	---	---	---	---	---	---	---	<9.4	---	---	---	<22
2-Butanone	---	---	---	---	---	---	---	---	---	---	---	---	---	4	---	---	---	5.1
2-Hexanone	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.84	---	---	---	<2.0
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	---	---	---	<1.4	---	---	---	<3.9
Acetone	---	---	---	---	---	---	---	---	---	---	810	340	240	370D	1400D	860D	400D	880D
Benzene	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.65	---	---	---	<1.5
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	<0.66
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	<5.0
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	<1.9
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	0.45
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	<2.2
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	<2.4
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	<1.9
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	<4.4
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	<0.83
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	<1.7
Ethylbenzene	---	---	---	---	---	---	---	---	---	---	<2.7	<2.5	<17	<1.8	<3.4	---	---	<4.2
Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.6	---	---	---	<13
Methyltert-butylether	---	---	---	---	---	---	---	---	---	---	---	---	---	<1.5	---	---	---	<3.5
Naphthalene	---	---	---	---	---	---	---	---	---	---	---	---	---	<3.7	---	---	---	<8.7
Styrene	---	---	---	---	---	---	---	---	---	---	---	---	---	<1.8	---	---	---	<4.1
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	99
Toluene	---	---	---	---	---	---	---	---	---	---	---	---	---	2.8	---	---	---	5.4
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	<1.9
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	<2.2
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	1.7
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	<0.26
m/p-xylene	---	---	---	---	---	---	---	---	---	---	<5.5	<5.0	<34	<3.6	<6.9	---	---	<8.3
o-Xylene	---	---	---	---	---	---	---	---	---	---	<2.7	<2.5	<17	<1.8	<3.4	---	---	<4.2
Xylene (total)	---	---	---	---	---	---	---	---	---	---	<5.5	<5.0	<34	<13.6	<6.9	---	---	<8.3

TABLE 9
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG3-4												
	Building 3 Machine Shop												
CONSTITUENT (ug/m3)	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	4/29/2014 (2)
1,1,1-Trichloroethane	<110	21	12	<18	<3.5	<1.9	<5.4	<8.9	<1.1	<2.8	<2.6	<3.2	<3.1
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	<0.77
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	<3.1
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	<2.3
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	<2.3
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	---	---	<0.32	---	---	---	<0.87
1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---	<6.8
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	<2.3
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	<2.6
1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---	<6.8
1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	<2.5	---	---	---	<6.8
1,4-Dioxane	---	---	---	---	---	---	---	---	<9.3	---	---	---	<26
2-Butanone	---	---	---	---	---	---	---	---	2.5	---	---	---	11
2-Hexanone	---	---	---	---	---	---	---	---	<0.84	---	---	---	<2.3
4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	<1.7	---	---	---	<4.6
Acetone	---	---	---	---	---	---	---	---	870D	2100D	1000D	780D	2300D
Benzene	---	---	---	---	---	---	---	---	<0.65	---	---	---	<1.8
Bromodichloromethane	<27	<1.2	<1.1	<4.6	<0.88	<0.48	<1.4	<2.2	<0.28	<0.70	<0.65	<0.81	<0.77
Bromoform	<200	<8.8	<8.6	<35	<6.7	<3.7	<10	<17	<2.1	<5.3	<4.9	<6.1	<5.8
Bromomethane	<76	<3.3	<3.2	<13	<2.5	<1.4	<3.9	<6.4	<0.80	<2.0	<1.8	<2.3	<2.2
Carbontetrachloride	<12	<0.54	<0.53	<2.2	0.52	0.56	<0.63	<1.0	0.55	0.41	0.56	0.52	0.43
Chlorobenzene	<90	<3.9	<3.8	<16	<3.0	<1.6	<4.6	<7.6	<0.95	<2.4	<2.2	<2.7	<2.6
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	<2.8
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	<2.3
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	<5.1
Dibromochloromethane	<34	<1.5	<1.4	<5.9	<1.1	<0.61	<1.7	<2.8	<0.35	<0.89	<0.82	<1.0	<0.97
Dichloromethane	<67	<2.9	<2.9	<12	<2.2	<1.2	<3.4	<5.7	<0.60	<1.8	<1.6	<2.0	<1.9
Ethylbenzene	---	---	---	---	---	---	---	<14	<1.8	<4.5	---	---	<4.9
Hexachlorobutadiene	---	---	---	---	---	---	---	---	<5.6	---	---	---	<15
Methyltert-butylether	---	---	---	---	---	---	---	---	<1.5	---	---	---	<4.1
Naphthalene	---	---	---	---	---	---	---	---	<3.7	---	---	---	<10
Styrene	---	---	---	---	---	---	---	---	<1.7	---	---	---	<4.8
Tetrachloroethene	72	25	8.2	3	0.9	2.1	1.8	1.2	5.9	1.8	0.9	1.6	5.7
Toluene	---	---	---	---	---	---	---	---	1.4	---	---	---	14
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	<2.3
Trans-1,3-Dichloropropene	<88	<3.9	<3.8	<15	<2.9	<1.6	<4.5	<7.5	<0.93	<2.3	<2.2	<2.7	<2.6
Trichloroethene	30	10	5.4	2.1	0.4	0.25	0.7	<0.89	0.7	0.4	<0.26	0.55	<0.31
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	<0.31
m/p-xylene	---	---	---	---	---	---	---	<28	<3.6	<8.9	---	---	<9.8
o-Xylene	---	---	---	---	---	---	---	<14	<1.8	<4.5	---	---	<4.9
Xylene (total)	---	---	---	---	---	---	---	<28	<3.6	<8.9	---	---	<9.8

TABLE 9
Indoor Air Analytical Results
Building 3 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG3-5								BLDG3-6
	Boiler room, Building 3 Basement								Building 3 Storage Room
CONSTITUENT (ug/m3)	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	---
Methyltert-butylether	---	---	---	---	---	---	---	<1.4	---
Naphthalene	---	---	---	---	---	---	---	<3.5	---
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
m/p-xylene	---	---	---	---	---	---	---	<3.4	<5.8
o-Xylene	---	---	---	---	---	---	---	<1.7	<2.9
Xylene (total)	---	---	---	---	---	---	---	<3.4	<5.8

Notes

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

ug/m^3 = micrograms per cubic meter.

--- = Not Sampled

D = Result is from a diluted sample.

System Startup occurred in January 2010

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

(2) = sample collected following scheduled temporary SVE system shutdown from 4/3/14 to 4/29/14

Table 10
Operation and Maintenance Data
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	Extraction Well BLD3-SVE1		Extraction Well BLD3-SVE2		Extraction Well BLD3-SVE3		Extraction Well BLD3-SVE4		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)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	VOC (ppm)	VOC (ppm)	VOC (ppm)	cfm	
4/3/2014	7.45	2.5	5.97	2.7	NA	NA	NA	NA	0.063	1.7	0.023	2.3	0.012	3.6	0	7	0.009	65	0.011	0.8	3.1	ND	ND	160	>99%
5/1/2014	8.29	3.70	6.97	1.20	NA	NA	NA	NA	0.18	7.40	0.03	4.50	0.02	3.50	0.01	6.90	0.20	52.80	0.01	0.80	8.70	1.20	ND	175	>99%
5/28/2014	7.62	4.5	7.34	12.1	NA	NA	NA	NA	0.200	3	0.035	2.1	0.023	4.5	0.009	8	0.021	57	0.015	0.2	7.4	ND	ND	175	>99%
6/13/2014	7.66	10.1	7.43	34.3	NA	NA	NA	NA	0.205	9.2	0.035	10.6	0.020	12.6	0.008	20	0.015	129	0.029	4.2	21.2	1.9	ND	175	>99%
6/24/2014	8.046	4.6	7.804	14.6	NA	NA	NA	NA	0.202	0.2	0.04	1.4	0.022	5.2	0.005	6	0.016	50	0.019	2.5	9.3	ND	ND	175	>99%
7/8/2014	7.5	10	7.3	33.5	NA	NA	NA	NA	0.200	9	0.037	10.2	0.023	12.2	0.01	19	0.012	105	0.025	4.0	18.6	2.0	ND	175	>99%
7/24/2014	8.1	ND	7.9	ND	NA	NA	NA	NA	0.250	0.9	0.046	0.4	0.027	2.0	0.01	3	0.029	5	0.025	1.0	ND	ND	ND	170	>99%
8/7/2014	5.24	1.5	14.54	4.4	NA	NA	NA	NA	0.340	0.4	0.042	0.4	0.023	1.8	0.026	1	0.039	18	0.015	1.800	5.6	ND	ND	165	>99%
8/19/2014	2.78	2	6.79	22.8	NA	NA	NA	NA	0.910	2.2	0.054	1.8	0.027	1.6	0.056	4.5	0.115	21	0.008	5.3	13.9	ND	ND	175	>99%
9/3/2014	2.76	ND	6.67	5.3	NA	NA	NA	NA	0.906	ND	0.056	ND	0.029	0.0	0.066	ND	0.112	15	+0.016	ND	10.4	ND	ND	170	>99%
9/25/2014	2.809	ND	6.95	1	NA	NA	NA	NA	0.875	ND	0.061	ND	0.029	ND	0.075	ND	0.118	37	+0.003	ND	3.5	ND	ND	175	>99%
9/25/2014 [2]	2.54	ND	5.89	7.5	1.39	56.4	1.42	20.1	0.831	ND	0.062	ND	0.027	0.0	0.054	ND	0.1	39	+0.011	ND	16.6	ND	ND	175	>99%
9/29/2014	2.45	ND	5.58	6.1	1.28	13.5	1.2	3	0.828	0.3	0.062	0.5	0.030	1.0	0.085	2	0.11	18	+0.12	1.3	6.9	ND	ND	175	>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 applicable
(1) = target off-gas VOC reduction is 95% per MassDEP policy (MADEP, 1994)
(2) = Second set of measurements on September 25, 2014 after vapor extraction started at BLDG3-SVE3 and BLDG3-SVE4

Table 11
Soil Vapor Analytical Results
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG3-SVE-INF	BLDG3-SVE1				BLDG3-SVE2				BLDG3-SVE3	BLDG3-SVE4
CONSTITUENT (ug/m3)	7/8/2014	2/4/2011	1/24/2012	7/8/2014	9/25/2014	8/6/2009	2/4/2011	1/24/2012	7/8/2014	9/25/2014	9/25/2014
1,1,1-Trichloroethane	<0.80	<20	<21	<3.7 UJ	<1	<960	<1700	<940	<1600	<11	<11
1,1,2,2-Tetrachloroethane	<0.20	<4.9	<5.2	<0.92 UJ	<1	<240	<430	<240	<390	<14	<14
1,1,2-Trichloroethane	<0.80	<20	<21	<3.7 UJ	<1	<960	<1700	<940	<1600	<11	<11
1,1-Dichloroethane	<0.60	---	<16	<2.8 UJ	<0.8	<720	<1300	<710	<1200	<8	<8
1,1-Dichloroethene	<0.59	---	<15	<2.7 UJ	<0.8	<700	<1300	<690	<1200	<8	<8
1,2-Dibromoethane (EDB)	<0.23	<5.5	---	<1.0 UJ	<2	---	<490	---	<450	<15	<15
1,2-Dichlorobenzene	<1.8	<43	---	<8.1 UJ	<1	---	<3800	---	<3500	<12	<12
1,2-Dichloroethane	<0.60	<15	<16	<2.8 UJ	<0.8	<720	<1300	<710	<1200	<8	<8
1,2-Dichloropropane	<0.68	<17	<18	<3.1 UJ	<0.9	<820	<1500	<800	<1300	<9	<9
1,3-Dichlorobenzene	0.068J	<43	---	<8.1 UJ	<1	---	<3800	---	<3500	<12	<12
1,4-Dichlorobenzene	<1.8	<43	---	<8.1 UJ	<1	---	<3800	---	<3500	<12	<12
1,4-Dioxane	<6.7	<160	---	<31 UJ	<0.7	---	<14000	---	<13000	<7	<7
2-Butanone	0.96	---	---	3.2J	63	---	<1900	---	<1700	3200	13000
2-Hexanone	0.13J	<15	---	0.31J	<0.8	---	<1300	---	<1200	<8	<8
4-Methyl-2-pentanone	<1.2	<29	---	<5.5 UJ	<0.8	---	<2600	---	<2400	<8	<8
Acetone	21	230	680	39	290 J	---	<14000	<7800	550J	1700	3700
Benzene	0.076J	<11	---	0.25J	<0.6	---	<1000	---	<920	<6	<6
Bromodichloromethane	<0.20	<4.9	<5.2	<0.92 UJ	<1	<240	<430	<240	<390	<13	<13
Bromoform	<1.5	<37	<39	<7.0 UJ	<2	<1800	<3300	<1800	<3000	<21	<21
Bromomethane	<0.58	---	<15	<2.6 UJ	<0.8	<690	<1200	<670	<1100	<8	<8
Carbontetrachloride	0.079J	6.2	<2.4	0.47 J	<1	<110	<200	<110	<180	<13	<13
Chlorobenzene	<0.68	<17	<18	<3.1 UJ	<0.9	<820	<1500	<800	<1300	<9	<9
Chloroethane	---	---	<20	---	---	<930	---	<910	---	---	---
Chloroform	<0.72	<18	<19	0.25J	<1	<860	<1600	<850	<1400	<10	<10
Chloromethane	---	---	<16	---	---	<720	---	<710	---	---	---
cis-1,2-Dichloroethene	<0.59	---	<15	<2.7 UJ	<0.8	<700	<1300	<690	<1200	120	<8
cis-1,3-Dichloropropene	<1.3	<33	<35	<6.2 UJ	<0.9	<1600	<2900	<1600	<2600	<9	<9
Dibromochloromethane	<0.25	<6.2	<6.6	<1.2 UJ	<2	<300	<550	<300	<500	<17	<17
Dichloromethane	0.38J	---	<13	0.36J	7	<610	<1100	<600	<1000	<7	<7
Ethylbenzene	0.065J	<31	<33	0.092J	<0.9	---	<2700	<1500	<2500	<9	<9
Hexachlorobutadiene	<4.0	<98	---	<18 UJ	<2	---	<8700	---	<7900	<21	<21
Methyltert-butylether	<1.1	---	---	<4.9 UJ	<0.7	---	<2300	---	<2100	<7	<7
Naphthalene	<2.7	<65	---	<12 UJ	<1	---	<5800	---	<5200	<10	<10
Styrene	<1.3	<31	---	<5.8 UJ	<0.8	---	<2700	---	<2500	<8	<8
Tetrachloroethene	3.6	1500	160	0.33J	240	360000D	130000	73000	99000	410000	69000
Toluene	0.28J	<13	---	0.69J	1	---	<1200	---	<1100	<8	<8
trans-1,2-Dichloroethene	0.051J	---	<15	0.13J	<0.8	<700	<1300	<690	<1200	8	<8
Trans-1,3-Dichloropropene	<0.67	<16	<17	<3.1 UJ	<0.9	<800	<1400	<780	<1300	<9	<9
Trichloroethene	0.061J	1200	43	<0.37 UJ	3	320000D	21000	6700	2900	5000	500
Trichlorofluoromethane	---	---	<21	---	---	<990	---	<970	---	---	---
Vinyl chloride	0.057J	---	<2.1	<0.37 UJ	<0.5	<96	<170	<94	<160	<5	<5
m/p-xylene	0.18J	<62	<66	0.23J	<2	---	<5500	<3000	<5000	<17	<17
o-Xylene	0.055J	<31	<33	0.073J	<0.9	---	<2700	<1500	<2500	<9	<9
Xylene (total)	0.235J	<62	<66	0.303J	<2	---	<5500	<3000	<5000	<17	<17

Notes:

ug/m3 = micrograms per cubic meter.

<3.1 = not detected above listed detection limit

--- = constituent not sampled for.

D - results reported from a diluted sample

J - estimated value

TABLE 12
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Sample Date	Vapor Influent Concentration (ppm(v))	Flow (scfm)	Days Operational	VOC Mass Removal Rate (lb./day)	Total VOC Mass Removed (lb.)
12/10/2009	17.0	97	0	0.00	0.0
12/11/2009	15.1	97	1	0.93	0.9
12/14/2009	19.0	102	4	1.05	4.1
12/16/2009	27.5	120	6	1.67	7.4
12/18/2009	23.0	125	8	1.89	11.2
12/21/2009	6.6	125	11	1.11	14.5
12/23/2009	6.5	127	13	0.50	15.5
12/29/2009	6.6	125	19	0.49	18.5
1/6/2010	10.0	140	27	0.70	24.0
1/19/2010	58.0	133	28	2.72	26.7
2/4/2010	21.8	141	55	3.36	80.6
2/18/2010	21.8	140	69	1.83	106
3/5/2010	20.4	140	84	1.77	133
3/19/2010	9.7	138	98	1.25	150
3/29/2010	10.4	146	108	0.88	159
4/12/2010	9.5	146	120	0.87	169
4/27/2010	11.8	138	135	0.88	183
5/11/2010	2.4	133	149	0.57	191
5/27/2010	18.9	150	165	0.96	206
6/8/2010	29.6	150	177	2.18	232
6/25/2010	21.7	149	194	2.28	271
7/7/2010	21.7	149	206	1.93	294
7/9/2010	53.0	130	208	2.91	300
7/19/2010	32.6	129	218	3.32	333
8/2/2010	35.0	125	230	2.54	364
8/16/2010	0.0	131	244	1.38	383
8/30/2010	41.0	144	258	1.77	408
9/14/2010	27.1	145	273	2.97	452
9/28/2010	11.7	145	287	1.69	476
10/13/2010	21.0	147	302	1.44	498
10/26/2010	15.0	137	315	1.48	517
11/9/2010	34.0	138	329	2.03	545
11/24/2010	12.5	144	344	2.00	575
12/7/2010	19.0	139	355	1.31	590
12/22/2010	20.7	139	368	1.65	611
12/28/2010	12.7	160	374	1.60	621
1/3/2011	14.3	154	380	1.24	628
1/18/2011	15.4	160	395	1.42	650
2/4/2011	8.9	160	412	1.16	669
2/15/2011	3.0	160	423	0.57	676
2/22/2011	10.0	172	430	0.67	680
3/4/2011	7.2	172	440	0.89	689
3/15/2011	7.7	172	451	0.77	698
3/29/2011	35.0	167	465	2.13	728
4/12/2011	9.0	165	479	2.18	758
4/25/2011	5.8	165	492	0.73	768
5/10/2011	10.8	165	507	0.82	780
5/27/2011	18.5	163	524	1.43	804
6/7/2011	10.7	163	535	1.43	820
6/20/2011	7.5	164	548	0.89	832
7/7/2011	6.5	162	565	0.68	843
7/22/2011	2.9	161	580	0.45	850
8/1/2011	0.2	162	590	0.15	852
8/15/2011	2.0	163	604	0.11	853
9/6/2011	11.0	164	626	0.64	867
9/20/2011	10.0	164	640	1.03	882
10/3/2011	3.5	164	653	0.66	890
10/20/2011	2.3	164	670	0.29	895

TABLE 12
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Sample Date	Vapor Influent Concentration (ppm(v))	Flow (scfm)	Days Operational	VOC Mass Removal Rate (lb./day)	Total VOC Mass Removed (lb.)
11/2/2011	6.5	161	683	0.43	901
11/15/2011	1.6	135	695	0.33	905
12/5/2011	6.6	122	714	0.30	910
12/15/2011	10.7	127	724	0.66	917
1/4/2012	0.1	149	742	0.48	926
1/24/2012	12.5	147	760	0.56	935
2/6/2012	0.0	143	772	0.54	942
2/21/2012	0.0	139	785	0.00	942
3/15/2012	5.5	144	795	0.45	946
3/28/2012	4.6	148	808	0.45	952
4/5/2012	4.4	149	816	0.40	955
4/17/2012	15.5	147	828	0.87	966
5/8/2012	11.5	157	849	1.27	992
5/22/2012	0.4	137	863	0.49	999
6/4/2012	0.0	156	876	0.02	1,000
6/19/2012	11.4	149	891	0.69	1,010
7/12/2012	18.5	149	914	1.33	1,041
7/24/2012	11.5	149	925	1.34	1,055
8/10/2012	6.3	149	942	0.79	1,069
8/22/2012	6.7	149	954	0.58	1,076
9/7/2012	7.7	135	970	0.58	1,085
9/18/2012	5.2	141	981	0.55	1,091
10/12/2012	5.7	152	1005	0.50	1,103
10/26/2012	5.6	152	1019	0.51	1,110
11/7/2012	5.8	152	1031	0.52	1,116
11/21/2012	2.2	152	1045	0.37	1,122
12/7/2012	3.4	153	1061	0.26	1,126
12/21/2012	9.4	152	1075	0.58	1,134
1/4/2013	3.8	139	1088	0.55	1,141
1/17/2013	7.0	144	1101	0.47	1,147
2/7/2013	11.0	135	1122	0.73	1,162
2/27/2013	12.0	134	1142	0.92	1,181
3/15/2013	7.5	135	1158	0.79	1,193
3/29/2013	4.5	134	1172	0.48	1,200
4/8/2013	10.3	134	1182	0.59	1,206
4/29/2013	5.9	138	1203	0.67	1,220
5/10/2013	6.0	137	1214	0.49	1,226
5/24/2013	3.7	132	1228	0.38	1,231
6/5/2013	7.9	132	1240	0.46	1,237
6/20/2013	3.0	132	1255	0.43	1,243
7/12/2013	6.1	132	1277	0.36	1,251
7/17/2013	6.8	132	1282	0.51	1,253
7/25/2013	4.3	133	1290	0.44	1,257
8/9/2013	8.0	146	1305	0.54	1,265
8/23/2013	5.9	141	1319	0.59	1,273
9/17/2013	7.8	137	1344	0.56	1,287
9/27/2013	10.2	126	1354	0.68	1,294
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	0.0	150	1482	0.27	1,371
2/20/2014	0.0	149	1498	0.00	1,371
3/4/2014	3.1	151	1510	0.14	1,372

TABLE 12
VOC Mass Removal Estimate Summary
Building 3 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Sample Date	Vapor Influent Concentration (ppm(v))	Flow (scfm)	Days Operational	VOC Mass Removal Rate (lb./day)	Total VOC Mass Removed (lb.)
3/20/2014	4.5	149	1526	0.34	1,378
4/3/2014	3.1	150	1540	0.34	1,382
5/1/2014	8.7	162	1542	0.54	1,384
5/28/2014	7.4	161	1569	0.78	1,405
6/13/2014	21.2	160	1585	1.37	1,426
6/24/2014	9.3	159	1596	1.45	1,442
7/8/2014	18.6	159	1610	1.33	1,461
7/25/2014	0.0	154	1627	0.86	1,476
8/7/2014	5.6	150	1640	0.25	1,479
8/19/2014	13.9	160	1652	0.93	1,490
9/3/2014	10.4	154	1667	1.12	1,507
9/25/2014	3.5	158	1689	0.66	1,521
9/25/2014	16.6	158	1689	0.00	1,521
9/29/2014	6.9	158	1693	1.11	1,526

Notes:
ppm = parts per million
scfm = standard cubic feet per minute (see note 6)
lbs./day = pounds per day
lbs. = pounds
VOC = volatile organic compounds
1. Vapor influent concentrations as measured with a photoionization detector (PID).
2. Total VOC mass removed (lbs.) is calculated by multiplying the VOC Mass Removal Rate (lbs./day) on the sampling date by the # of operating days between visits.
3. VOS mass removal rate (lbs./day) = average VOC level between current and previous monitoring (ppm)/ 10E6 x 1 lbmole/379.4 cu ft. x (158lbs/lbmole) x flow (ft^3/min) x (1440 min/day)
4. 158 lbs./lbmole is the weighted average molecular weight of the primary contaminants in the soil vapor (80% Tetrachloroethene, 19% Trichloroethene, and 1% acetone based on analytical results from recovered soil vapor).
5. VOC concentration not monitored on 2/4/10, assumed concentration noted on 2/18/10.
6. Flow rate (scfm) is calculated with the following equation: 128.8 x Flow coefficient (K) x pipe diameter^2 (in) x sqrt (psia x differential pressure (IWC)/(Temp (F) + 460) x Sp Gr @ 60°F)to adjust for system operating temperature
the second 9/25/14 monitoring was conducted after extraction from BLDG3-SVE3 and BLDG3-SVE4 was started

Table 13
Indoor Air Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG5-1									BLDG5-2								
	QA Area									Shipping Area								
CONSTITUENT (ug/m3)	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	11/1/2013	1/27/2014	6/17/2014	9/24/2014	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	11/1/2013	1/27/2014	6/17/2014	9/24/2014
1,1,1-Trichloroethane	<3.1	<6.6	<9.3	<91	<41	<9.4	<4.7	<20	<1	<1.4	<1.6	<94	<45	<16	<28	<6.2	<18	<1
1,1,2,2-Tetrachloroethane	<0.78	<1.7	<2.3	<23	<10	<2.4	<1.2	<4.9	<1	<0.34	<0.40	<24	<11	<4.1	<6.9	<1.6	<4.5	<1
1,1,2-Trichloroethane	<3.1	<6.6	<9.3	<91	<41	<9.4	<4.7	<20	<1	<1.4	<1.6	<94	<45	<16	<28	<6.2	<18	<1
1,1-Dichloroethane	<2.3	<5.0	<7.0	<68	<31	<7.1	<3.5	<15	<0.8	<1.0	<1.2	<71	<34	<12	<21	<4.7	<14	<0.8
1,1-Dichloroethene	<2.3	<4.8	<6.8	<66	<30	<6.9	<3.5	<14	<0.8	<1.0	<1.2	<69	<33	<12	<20	<4.5	<13	<0.8
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	<1.3	<5.5	<2	---	---	---	---	---	---	<1.8	<5.1	<2
1,2-Dichlorobenzene	---	---	---	---	---	---	<10	<43	<1	---	---	---	---	---	---	<14	<40	<1
1,2-Dichloroethane	<2.3	<5.0	<7.0	<68	<31	<7.1	<3.5	<15	<0.8	<1.0	<1.2	<71	<34	<12	<21	<4.7	<14	<0.8
1,2-Dichloropropane	<2.7	<5.6	<7.9	<77	<35	<8.0	<4.0	<17	<0.9	<1.2	<1.4	<80	<38	<14	<23	<5.3	<15	<0.9
1,3-Dichlorobenzene	---	---	---	---	---	---	<10	<43	<1	---	---	---	---	---	---	<14	<40	<1
1,4-Dichlorobenzene	---	---	---	---	---	---	<10	<43	<1	---	---	---	---	---	---	<14	<40	<1
1,4-Dioxane	---	---	---	---	---	---	<39	<160	<0.7	---	---	---	---	---	---	<52	<150	<0.7
2-Butanone	---	---	---	---	---	---	76	220	340	---	---	---	---	---	---	92	270	220
2-Hexanone	---	---	---	---	---	---	<3.5	<15	<0.8	---	---	---	---	---	---	<4.7	<14	<0.8
4-Methyl-2-pentanone	---	---	---	---	---	---	14	49	100	---	---	---	---	---	---	16	62	68
Acetone	---	9700	10000D	3300	1000	3400D	270D	4100D	310	---	2000	3300	1400	640	870	180	660	110
Benzene	---	---	---	---	---	---	<2.7	<11	<0.6	---	---	---	---	---	---	<3.6	<11	<0.6
Bromodichloromethane	<0.78	<1.7	<2.3	<23	<10	<2.4	<1.2	<4.9	<1	<0.34	<0.40	<24	<11	<4.1	<6.9	<1.6	<4.5	<1
Bromoform	<5.9	<13	<18	<170	<78	<18	<8.9	<37	<2	<2.6	<3.1	<180	<85	<31	<52	<12	<34	<2
Bromomethane	<2.2	<4.7	<6.7	<65	<29	<6.8	<3.4	<14	<0.8	<0.97	<1.2	<68	<32	<12	<20	<4.4	<13	<0.8
Carbontetrachloride	0.61	<0.77	<1.1	<11	<4.8	<1.1	<0.55	<2.3	<1	0.59	0.63	<11	<5.2	<1.9	<3.2	<0.72	<2.1	<1
Chlorobenzene	<2.7	<5.6	<7.9	<77	<35	<8.0	<4.0	<17	<0.9	<1.2	<1.4	<80	<38	<14	<23	<5.3	<15	<0.9
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	<18	<1	<1.2	<1.5	<85	<40	<15	<25	<5.6	<16	<1
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	<14	1	2.4	1.3	<69	<33	<12	<20	<4.5	<13	0.9
cis-1,3-Dichloropropene	<5.2	<11	<16	<150	<68	<16	<7.9	<33	<0.9	<2.3	<2.7	<160	<75	<27	<46	<10	<30	<0.9
Dibromochloromethane	<0.99	<2.1	<2.9	<29	<13	<3.0	<1.5	<6.2	<2	<0.43	<0.51	<30	<14	<5.2	<8.7	<2.0	<5.7	<2
Dichloromethane	<2.0	<4.2	<5.9	6.5J	<26	<6.0	<3.0	<12	28	<0.86	<1.0	<60	3.6J	<10	<17	<3.9	<11	6
Ethylbenzene	<4.9	<10	<15	<140	---	---	<7.5	<31	2	<2.1	<2.6	<150	1.9J	---	---	<9.8	<29	1
Hexachlorobutadiene	---	---	---	---	---	---	<24	<98	<2	---	---	---	---	---	---	<31	<90	<2
Methyltert-butylether	---	---	---	---	---	---	<6.2	<26	<0.7	---	---	---	---	---	---	<8.2	<24	<0.7
Naphthalene	---	---	---	---	---	---	<16	<65	<1	---	---	---	---	---	---	<21	<60	<1
Styrene	---	---	---	---	---	---	<7.4	<31	<0.8	---	---	---	---	---	---	<9.7	<28	<0.8
Tetrachloroethene	3.1	3.7	7.4	<12	6.3	7.3	1.2	6.9	8	12	7.5	14	2.9J	8.2	9.2	2.7	11	5
Toluene	---	---	---	---	---	---	<3.2	<13	2	---	---	---	---	---	---	<4.2	<12	2
trans-1,2-Dichloroethene	<2.3	<4.8	<6.8	<66	<30	<6.9	<3.5	<14	<0.8	<1.0	<1.2	<69	<33	<12	<20	<4.5	<13	<0.8
Trans-1,3-Dichloropropene	<2.6	<5.5	<7.8	<75	<34	<7.9	<3.9	<16	<0.9	<1.1	<1.3	<79	<37	<14	<23	<5.2	<15	<0.9
Trichloroethene	5.6	5.1	8.9	4.1J	11	12	2.2	7.2	9	14	8.4	17	4.4J	12	12	4	11	6
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	<2.0	<0.5	<0.14	<0.16	<9.4	<4.5	<1.6	<2.8	<0.62	<1.8	<0.5
m/p-xylene	<9.9	<21	<30	4.9J	---	---	<15	<62	8	5.6	8	<300	7.7J	---	---	<20	<57	5
o-Xylene	<4.9	<10	<15	<140	---	---	<7.5	<31	2	<2.1	<2.6	<150	2.3J	---	---	<9.8	<29	1
Xylene (total)	<9.9	<21	<15	4.9J	---	---	<15	<62	10	5.6	8	<300	10J	---	---	<20	<57	6

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.
SVE system startup in March 2013

Table 13
Indoor Air Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG5-3									BLDG5-4			BLDG5-5	BLDG5-6		BLDG8-1
	Sanding Room									Production Area						
CONSTITUENT (ug/m3)	8/22/2011	10/7/2011	1/9/2012	4/18/2013	8/5/2013	11/1/2013	1/27/2014	6/17/2014	9/24/2014	8/22/2011	10/7/2011	1/9/2012	4/1/2014	4/1/2014	9/24/2014	4/1/2014
1,1,1-Trichloroethane	<1.7	<1.6	<3.6	<29	<1.2	<8.2	<3.2	<10	<1	<1.1	<1.8	<26	<2.6	<0.95	<1	<0.86
1,1,2,2-Tetrachloroethane	<0.44	<0.41	<0.91	<7.2	<0.30	<2.0	<0.80	<2.5	<1	<0.28	<0.44	<6.6	<0.65	<0.24	<1	<0.22
1,1,2-Trichloroethane	<1.7	<1.6	<3.6	<29	<1.2	<8.2	<3.2	<10	<1	<1.1	<1.8	<26	<2.6	<0.95	<1	<0.86
1,1-Dichloroethane	<1.3	<1.2	<2.7	<22	<0.91	<6.1	<2.4	<7.5	<0.8	<0.83	<1.3	<20	<2.0	<0.71	<0.8	<0.65
1,1-Dichloroethene	<1.3	<1.2	<2.7	<21	<0.89	<6.0	<2.3	<7.3	<0.8	<0.81	<1.3	<19	<1.9	<0.69	<0.8	<0.63
1,2-Dibromoethane (EDB)	---	---	---	---	---	---	<0.91	<2.8	<2	---	---	---	<0.74	<0.27	<2	<0.24
1,2-Dichlorobenzene	---	---	---	---	---	---	<7.0	<22	<1	---	---	---	<5.7	<2.1	<1	<1.9
1,2-Dichloroethane	<1.3	<1.2	<2.7	<22	<0.91	<6.1	<2.4	<7.5	<0.8	<0.83	<1.3	<20	<2.0	<0.71	<0.8	<0.65
1,2-Dichloropropane	<1.5	<1.4	<3.1	<25	<1.0	<6.9	<2.7	<8.5	<0.9	<0.94	<1.5	<22	<2.2	<0.80	<0.9	<0.73
1,3-Dichlorobenzene	---	---	---	---	---	---	<7.0	<22	<1	---	---	---	<5.7	<2.1	<1	<1.9
1,4-Dichlorobenzene	---	---	---	---	---	---	<7.0	<22	<1	---	---	---	<5.7	<2.1	<1	<1.9
1,4-Dioxane	---	---	---	---	---	---	<27	<83	<0.7	---	---	---	<22	<7.9	<0.7	<7.2
2-Butanone	---	---	---	---	---	---	97	380	18	---	---	---	95	34	14	2.6
2-Hexanone	---	---	---	---	---	---	<2.4	<7.5	<0.8	---	---	---	<2.0	<0.71	<0.8	<0.65
4-Methyl-2-pentanone	---	---	---	---	---	---	25	91	5	---	---	---	12	5.1	2	<1.3
Acetone	---	1200	3400D	1000	400D	2100D	330D	1000D	570	---	1000	670	3900D	440D	620	86D
Benzene	---	---	---	---	---	---	<1.9	<5.8	<0.6	---	---	---	<1.5	<0.55	<0.6	<0.50
Bromodichloromethane	<0.44	<0.41	<0.91	<7.2	<0.30	<2.0	<0.80	<2.5	<1	<0.28	<0.44	<6.6	<0.65	<0.24	<1	<0.22
Bromoform	<3.3	<3.1	<6.9	<55	<2.3	<15	<6.1	<19	<2	<2.1	<3.3	<50	<4.9	<1.8	<2	<1.6
Bromomethane	<1.3	<1.2	<2.6	<21	<0.87	<5.8	<2.3	<7.1	<0.8	<0.79	<1.3	<19	<1.9	<0.68	<0.8	<0.62
Carbontetrachloride	0.55	0.58	0.58	<3.4	0.53	<0.95	0.54	<1.2	<1	0.59	0.63	<3.1	0.41	0.36	<1	0.28
Chlorobenzene	<1.5	<1.4	<3.1	<25	<1.0	<6.9	<2.7	<8.5	<0.9	<0.94	<1.5	<22	<2.2	<0.80	<0.9	<0.73
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	<9.0	<1	<1.0	<1.6	<24	<2.3	<0.85	<1	<0.78
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	<7.3	<0.8	<0.81	<1.3	<19	<1.9	1.7	<0.8	<0.63
cis-1,3-Dichloropropene	<2.9	<2.7	<6.0	<48	<2.0	<14	<5.3	<17	<0.9	<1.8	<2.9	<44	<4.3	<1.6	<0.9	<1.4
Dibromochloromethane	<0.55	<0.52	<1.1	<9.2	<0.39	<2.6	<1.0	<3.2	<2	<0.35	<0.56	<8.3	<0.82	<0.30	<2	<0.27
Dichloromethane	<1.1	<1.0	<2.3	5.6J	<0.77	6.4	<2.0	<6.3	57	<0.70	<1.1	<17	<1.6	<0.60	5	<0.55
Ethylbenzene	<2.8	<2.6	<5.7	1.5J	---	---	<5.1	<16	<0.9	<1.8	<2.8	<42	<4.1	<1.5	1	<1.4
Hexachlorobutadiene	---	---	---	---	---	---	<16	<50	<2	---	---	---	<13	<4.7	<2	<4.3
Methyltert-butylether	---	---	---	---	---	---	<4.2	<13	<0.7	---	---	---	<3.4	<1.2	<0.7	<1.1
Naphthalene	---	---	---	---	---	---	<11	<33	<1	---	---	---	<8.7	<3.2	<1	<2.9
Styrene	---	---	---	---	---	---	<5.0	<16	<0.8	---	---	---	<4.1	<1.5	<0.8	<1.4
Tetrachloroethene	3.8	3.1	4.2	<3.9	1.8	3.8	0.9	3.3	<1	0.78	1	<3.5	<0.35	0.81	<1	0.14
Toluene	---	---	---	---	---	---	<2.2	<6.8	2	---	---	---	<1.8	1.8	4	0.86
trans-1,2-Dichloroethene	<1.3	<1.2	<2.7	<21	<0.89	<6.0	<2.3	<7.3	<0.8	<0.81	<1.3	<19	<1.9	1.9	<0.8	<0.63
Trans-1,3-Dichloropropene	<1.5	<1.4	<3.0	<24	<1.0	<6.8	<2.7	<8.3	<0.9	<0.92	<1.5	<22	<2.2	<0.79	<0.9	<0.72
Trichloroethene	12	17	18	1.7J	8.5	10	2.1	3.5	<1	2.9	2.1	<2.6	0.79	5.2	<1	0.85
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	<1.0	<0.5	<0.11	<0.18	<2.6	<0.26	<0.095	<0.5	<0.086
m/p-xylene	7.1	<5.2	<12	5.9J	---	---	<10	<32	2	<3.5	<5.6	<83	<8.3	3.2	4	<2.8
o-Xylene	<2.8	<2.6	<5.7	2.1J	---	---	<5.1	<16	<0.9	<1.8	<2.8	<42	<4.1	<1.5	0.9	<1.4
Xylene (total)	7.1	<5.2	<5.7	8.0J	---	---	<10	<32	2	<3.5	<5.6	<83	<8.3	3.2	4.9	<2.8

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.
SVE system startup in March 2013

TABLE 14
Sub-Slab Soil Vapor Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG5-SV1										BLDG5-SV2										
	QA Area										Paint Mixing Storage Room										
CONSTITUENT (ug/m3)	**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**	**6/17/2014**	**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**	**6/17/2014**	**9/24/2014**
1,1,1-Trichloroethane	<31	<350	<290	<66	<80	<43	<3.0	<19	<1.2	<41	<44	<25	<5.0	<3.5	<16	<1.2	<1.1	<1.9	<1.1	<4.0	<1
1,1,2,2-Tetrachloroethane	<7.8	<88	<72	<16	<20	<11	<0.76	<4.8	<0.30	<10	<11	<6.2	<1.2	<0.87	<4.0	<0.30	<0.27	<0.49	<0.27	<1.0	<1
1,1,2-Trichloroethane	<31	<350	<290	<66	<80	<43	<3.0	<19	<1.2	<41	<44	<25	<5.0	<3.5	<16	<1.2	<1.1	<1.9	<1.1	<4.0	<1
1,1-Dichloroethane	<24	<260	<220	<49	<60	<33	<2.3	<14	<0.90	<31	<33	<19	<3.7	<2.6	<12	<0.90	<0.81	<1.5	<0.82	<3.0	<0.8
1,1-Dichloroethene	<23	<260	<210	<48	<59	<32	<2.2	<14	<0.88	<30	<32	<18	<3.6	<2.5	<12	<0.88	<0.79	<1.4	<0.80	<2.9	<0.8
1,2-Dibromoethane (EDB)	<8.9	---	---	---	<23	---	---	---	<0.34	<12	<12	---	---	---	<4.5	---	---	---	<0.31	<1.1	<2
1,2-Dichlorobenzene	<69	---	---	---	<180	---	---	---	<2.6	<90	<97	---	---	---	<35	---	---	---	<2.4	<8.8	<1
1,2-Dichloroethane	<24	<260	<220	<49	<60	<33	<2.3	<14	<0.90	<31	<33	<19	<3.7	<2.6	<12	<0.90	<0.81	<1.5	<0.82	<3.0	<0.8
1,2-Dichloropropane	<27	<300	<250	<56	<68	<37	<2.6	<16	<1.0	<35	<37	<21	<4.2	<2.9	<14	<1.0	<0.92	<1.7	<0.93	<3.4	<0.9
1,3-Dichlorobenzene	<69	---	---	---	<180	---	---	---	<2.6	<90	<97	---	---	---	<35	---	---	---	<2.4	<8.8	6
1,4-Dichlorobenzene	<69	---	---	---	<180	---	---	---	<2.6	<90	<97	---	---	---	<35	---	---	---	<2.4	<8.8	<1
1,4-Dioxane	---	---	---	---	<670	---	---	---	<10	<340	---	---	---	---	<130	---	---	---	<9.1	<33	<0.7
2-Butanone	60	---	---	---	<86	---	---	---	22	45	<48	---	---	---	300	---	---	---	65D	200	230
2-Hexanone	<24	---	---	---	<60	---	---	---	2.3	<31	<33	---	---	---	110	---	---	---	6.8	15	3
4-Methyl-2-pentanone	<47	---	---	---	<120	---	---	---	4.8	<62	<66	---	---	---	24	---	---	---	63	98	62
Acetone	<260	<2900	---	670	<670	1300	1500D	1500D	40	960	<370	<210	---	840	320	68D	45D	68	39	91	190
Benzene	<18	---	---	---	<47	---	---	---	<0.70	<24	<26	---	---	---	<9.3	---	---	---	<0.64	<2.3	1
Bromodichloromethane	<7.8	<88	<72	<16	<20	<11	<0.76	<4.8	<0.30	<10	<11	<6.2	<1.2	<0.87	<4.0	<0.30	<0.27	<0.49	<0.27	<1.0	<1
Bromoform	<60	<670	<550	<120	<150	<82	<5.8	<37	<2.3	<78	<84	<47	<9.4	<6.6	<30	<2.3	<2.1	<3.7	<2.1	<7.6	<2
Bromomethane	<22	<250	<210	<47	<57	<31	<2.2	<14	<0.86	<29	<32	<18	<3.6	<2.5	<11	<0.86	<0.77	<1.4	<0.78	<2.9	<0.8
Carbondisulfide	<18	---	---	---	---	---	---	---	---	---	<25	---	---	---	---	---	---	---	---	---	---
Carbontetrachloride	<3.7	<41	<34	<7.7	<9.3	<5.1	0.57	<2.3	0.52	<4.8	<5.1	<2.9	<0.58	0.64	<1.9	0.62	0.52	0.53	0.59	0.49	<1
Chlorobenzene	<27	<300	<250	<56	<68	<37	<2.6	<16	<1.0	<35	<37	<21	<4.2	<2.9	<14	<1.0	<0.92	<1.7	<0.93	<3.4	<0.9
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	<37	<40	<22	<4.5	<3.1	<14	<1.1	<0.97	<1.7	<0.99	<3.6	<1
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	<30	<32	<18	6.6	5.1	<12	<0.88	<0.79	<1.4	0.84	<2.9	<0.8
cis-1,3-Dichloropropene	<52	<580	<480	<110	<130	<72	<5.1	<32	<2.0	<68	<74	<41	<8.3	<5.8	<27	<2.0	<1.8	<3.2	<1.8	<6.7	<0.9
Dibromochloromethane	<9.9	<110	<92	<21	<25	<14	<0.96	<6.1	<0.38	<13	<14	<7.8	<1.6	<1.1	<5.1	<0.38	<0.34	<0.62	<0.35	<1.3	<2
Dichloromethane	<20	<220	<180	<42	<51	<27	<1.9	<12	<0.76	<26	<28	<16	<3.1	<2.2	<10	<0.76	<0.68	8.5	<0.69	<2.5	5
Ethylbenzene	<50	---	<460	<100	<130	<69	---	---	<1.9	<65	<70	---	<7.9	8.1	<25	2.5	---	---	3.1	<6.3	10
Freon 113	<8.9	---	---	---	---	---	---	---	---	---	<12	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	---	<400	---	---	---	<6.0	<210	---	---	---	---	<80	---	---	---	<5.5	<20	<2
Methyltert-butylether	<41	---	---	---	<110	---	---	---	<1.6	<54	<58	---	---	---	<21	---	---	---	<1.4	<5.3	<0.7
Naphthalene	---	---	---	---	<270	---	---	---	<4.0	<140	---	---	---	---	<53	---	---	---	<3.7	<13	<1
Styrene	<49	---	---	---	<130	---	---	---	<1.9	<64	<69	---	---	---	<25	---	---	---	<1.7	<6.3	<0.8
Tetrachloroethene	390	9900	5200	790	2700	<5.8	2.9	7.6	2	8.2	150	230	47	25	140	22	6	5.1	25	8.1	4
Toluene	44	---	---	---	<55	---	---	---	3.1	<28	<30	---	---	---	24	---	---	---	9.4	15	27
trans-1,2-Dichloroethene	<23	<260	<210	<48	<59	<32	<2.2	<14	<0.88	<30	<32	<18	<3.6	<2.5	<12	<0.88	<0.79	<1.4	<0.80	<2.9	<0.8
Trans-1,3-Dichloropropene	<26	<290	<240	<55	<67	<36	<2.5	<16	<1.0	<34	<37	<21	<4.1	<2.9	<13	<1.0	<0.90	<1.6	<0.91	<3.3	<0.9
Trichloroethene	2100	31000	26000	5100	5800	5.1	5.9	14	2.4	8.7	2300	2000	1200D	410D	1300D	80	17	17	73	10	13
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	<4.1	<4.4	<2.5	0.51	1.2	<1.6	<0.12	<0.11	<0.19	<0.11	<0.40	<0.5
m/p-xylene	<100	---	<920	<210	<250	<140	---	---	4.5	<130	<140	---	17	28	<51	9.5	---	---	11	19	39
o-Xylene	<50	---	<460	<100	<130	<69	---	---	<1.9	<65	<70	---	<7.9	11	<25	2.3	---	---	4.1	6.4	15
Xylene (total)	<100	---	<920	<210	<250	<140	---	---	4.5	<130	<140	---	17	39	<51	12	---	---	15	25	54

Notes: ug/m3 = Micrograms per cubic meter.
D = Result reported from a diluted sample.
--- = Not sampled for.
<31 = not detected above listed detection limit.
SVE system startup in March 2013

TABLE 14
Sub-Slab Soil Vapor Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG5-SV3											BLDG5-SV4			BLDG5-SV5					
	Sanding Room											Hall			Shipping Area					
CONSTITUENT (ug/m3)	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	6/17/2014	9/24/2014	1/27/2014	6/17/2014	9/24/2014	4/18/2013	8/5/2013	11/1/2013	1/27/2014	6/17/2014	9/24/2014
1,1,1-Trichloroethane	<2600	<8400	<5700	<220	<330	<24	<2.9	<9.5	<5.8	<17	<1	<0.89	<8.7	<1	<1.2	<3.6	<1.9	<1.4	<2.2	<1
1,1,2,2-Tetrachloroethane	<640	<2100	<1400	<55	<84	<6.0	<0.74	<2.4	<1.5	<4.2	<1	<0.22	<2.2	<1	<0.31	<0.90	<0.47	<0.34	<0.55	<1
1,1,2-Trichloroethane	<2600	<8400	<5700	<220	<330	<24	<2.9	<9.5	<5.8	<17	<1	<0.89	<8.7	<1	<1.2	<3.6	<1.9	<1.4	<2.2	<1
1,1-Dichloroethane	<1900	<6300	<4300	<170	<250	<18	<2.2	<7.2	<4.4	<13	<0.8	1.3	<6.5	<0.8	<0.93	<2.7	<1.4	<1.0	<1.7	<0.8
1,1-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	<7.0	<4.3	<12	<0.8	<0.66	<6.4	<0.8	<0.91	<2.6	<1.4	<1.0	<1.6	<0.8
1,2-Dibromoethane (EDB)	<730	---	---	---	<95	---	---	---	<1.6	<4.8	<2	<0.25	<2.5	<2	---	---	---	<0.39	<0.62	<2
1,2-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	<13	<37	<1	<2.0	<19	<1	---	---	---	<3.0	<4.9	<1
1,2-Dichloroethane	<1900	<6300	<4300	<170	<250	<18	<2.2	<7.2	<4.4	<13	<0.8	<0.67	<6.5	<0.8	<0.93	<2.7	<1.4	<1.0	<1.7	<0.8
1,2-Dichloropropane	<2200	<7100	<4900	<190	<280	<20	<2.5	<8.1	<4.9	<14	<0.9	<0.76	<7.4	<0.9	<1.1	<3.1	<1.6	<1.2	<1.9	<0.9
1,3-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	<13	<37	13	<2.0	<19	2	---	---	---	<3.0	<4.9	5
1,4-Dichlorobenzene	<5600	---	---	---	<730	---	---	---	<13	<37	<1	<2.0	<19	<1	---	---	---	<3.0	<4.9	<1
1,4-Dioxane	---	---	---	---	<2800	---	---	---	<48	<140	<0.7	<7.5	<73	<0.7	---	---	---	<11	<18	<0.7
2-Butanone	<2800	---	---	---	<360	---	---	---	12	36	46	8	<9.4	17	---	---	---	20	27	150
2-Hexanone	<1900	---	---	---	<250	---	---	---	<4.4	<13	5	0.91	<6.5	<0.8	---	---	---	3.2	<1.7	3
4-Methyl-2-pentanone	<3800	---	---	---	<500	---	---	---	<8.7	<25	6	<1.3	<13	2	---	---	---	6.8	7.2	46
Acetone	<21000	<70000	---	<1800	<2800	840	190D	280D	95	360	300	<7.5	<73	52 J	44	56	73D	35	41	140
Benzene	<1500	---	---	---	<190	---	---	---	<3.4	<9.9	2	<0.52	<5.1	<0.6	---	---	---	2	<1.3	2
Bromodichloromethane	<640	<2100	<1400	<55	<84	<6.0	<0.74	<2.4	<1.5	<4.2	<1	0.23	<2.2	<1	<0.31	<0.90	<0.47	<0.34	<0.55	<1
Bromoform	<4900	<16000	<11000	<420	<630	<46	<5.6	<18	<11	<32	<2	<1.7	<17	<2	<2.4	<6.8	<3.5	<2.6	<4.2	<2
Bromomethane	<1800	<6000	<4100	<160	<240	<17	<2.1	<6.8	<4.2	<12	<0.8	<0.64	<6.2	<0.8	<0.89	<2.6	<1.3	<0.99	<1.6	<0.8
Carbondisulfide	<1500	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbontetrachloride	<300	<980	<670	<26	<39	<2.8	0.56	<1.1	<0.68	<2.0	<1	0.5	<1.0	<1	0.57	0.62	0.54	0.59	0.49	<1
Chlorobenzene	<2200	<7100	<4900	<190	<280	<20	<2.5	<8.1	<4.9	<14	<0.9	<0.76	<7.4	<0.9	<1.1	<3.1	<1.6	<1.2	<1.9	<0.9
Chloroethane	<2500	<8100	<5500	<210	---	<23	<2.9	<9.2	---	---	---	---	---	---	<1.2	<3.5	<1.8	---	---	---
Chloroform	<2300	<7600	<5100	<200	<300	<22	<2.7	<8.6	<5.2	<15	<1	5.6	<7.8	<1	<1.1	<3.2	<1.7	<1.2	<2.0	<1
Chloromethane	<1900	<6300	<4300	<170	---	<18	<2.2	<7.2	---	---	---	---	---	---	<0.93	<2.7	<1.4	---	---	---
cis-1,2-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	<7.0	<4.3	<12	<0.8	16	<6.4	<0.8	2.1	<2.6	<1.4	<1.0	<1.6	<0.8
cis-1,3-Dichloropropene	<4300	<14000	<9500	<370	<560	<40	<4.9	<16	<9.7	<28	<0.9	<1.5	<15	<0.9	<2.1	<6.0	<3.1	<2.3	<3.7	<0.9
Dibromochloromethane	<810	<2700	<1800	<70	<110	<7.6	<0.93	<3.0	<1.8	<5.4	<2	<0.28	<2.8	<2	<0.39	<1.1	<0.59	<0.44	<0.70	<2
Dichloromethane	<1600	<5300	<3600	<140	<210	<15	<1.9	9.2	<3.7	<11	5	<0.57	<5.5	350	<0.78	<2.3	5.9	<0.87	<1.4	3
Ethylbenzene	<4100	---	<9100	<350	<530	<38	---	---	<9.2	<27	10	<1.4	<14	3	11	---	---	11	10	7
Freon 113	<730	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	---	<1700	---	---	---	<29	<85	<2	<4.5	<44	<2	---	---	---	<6.9	<11	<2
Methyltert-butylether	<3400	---	---	---	<440	---	---	---	<7.7	<22	<0.7	<1.2	<11	6	---	---	---	<1.8	<2.9	<0.7
Naphthalene	---	---	---	---	<1100	---	---	---	<19	<56	<1	<3.0	<29	<1	---	---	---	<4.6	<7.4	<1
Styrene	<4000	---	---	---	<520	---	---	---	<9.1	<26	<0.8	<1.4	<14	<0.8	---	---	---	11	18	<0.8
Tetrachloroethene	5300	33000	14000	1400	2100	160	200	31	170	210	36	18	24	<1	3.1	270	120	89	64	11
Toluene	<1700	---	---	---	<230	---	---	---	16	24	29	3.1	<5.9	9	---	---	---	26	21	23
trans-1,2-Dichloroethene	<1900	<6200	<4200	<160	<240	<18	<2.2	<7.0	<4.3	<12	<0.8	<0.66	<6.4	<0.8	<0.91	<2.6	<1.4	<1.0	<1.6	<0.8
Trans-1,3-Dichloropropene	<2100	<7000	<4800	<180	<280	<20	<2.5	<7.9	<4.8	<14	<0.9	<0.75	<7.3	<0.9	<1.0	<3.0	<1.6	<1.1	<1.8	<0.9
Trichloroethene	130000	470000	340000	20000	22000	1100	720D	190	850D	580	220	29	14	7	3.5	5.9	14	5.1	6	4
Trichlorofluoromethane	<2600	<8700	<5900	<230	---	<25	<3.0	<9.9	---	---	---	---	---	---	2.7	<3.7	3.1	---	---	---
Vinyl acetate	<21000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vinyl chloride	<260	<840	<570	<22	<33	<2.4	<0.29	<0.95	<0.58	<1.7	<0.5	<0.089	<0.87	<0.5	0.18	<0.36	<0.19	0.16	<0.22	<0.5
m/p-xylene	<8100	---	<18000	<700	<1100	<76	---	---	<19	<54	38	4.3	<28	11	35	---	---	34	35	25
o-Xylene	<4100	---	<9100	<350	<530	<38	---	---	<9.2	<27	15	1.9	<14	4	15	---	---	14	15	10
Xylene (total)	<8100	---	<18000	<700	<1100	<76	---	---	<19	<54	53	6.2	<28	15	50	---	---	48	50	35

Notes: ug/m3 = Micrograms per cubic meter.
D = Result reported from a diluted sample.
--- = Not sampled for.
<31 = not detected above listed detection limit.
SVE system startup in March 2013

TABLE 14
Sub-Slab Soil Vapor Analytical Results
Building 5 Area
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG5-SV6					
	Shipping Area					
CONSTITUENT (ug/m3)	4/18/2013	8/5/2013	11/1/2013	1/27/2014	6/17/2014	9/24/2014
1,1,1-Trichloroethane	2000	1200	790	1900	680	490
1,1,2,2-Tetrachloroethane	<25	<9.4	<6.7	<15	<8.8	<14
1,1,2-Trichloroethane	<100	<38	<27	<59	<35	<11
1,1-Dichloroethane	2700	1500	1300	3100	1600	1800
1,1-Dichloroethene	480	340	270	690	280	350
1,2-Dibromoethane (EDB)	---	---	---	<17	<10	<15
1,2-Dichlorobenzene	---	---	---	<130	<78	<12
1,2-Dichloroethane	<76	<28	<20	<44	<27	<8
1,2-Dichloropropane	<86	<32	<23	<50	<30	<9
1,3-Dichlorobenzene	---	---	---	<130	<78	<12
1,4-Dichlorobenzene	---	---	---	<130	<78	<12
1,4-Dioxane	---	---	---	<490	<290	96
2-Butanone	---	---	---	<64	<38	30
2-Hexanone	---	---	---	<44	<27	<8
4-Methyl-2-pentanone	---	---	---	<88	<53	<8
Acetone	<850	<310	<220	<490	<290	68 J
Benzene	---	---	---	<34	<21	<6
Bromodichloromethane	<25	<9.4	<6.7	<15	<8.8	<13
Bromoform	<190	<71	<51	<110	<67	<21
Bromomethane	<73	<27	<19	<42	<25	<8
Carbondisulfide	---	---	---	---	---	---
Carbontetrachloride	<12	<4.4	<3.1	<6.9	<4.1	<13
Chlorobenzene	<86	<32	<23	<50	<30	<9
Chloroethane	<98	<36	<26	---	---	---
Chloroform	<92	<34	<24	<53	<32	<10
Chloromethane	<76	<28	<20	---	---	---
cis-1,2-Dichloroethene	3200	1800	1200	1900	950	590
cis-1,3-Dichloropropene	<170	<63	<45	<98	<59	<9
Dibromochloromethane	<32	<12	<8.5	<19	<11	<17
Dichloromethane	<64	<24	<17	<37	<22	8
Ethylbenzene	<160	---	---	<93	<56	<9
Freon 113	---	---	---	---	---	---
Hexachlorobutadiene	---	---	---	<290	<180	<21
Methyltert-butylether	---	---	---	<77	<47	<7
Naphthalene	---	---	---	<200	<120	<10
Styrene	---	---	---	<92	<55	<8
Tetrachloroethene	570	1200	440	640	420	97
Toluene	---	---	---	<40	<24	19
trans-1,2-Dichloroethene	<75	<28	<20	<43	<26	<8
Trans-1,3-Dichloropropene	<85	<31	<22	<49	<29	<9
Trichloroethene	9000	3300	1300	1900	970	390
Trichlorofluoromethane	<110	<39	<28	---	---	---
Vinyl acetate	---	---	---	---	---	---
Vinyl chloride	85	81	110	130	19	<5
m/p-xylene	<320	---	---	<190	<110	23
o-Xylene	<160	---	---	<93	<56	9
Xylene (total)	<320	---	---	<190	<110	32

Notes: ug/m3 = Micrograms per cubic meter.
D = Result reported from a diluted sample.
--- = Not sampled for.
<31 = not detected above listed detection limit.
SVE system startup in March 2013

Table 15
Operation and Maintenance Data
Building 5 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

Location	Extraction Well BLDG5-SVE1		Extraction Well BLDG5-SVE2		Extraction Well BLDG5-SVE3		Extraction Well BLDG5-SVE4		Bldg5-SV1		Bldg5-SV2		Bldg5-SV3		Bldg5-SV4		Bldg5-SV5		Bldg5-SV6		Carbon Influent	Carbon Midpoint	Carbon Effluent		VOC Off-gas Reduction [2]
Date	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	VOC (ppm)	Vacuum ("wc)	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]	
4/3/2014	3.8	12.41	0.7	12.432	1.1	12.042	NA	NA	0.596	1	0.428	1.5	ND	2.3	ND	0.6	0.077	1.4	+0.101	4.8	8	ND	ND	106	>99%
4/15/2014	2.9	16.5	0.4	16.45	0.5	16	NA	NA	0.82	0.7	0.581	0.6	ND	3.2	0.01	1.1	0.129	1.7	0.147	3.9	0.5	ND	ND	157	>99%
5/1/2014	0.9	17.27	ND	17.21	ND	16.68	NA	NA	0.817	ND	0.608	ND	0.007	0.7	0.01	ND	0.133	ND	0.151	0.5	ND	ND	ND	160	>99%
5/15/2014	ND	30.51	ND	30.25	OFF	OFF	NA	NA	0.002	ND	0.037	ND	0.007	ND	0.008	ND	0.223	ND	0.258	ND	0.312	ND	ND	106	>99%
5/28/2014	8.7	30.57	2.4	30.31	OFF	OFF	NA	NA	0.001	10.7	0.033	10	0.008	12.4	+0.009	5.1	0.231	13.5	0.286	5.5	6	ND	ND	101	>99%
6/13/2014	9	32.06	0.8	31.84	OFF	OFF	NA	NA	0.002	1.7	0.033	2.1	0.007	8.4	+0.01	2.4	0.238	2.7	0.275	6.4	1.5	ND	ND	101	>99%
6/24/2014	3.3	23.2	OFF	OFF	ND	22.4	NA	NA	0.97	ND	0.749	ND	0.009	2.3	+0.007	ND	0.039	0.6	0.018	1.5	ND	ND	ND	120	>99%
7/8/2014	9.3	32.15	0.7	31.96	OFF	OFF	NA	NA	0.005	1.5	0.031	2	0.008	9.3	0.04	2.4	0.232	2.5	0.278	6.6	1.4	ND	ND	101	>99%
7/24/2014	ND	39.1	ND	37.7	OFF	OFF	NA	NA	0	ND	0.042	1.6	0.011	ND	+0.009	ND	0.298	ND	0.32	0.4	ND	ND	ND	111	>99%
8/7/2014	ND	40.31	ND	39.76	OFF	OFF	NA	NA	0.002	ND	0.03	0	0.01	ND	+0.004	ND	0.358	ND	0.396	0.7	ND	ND	ND	115	>99%
8/11/2014	0.4	NA	ND	NA	OFF	OFF	OFF	OFF	ND	ND	0.034	ND	0.01	ND	+0.008	ND	0.363	ND	0.359	ND	ND	ND	ND	115	>99%
8/11/2014[3]	0.4	NA	ND	NA	OFF	OFF	0.4	8.174	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	160	>99%
8/19/2014	1.9	13.29	ND	12.7	OFF	OFF	ND	8.34	0	ND	0.015	ND	0.002	0.5	+0.006	ND	0.29	ND	0.055	ND	2.9	ND	ND	160	>99%
9/3/2014	3.3	13.25	ND	12.55	0.32	0	ND	7.89	+0.003	ND	0.032	ND	0.005	ND	+0.006	ND	0.279	ND	0.68	0.1	0.1	ND	ND	160	>99%
9/29/2014	12	9.194	OFF	OFF	0.3	8.917	0.1	6.437	0.44	0.6	0.313	0.7	0.004	1.6	+0.003	0.7	0.09	0.6	+0.018	1.7	0.5	ND	ND	162	>99%

Notes:
"wc = inches of water column
VOC = volatile organic compounds measured with a photoionization detector
ppm = parts per million
cfm = cubic feet per minute
ND = non-detect
NA = not available or applicable
(1) = Not adjusted for temperature
(2) = target off-gas VOC reduction is 95% per MassDEP policy (MADEP, 1994)
(3) = second set of measurements on August 11, 2014 after vapor extraction started at BLDG53-SVE4
--- = Not collected
= concentration based on analytical result

TABLE 16
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 (lb./day)	Total VOC Mass Removed (lb.)
3/11/2013	5.0	185	0	0.00	0.0
3/13/2013	45.0	178	2	2.26	4.5
3/18/2013	3.9	182	7	2.26	15.8
3/25/2013	2.8	182	14	0.31	18.0
4/8/2013	0.9	192	28	0.18	20.5
4/29/2013	0.7	192	49	0.08	22.1
5/10/2013	0.7	189	60	0.07	22.9
5/20/2013	0.7	177	70	0.06	23.5
5/24/2013	0.7	177	74	0.06	23.8
6/5/2013	0.7	174	86	0.06	24.6
6/20/2013	0.7	174	101	0.06	25.5
7/12/2013	0.9	173	123	0.07	27.1
7/25/2013	4.9	163	136	0.24	30.2
8/9/2013	0.8	148	151	0.21	33.4
8/23/2013	3.7	147	165	0.17	35.8
9/17/2013	3.8	151	190	0.29	43.0
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	0.4	104	320	0.05	62.8
2/4/2014	0.3	103	328	0.02	62.9
2/20/2014	0.2	106	344	0.01	63.2
3/4/2014	1.6	97	356	0.04	63.7
3/20/2014	1.7	107	372	0.09	65.1
4/3/2014	8.0	100	386	0.25	68.6
4/15/2014	0.5	145	398	0.31	72.3
5/1/2014	0.0	149	414	0.02	72.6
5/15/2014	0.3	97	428	0.01	72.7
5/28/2014	6.0	92	441	0.15	74.7
6/13/2014	1.5	92	457	0.18	77.5
6/24/2014	0.0	109	468	0.04	78.0
7/8/2014	1.4	107	482	0.04	78.5
7/24/2014	0.0	98	498	0.03	79.0
8/7/2014	0.0	101	512	0.00	79.0
8/12/2014	0.0	101	517	0.00	79.0
8/19/2014	2.9	148	524	0.11	79.8
9/3/2014	0.1	147	539	0.11	81.5
9/29/2014	0.5	147	565	0.02	82.1

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

1. Vapor influent concentrations as measured with a photoionization detector (PID).
2. Total VOC mass removed (lbs.) is calculated by multiplying the VOC Mass Removal Rate (lbs./day) on the sampling date by the # of operating days between visits.
3. VOC mass removal rate (lbs./day) = average VOC level between current and previous monitoring (ppm)/ 10E6 x 1 lbmole/379.4 cu ft. x (134lbs/lbmole) x flow (ft^3/min) x (1440 min/day)
4. 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).
5. Flow rate (scfm) is calculated with the following equation: 128.8 x Flow coefficient (K) x pipe diameter^2 (in) x sqrt (psia x differential pressure (IWC)/(Temp (F) + 460) x Sp Gr @ 60°F)to adjust for system operating temperature

Table 17
Soil Vapor Analytical Results
Building 5 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG5-SVE-INF					BLDG5-SVE1							BLDG5-SVE2						
	6/20/2013	11/5/2013	1/27/2014	5/15/2014	9/3/2014	9/8/2012	3/20/2013	6/20/2013	11/5/2013	1/27/2014	5/15/2014	9/3/2014	9/8/2012	3/20/2013	6/20/2013	11/5/2013	1/27/2014	5/13/2014	9/3/2014
CONSTITUENT (ug/m^3)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1,1,1-Trichloroethane	<24	<55	<24	<9.1	<1	<3400	<1400	<920	<1800	<450	<91	<11	<71	<32	<10	<10	7.8	5.1	<1
1,1,2,2-Tetrachloroethane	<6.0	<14	<5.9	<2.3	<1	<860	<360	<230	<450	<110	<23	<14	<18	<7.9	<2.5	<2.6	<1.2	<1.2	<1
1,1,2-Trichloroethane	<24	<55	<24	<9.1	<1	<3400	<1400	<920	<1800	<450	<91	<11	<71	<32	<10	<10	<5.0	<4.7	<1
1,1-Dichloroethane	<18	<41	<18	<6.8	<0.8	<2600	<1100	<690	<1400	<340	<68	<8	<53	<24	<7.6	<7.7	<3.7	<3.5	<0.8
1,1-Dichloroethene	<18	<41	<17	<6.7	<0.8	<2500	<1000	<670	<1300	<330	<67	<8	<52	<23	<7.5	<7.5	<3.7	<3.4	<0.8
1,2-Dibromoethane (EDB)	---	---	<6.7	<2.6	<2	---	---	---	---	<130	<26	<15	---	---	---	---	<1.4	<1.3	<2
1,2-Dichlorobenzene	---	---	<52	<20	<1	---	---	---	---	<1000	<200	<12	---	---	---	---	<11	<10	<1
1,2-Dichloroethane	<18	<41	<18	<6.8	<0.8	<2600	<1100	<690	<1400	<340	<68	<8	<53	<24	<7.6	<7.7	<3.7	<3.5	<0.8
1,2-Dichloropropane	<21	<47	<20	<7.7	<0.9	<2900	<1200	<780	<1500	<390	<77	<9	<60	<27	<8.7	<8.7	<4.2	<4.0	<0.9
1,3-Dichlorobenzene	---	---	<52	<20	<1	---	---	---	---	<1000	<200	<12	---	---	---	---	<11	<10	<1
1,4-Dichlorobenzene	---	---	<52	<20	<1	---	---	---	---	<1000	<200	<12	---	---	---	---	<11	<10	<1
1,4-Dioxane	---	---	<200	<76	---	---	---	---	---	<3800	<760	---	---	---	---	---	<42	<39	---
2-Butanone	---	---	78	50	5	---	---	---	---	<490	<99	21	---	---	---	---	53	51	10
2-Hexanone	---	---	<18	<6.8	<0.8	---	---	---	---	<340	<68	<8	---	---	---	---	<3.7	<3.5	<0.8
4-Methyl-2-pentanone	---	---	<36	<14	<0.8	---	---	---	---	<680	<140	<8	---	---	---	---	<7.5	13	2
Acetone	440	530	240	130	13	<29000	<12000	<7700	<15000	<3800	<760	73	790	790	380	310	82	90	15
Benzene	---	---	<14	<5.3	<0.6	---	---	---	---	<260	<53	<6	---	---	---	---	<2.9	<2.7	<0.6
Bromodichloromethane	<6.0	<14	<5.9	<2.3	<1	<860	<360	<230	<450	<110	<23	<13	<18	<7.9	<2.5	<2.6	<1.2	<1.2	<1
Bromoform	<46	<110	<45	<17	<2	<6500	<2700	<1700	<3400	<860	<170	<21	<130	<60	<19	<19	<9.5	<8.9	<2
Bromomethane	<17	<40	<17	<6.5	<0.8	<2500	<1000	<660	<1300	<320	<65	<8	<51	<23	<7.3	<7.3	<3.6	<3.3	<0.8
Carbondisulfide	---	---	---	---	<0.6	---	---	---	---	---	---	<6	---	---	---	---	---	---	<0.6
Carbontetrachloride	<2.8	<6.5	<2.8	<1.1	<1	<400	<170	<110	<210	<53	<11	<13	<8.3	<3.7	<1.2	<1.2	<0.58	<0.54	<1
Chlorobenzene	<21	<47	<20	<7.7	<0.9	<2900	<1200	<780	<1500	<390	<77	<9	<60	<27	<8.7	<8.7	<4.2	<4.0	<0.9
Chloroethane	<23	<53	---	---	<0.5	<3300	<1400	<890	<1800	---	---	<5	<68	<31	<9.8	<9.9	---	---	<0.5
Chloroform	<22	<50	<21	<8.2	<1	<3100	<1300	<830	<1600	<410	<82	<10	<64	<28	<9.2	<9.2	<4.5	<4.2	<1
Chloromethane	<18	<41	---	---	<0.4	<2600	<1100	<690	<1400	---	---	<4	<53	<24	<7.6	<7.7	---	---	<0.4
cis-1,2-Dichloroethene	52	90	42	73	14	<2500	<1000	970	<1300	430	230	300	<52	<23	47	120	68	53	9
cis-1,3-Dichloropropene	<40	<92	<39	<15	<0.9	<5700	<2400	<1500	<3000	<760	<150	<9	<120	<53	<17	<17	<8.3	<7.8	<0.9
Dibromochloromethane	<7.7	<18	<7.5	<2.9	<2	<1100	<450	<290	<570	<140	<29	<17	<22	<10	<3.2	<3.2	<1.6	<1.5	<2
Dichloromethane	<15	<35	<15	<5.8	6	14000	<910	<580	<1100	<290	<58	27	<45	<20	<6.4	<6.5	<3.2	<3.0	5
Ethylbenzene	<38	---	<37	<14	<0.9	<5400	<2300	<1500	---	<720	<140	<9	<110	<50	<16	---	<7.9	<7.4	<0.9
Freon 113	---	---	---	---	2	---	---	---	---	---	---	40	---	---	---	---	---	---	<2
Hexachlorobutadiene	---	---	<120	<45	---	---	---	---	---	<2300	<460	---	---	---	---	---	<25	<23	---
Methyltert-butylether	---	---	<31	<12	<0.7	---	---	---	---	<600	<120	<7	---	---	---	---	<6.6	<6.1	<0.7
Naphthalene	---	---	<79	<30	---	---	---	---	---	<1500	<300	---	---	---	---	---	<17	<16	---
Styrene	---	---	<37	<14	<0.8	---	---	---	---	<710	<140	<8	---	---	---	---	<7.8	<7.3	<0.8
Tetrachloroethene	300	1100	320	280	140	26000	8800	5800	18000	3900	920	3000	1700	110	140	250	350	200	86
Toluene	---	---	<16	<6.2	<0.8	---	---	---	---	<310	<62	<8	---	---	---	---	<3.4	<3.2	<0.8
trans-1,2-Dichloroethene	<18	<41	<17	<6.7	<0.8	<2500	<1000	<670	<1300	<330	<67	<8	<52	<23	<7.5	<7.5	<3.7	<3.4	<0.8
Trans-1,3-Dichloropropene	<20	<46	<20	<7.6	<0.9	<2900	<1200	<770	<1500	<380	<76	<9	<59	<26	<8.5	<8.5	<4.2	<3.9	<0.9
Trichloroethene	2500D	6100D	1300	960D	390	240000	98000	70000	150000	35000	9900D	30000	5800	330	190	270	310	260	40
Trichlorofluoromethane	<25	<57	---	---	2 J	<3600	<1500	<950	<1900	---	---	<11	<73	<33	<11	<11	---	---	2
Vinyl Acetate	---	---	---	---	<0.7	---	---	---	---	---	---	<7	---	---	---	---	---	---	0.9
Vinyl chloride	<2.4	<5.5	<2.4	<0.91	<0.5	<340	<140	<92	<180	<45	<9.1	<5	<7.1	<3.2	<1.0	<1.0	1.7	<0.47	<0.5
m/p-xylene	<77	---	<75	<29	<2	<11000	<4600	<2900	---	<1400	<290	<17	<230	<100	<32	---	<16	<15	<2
o-Xylene	<38	---	<37	<14	<0.9	<5400	<2300	<1500	---	<720	<140	<9	<110	<50	<16	---	<7.9	<7.4	<0.9
Xylene (total)	<38	---	<75	<29	---	<11000	<4600	<2900	---	<1400	<290	---	<230	<100	<32	---	<16	<15	---

Table 17
Soil Vapor Analytical Results
Building 5 SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts

	BLDG5-SVE3			BLDG5-SVE4
	6/20/2013	11/5/2013	1/27/2014	9/3/2014
CONSTITUENT (ug/m^3)	(3)	(4)	(5)	(7)
1,1,1-Trichloroethane	<30	<20	<12	<1
1,1,2,2-Tetrachloroethane	<7.4	<5.1	<3.1	<1
1,1,2-Trichloroethane	<30	<20	<12	<1
1,1-Dichloroethane	<22	<15	<9.2	<0.8
1,1-Dichloroethene	<22	<15	<9.0	<0.8
1,2-Dibromoethane (EDB)	---	---	<3.5	<2
1,2-Dichlorobenzene	---	---	<27	<1
1,2-Dichloroethane	<22	<15	<9.2	<0.8
1,2-Dichloropropane	<25	<17	<10	<0.9
1,3-Dichlorobenzene	---	---	<27	<1
1,4-Dichlorobenzene	---	---	<27	<1
1,4-Dioxane	---	---	<100	---
2-Butanone	---	---	130	16
2-Hexanone	---	---	<9.2	<0.8
4-Methyl-2-pentanone	---	---	18	2
Acetone	1000	750	330	40
Benzene	---	---	<7.2	<0.6
Bromodichloromethane	<7.4	<5.1	<3.1	<1
Bromoform	<57	<38	<23	<2
Bromomethane	<21	<15	<8.8	<0.8
Carbondisulfide	---	---	---	<0.6
Carbontetrachloride	<3.5	<2.4	<1.4	<1
Chlorobenzene	<25	<17	<10	<0.9
Chloroethane	<29	<20	---	<0.5
Chloroform	<27	<18	<11	<1
Chloromethane	<22	<15	---	<0.4
cis-1,2-Dichloroethene	<22	<15	<9.0	<0.8
cis-1,3-Dichloropropene	<50	<34	<20	<0.9
Dibromochloromethane	<9.4	<6.4	<3.9	<2
Dichloromethane	<19	<13	<7.8	5
Ethylbenzene	<47	---	<19	<0.9
Freon 113	---	---	---	<2
Hexachlorobutadiene	---	---	<61	---
Methyltert-butylether	---	---	<16	<0.7
Naphthalene	---	---	<41	---
Styrene	---	---	<19	<0.8
Tetrachloroethene	74	420	160	59
Toluene	---	---	<8.4	<0.8
trans-1,2-Dichloroethene	<22	<15	<9.0	<0.8
Trans-1,3-Dichloropropene	<25	<17	<10	<0.9
Trichloroethene	220	1100	430	7
Trichlorofluoromethane	<31	<21	---	2
Vinyl Acetate	---	---	---	<0.7
Vinyl chloride	<3.0	<2.0	<1.2	<0.5
m/p-xylene	<95	---	<39	<2
o-Xylene	<47	---	<19	<0.9
Xylene (total)	<47	---	<39	---

Notes: ug/m3 = micrograms per cubic meter.
<3.1 = not detected above listed 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
(6) collected on day 428 of system operation
(7) collected on day 539 of system operation

Table 18
Sub-Slab Soil Vapor and Indoor Air Analytical Results
32 Tozer Road
Former Varian Facility Site
150 Sohier 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	4/17/2014 Indoor Air	5/28/2013 Indoor Air	10/24/2013 Indoor Air	2/6/2014 Indoor Air	4/17/2014 Indoor Air	5/28/2013 Indoor Air	10/24/2013 Indoor Air	2/6/2014 Indoor Air	4/17/2014 Indoor Air	
1,1,1-Trichloroethane	<0.94	<1.2	<0.95	<0.93	<1.0	<0.99	<0.99	<0.94	<0.98	<1.0	<0.92	<0.86	4,600
1,1-Dichloroethane	<0.71	<0.92	<0.71	<0.70	<0.76	<0.74	<0.74	<0.70	<0.74	<0.77	<0.69	<0.65	440
1,1-Dichloroethene	<0.69	<0.90	<0.70	<0.68	<0.74	<0.73	<0.73	<0.69	<0.72	<0.76	<0.67	<0.63	180
cis-1,2-Dichloroethene	**1.5**	**3.3**	**1.3**	**3.9**	**1.8**	**2.2**	**1.1**	**1.7**	<0.72	<0.76	<0.67	<0.63	31
Tetrachloroethene	**6.5**	**11**	**6.6**	**18**	**12**	**3.9**	**1.3**	**3.8**	<0.13	**0.33**	**0.25**	**0.26**	4.1
trans-1,2-Dichloroethene	<0.69	<0.90	<0.70	<0.68	<0.74	<0.73	<0.73	<0.69	<0.72	<0.76	<0.67	<0.63	62
Trichloroethene	**0.96**	**1.5**	**0.81**	**1.9**	**1.3**	**0.67**	**0.29**	**0.55**	<0.098	<0.10	**0.092**	<0.086	1.8
Vinyl chloride	<0.094	<0.12	<0.095	<0.093	<0.10	<.099	<0.099	<0.094	<0.098	<0.10	<0.092	<0.086	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	4/17/2014 Soil Vapor	5/28/2013 Soil Vapor	10/24/2013 Soil Vapor	2/6/2014 Soil Vapor	4/17/2014 Soil Vapor	5/28/2013 Soil Vapor	10/24/2013 Soil Vapor	2/6/2014 Soil Vapor	4/17/2014 Soil Vapor	
1,1,1-Trichloroethane	<270	<110	<110	<370	<20	<5.0	<7.2	<0.83	<20	<1.3	<1.2	<0.91	320,000
1,1-Dichloroethane	<210	<79	<80	<280	<15	<3.7	<5.4	**0.8**	<15	<0.95	<0.87	<0.68	31,000
1,1-Dichloroethene	<200	<77	<79	<270	<15	<3.7	<5.3	<0.61	<15	<0.93	<0.85	<0.67	13,000
cis-1,2-Dichloroethene	**8,900**	**3,100**	**4,300**	**17,000**	**130**	**80**	**83**	**45**	**38**	**7.9**	<0.85	<0.67	2,200
Tetrachloroethene	**8,600**	**8,100**	**7,600**	**14,000**	**300**	**610**	**460**	**160**	**32**	**24**	**1.3**	**1.4**	290
trans-1,2-Dichloroethene	<200	<77	<79	<270	<15	<3.7	<5.3	<0.61	<15	<0.93	<0.85	<0.67	4,300
Trichloroethene	**6,100**	**1,500**	**1,900**	**4,500**	**150**	**68**	**70**	**37**	**15**	**4.8**	**0.45**	**0.41**	130
Vinyl chloride	<27	<11	<11	<37	<2.0	**1.7**	**2.2**	**1.2**	<2.0	<0.13	<0.12	<0.091	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 19
Risk Evaluation - Indoor Air Exposures - Site Workers - 32 Tozer Road
2013 and 2014 Indoor Air Sampling

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

ELCR = LADE * UR

Cumulative ELCR = 5E-06 **MassDEP Limit = 1E-05**
Cumulative HI = 0.5 **MassDEP Limit = 1**

Parameter		Description	Units	Value	Reference
ADE	=	Average daily exposure	m³/mg	See below	Calculated
LADE	=	Lifetime average daily exposure	µg/m³	See below	Calculated
HI	=	Hazard Index	unitless	See below	Calculated
ELCR	=	Excess lifetime cancer risk	unitless	See below	Calculated
RfC	=	Inhalation reference concentration	mg/m³	See below	EPA (2014); MassDEP (2014)
UR	=	Inhalation Unit Risk	m³/µg	See below	EPA (2013)
OHM_{air}	=	Concentration in air	µg/m³	See below	Measured
EF	=	Exposure frequency	days/year	250	5 days/week, 2 weeks vacation
ET	=	Exposure time	days/day	0.330	8 hours per day
ED	=	Exposure duration	years	27.0	MassDEP (2014)
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

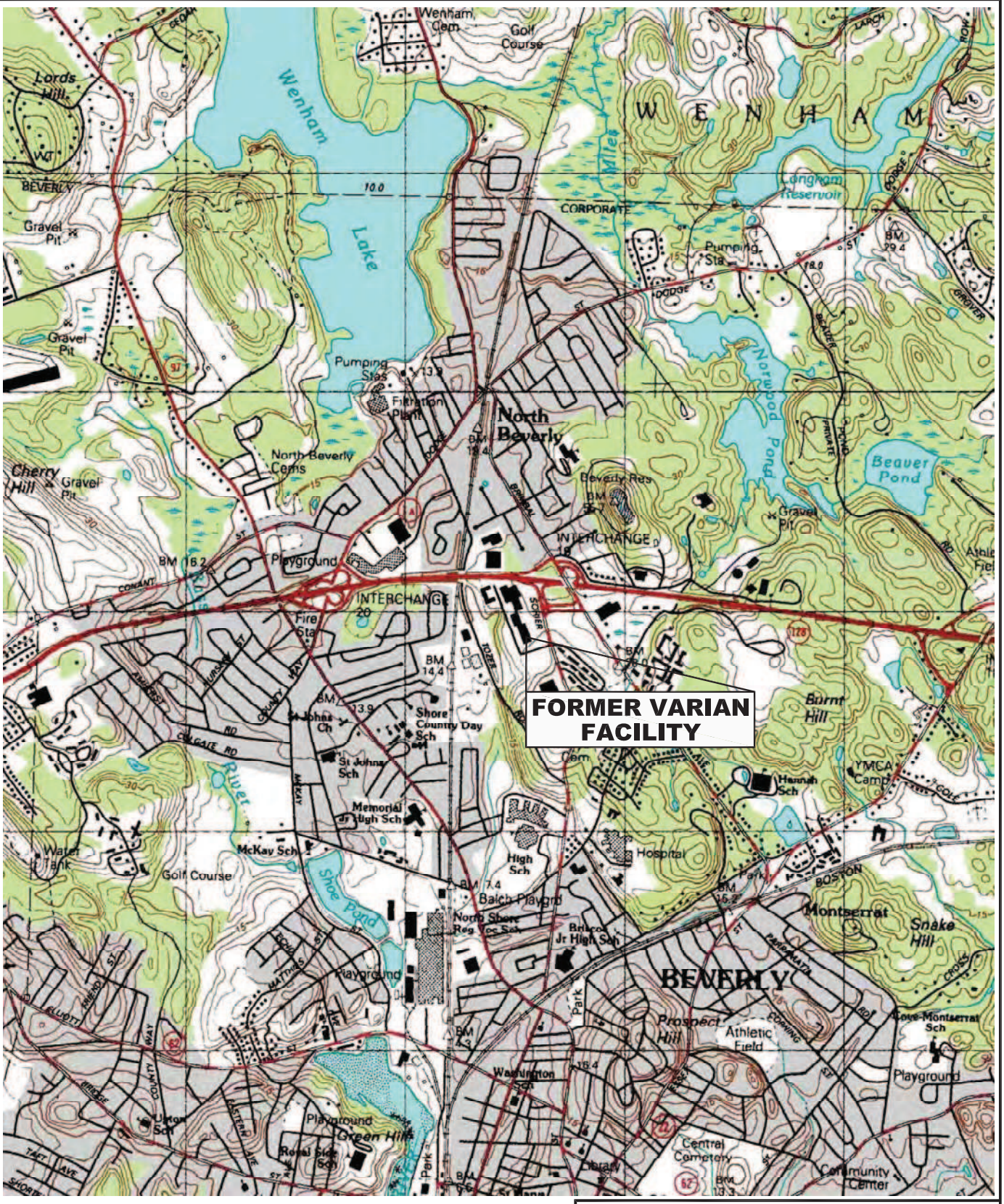
Compound	OHM_{air} *	RfC *Chronic*	UR	ADE	HI	LADE	ELCR
Volatile Organic Compounds							
Tetrachloroethene	1.80E+01	4.00E-02	3.00E-06	4.07E-03	1.02E-01	1.57E+00	4.71E-06
Trichloroethene	1.90E+00	2.00E-03	4.10E-06	4.29E-04	2.15E-01	1.66E-01	6.79E-07
cis-1,2-Dichloroethene	3.90E+00	6.00E-03	--	8.82E-04	1.47E-01	3.40E-01	NC
TOTAL RISK					**4.63E-01**		**5.39E-06**

Notes:

OHM_{air} is maximum indoor air result from 5/2013, 10/2013, 2/2014, and 4/2014 sampling

EPA 2014 - Integrated Risk Information System (IRIS)
MassDEP 2014 - Short Forms (April)

FIGURES



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

OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
CANTON, MA	CD	04/02/14	RC	04/02/14	--	--	139340-01SITELOC

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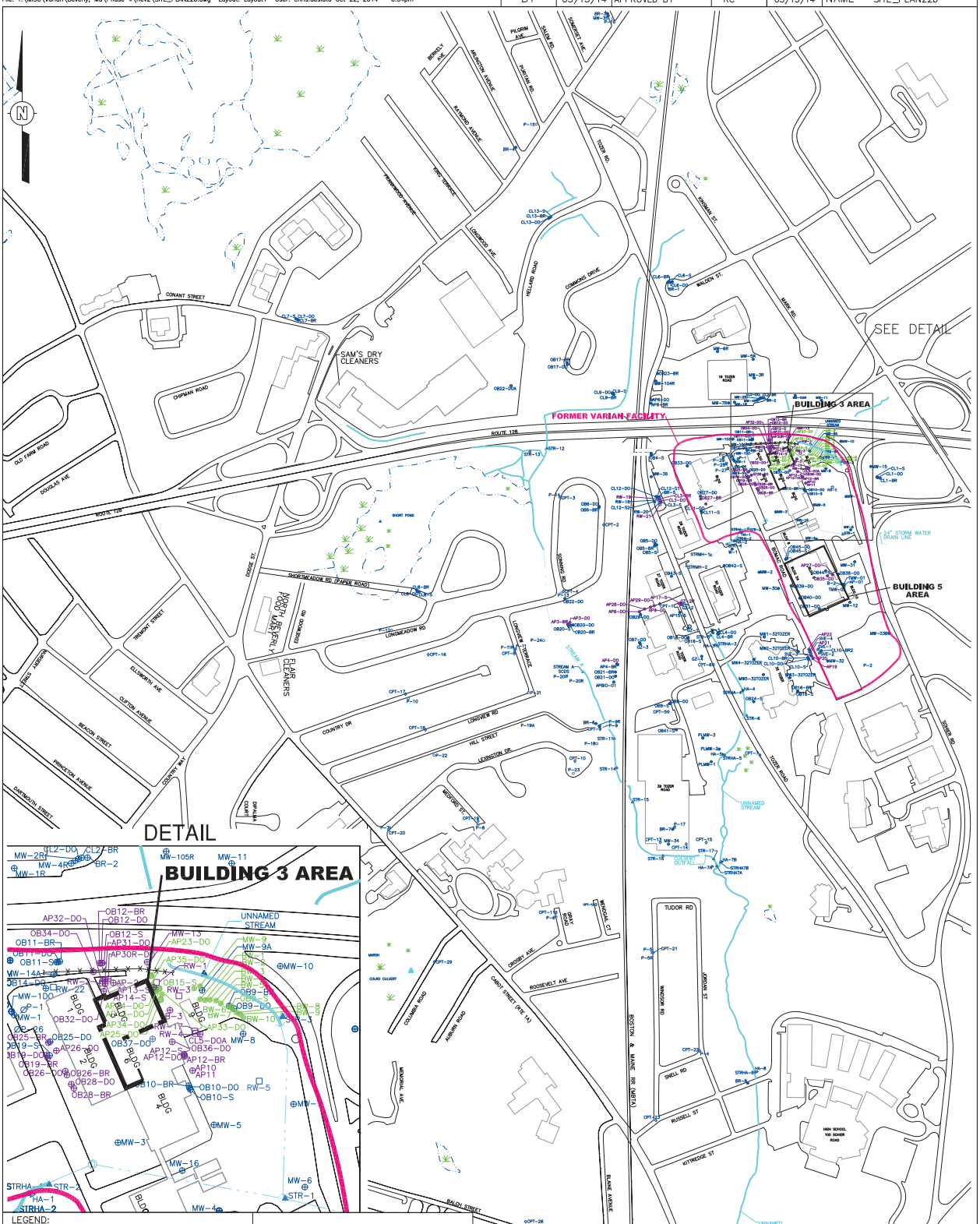
	05/15/14	APPROVED BY	RC	05/15/14	



LEGEND:

- 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)
- STRMH 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

⊕ 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

STR–6	STREAM SAMPLE LOCATION NUMBER
STRHA–1	STREAM/SURFACE WATER SAMPLE
HA–1	HAND AUGER WELL LOCATION NUMBER
STRMH–1	STREAM/MANHOLE LOCATION NUMBER
MW–5	MONITORING WELL NUMBER
GZ–1	MONITORING WELL NUMBER
PLMW–1	MONITORING WELL NUMBER
BR–1	BEDROCK WELL NUMBER

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 IS THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE.

THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JUNE 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004; 2005, JULY 2012, MAY 2014, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

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

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

SCALE
0 250 500 FEET

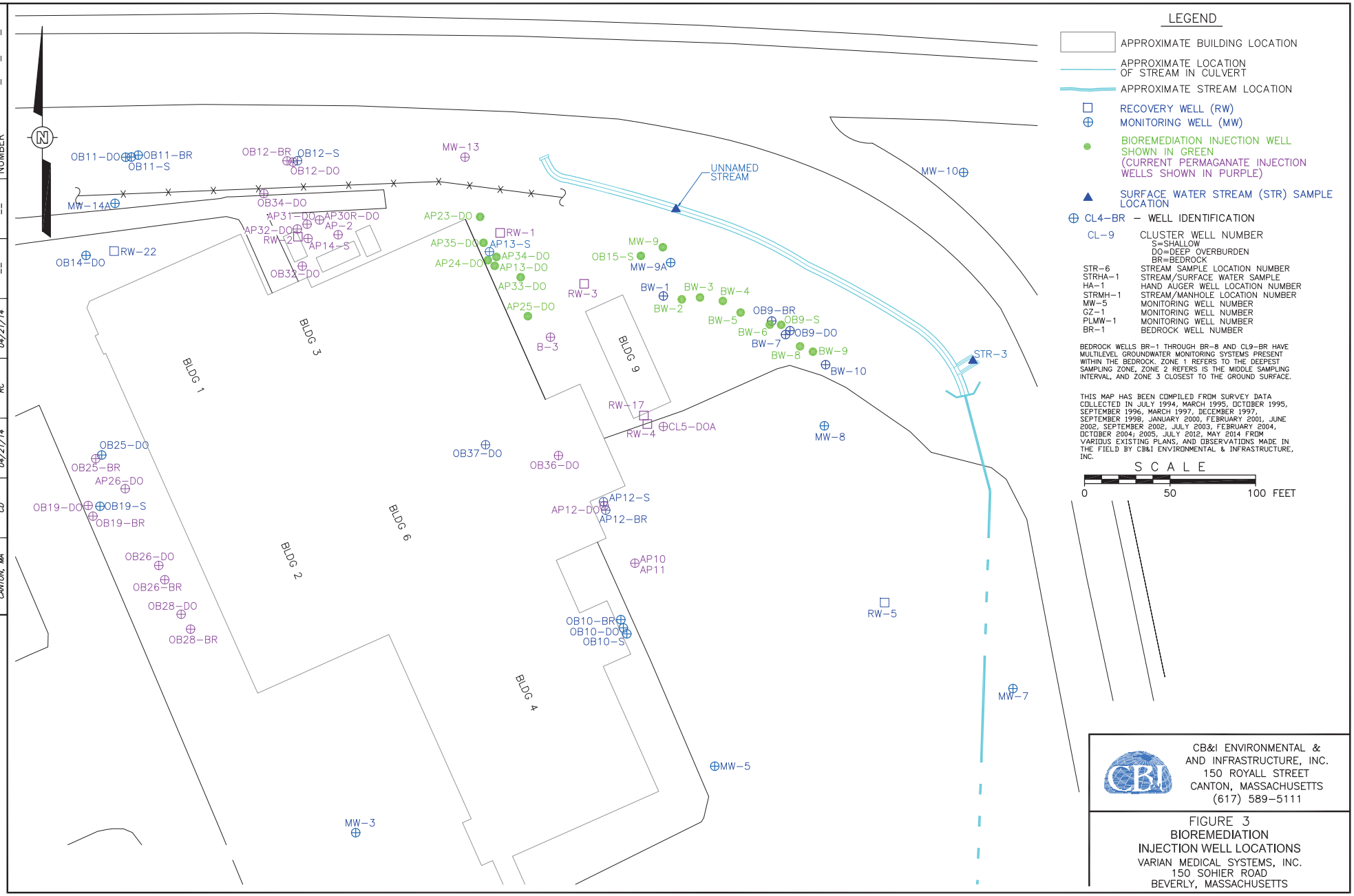
DRAFTED BY: CD

DATE: 22 OCTOBER 2014

PROJECT NO.: 146899

PREPARED BY:

CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.



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

FIGURE 3
BIOREMEDIATION
INJECTION WELL LOCATIONS
VARIAN MEDICAL SYSTEMS, INC.
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	OFFICE
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	--	RC	CD	

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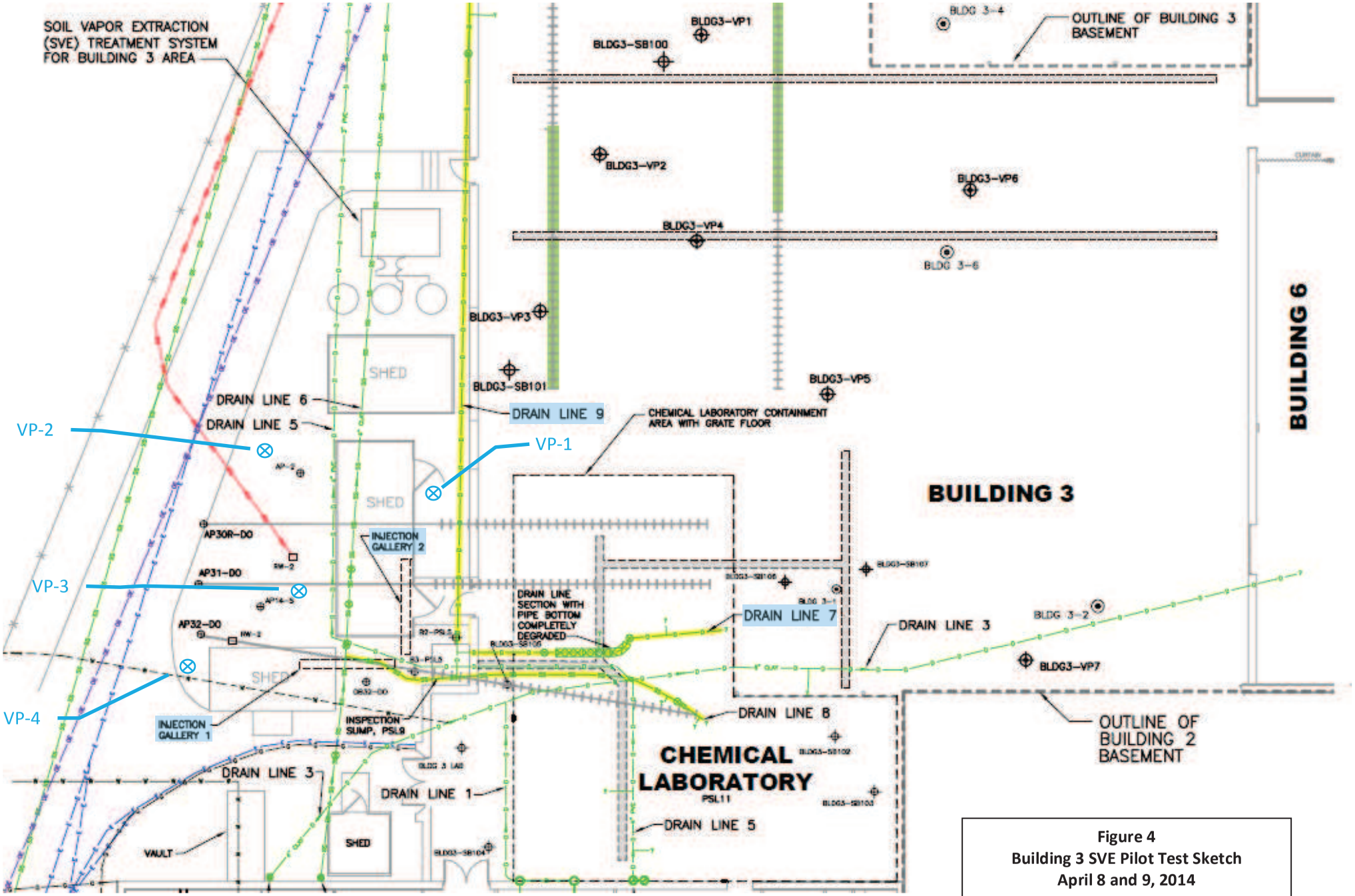
Plotted By: chris.desiato



⊗ Temporary Vapor Point (approx.)

Structure used in SVE Pilot Test

Scale: NA

Figure 4
Building 3 SVE Pilot Test Sketch
April 8 and 9, 2014

Former Varian Facility Site
150 Sohier Road
Beverly, MA

XREF Files: SITE_XREF28 IMAGE Files:
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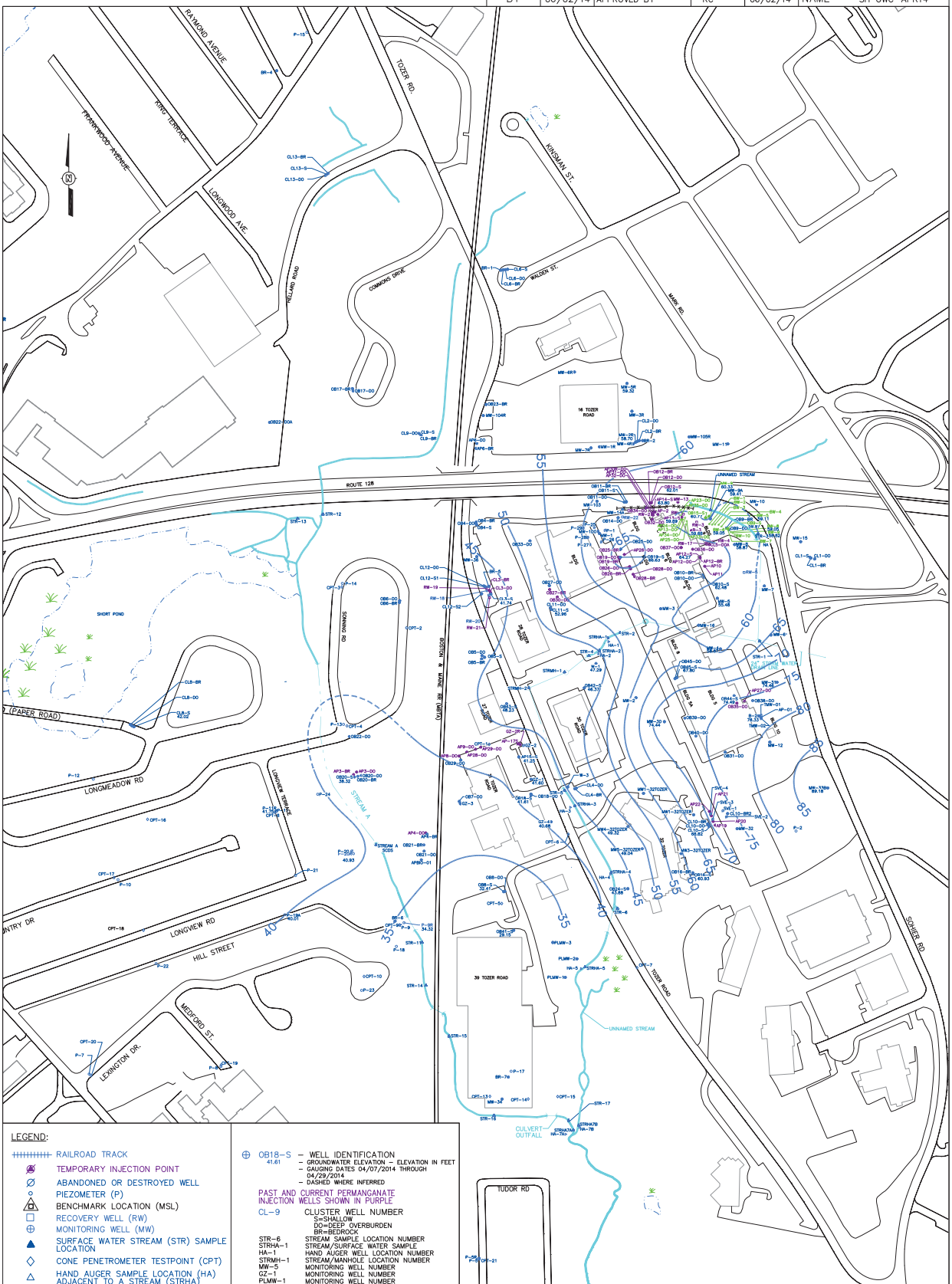
	06/02/14	APPROVED BY	RC	06/02/14	



LEGEND:

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

OB18-S (41.61) – WELL IDENTIFICATION
– GROUNDWATER ELEVATION – ELEVATION IN FEET
– GAUGING DATES 04/07/2014 THROUGH 04/29/2014
– DASHED WHERE INFERRED

PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE

CL-9 — CLUSTER WELL NUMBER
S=SHALLOW
DO=DEEP OVERBURDEN
BR=BEDROCK

STR-6	STREAM SAMPLE LOCATION NUMBER
STRHA-1	STREAM/SURFACE WATER SAMPLE
HA-1	HAND AUGER WELL LOCATION NUMBER
STRMH-1	STREAM/MANHOLE LOCATION NUMBER
MW-5	MONITORING WELL NUMBER
GZ-1	MONITORING WELL NUMBER
PLMW-1	MONITORING WELL NUMBER
BR-1	BEDROCK WELL NUMBER

BEDROCK WELLS BR-1 THROUGH BR-8 AND CL9-BR HAVE MULTILEVEL GROUNDWATER MONITORING SYSTEMS PRESENT WITHIN THE BEDROCK. ZONE 1 REFERS TO THE DEEPEST SAMPLING ZONE, ZONE 2 REFERS TO IS THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE. THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JUNE 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, MAY 2014, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

SCALE IN FEET
0 300 600

FIGURE 5
GROUNDWATER ELEVATION CONTOURS IN SHALLOW OVERBURDEN AQUIFER

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

SCALE: 1" = 150'	DRAFTED BY: CD
DATE: 25 MAY 2014	PROJECT NO.: 150151

PREPARED BY: CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

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	05/25/14	APPROVED BY	RC	05/25/14	

LEGEND:

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

OB18-DO — WELL IDENTIFICATION
41.81 — GROUNDWATER ELEVATION – ELEVATION IN FEET
– GAUGING DATES 04/07/2014 THROUGH 04/29/2014
– DASHED WHERE INFERRED
( ) – NOT USED IN CONTOURING

PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE

CL-9 CLUSTER WELL NUMBER
S=SHALLOW BR=BEDROCK
DO=DEEP OVERBURDEN

STR-6	STREAM SAMPLE LOCATION NUMBER
STRHA-1	STREAM/SURFACE WATER SAMPLE
HA-1	HAND AUGER WELL LOCATION NUMBER
STRMH-1	STREAM/MANHOLE LOCATION NUMBER
MW-5	MONITORING WELL NUMBER
CZ-1	MONITORING WELL NUMBER
PLMW-1	MONITORING WELL NUMBER
BR-1	BEDROCK WELL NUMBER

BEDROCK WELLS BR-1 THROUGH BR-8 AND CL9-BR HAVE MULTILEVEL GROUNDWATER MONITORING SYSTEMS PRESENT WITHIN THE BEDROCK. ZONE 1 REFERS TO THE DEEPEST SAMPLING ZONE, ZONE 2 REFERS IS THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE. THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JUNE 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, MAY 2014, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

SCALE IN FEET
0 300 600

FIGURE 6
GROUNDWATER ELEVATION CONTOURS IN DEEP OVERBURDEN AQUIFER

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

SCALE: 1" = 150'	DRAFTED BY: CD
DATE: 25 MAY 2014	PROJECT NO.: 150151

PREPARED BY: CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

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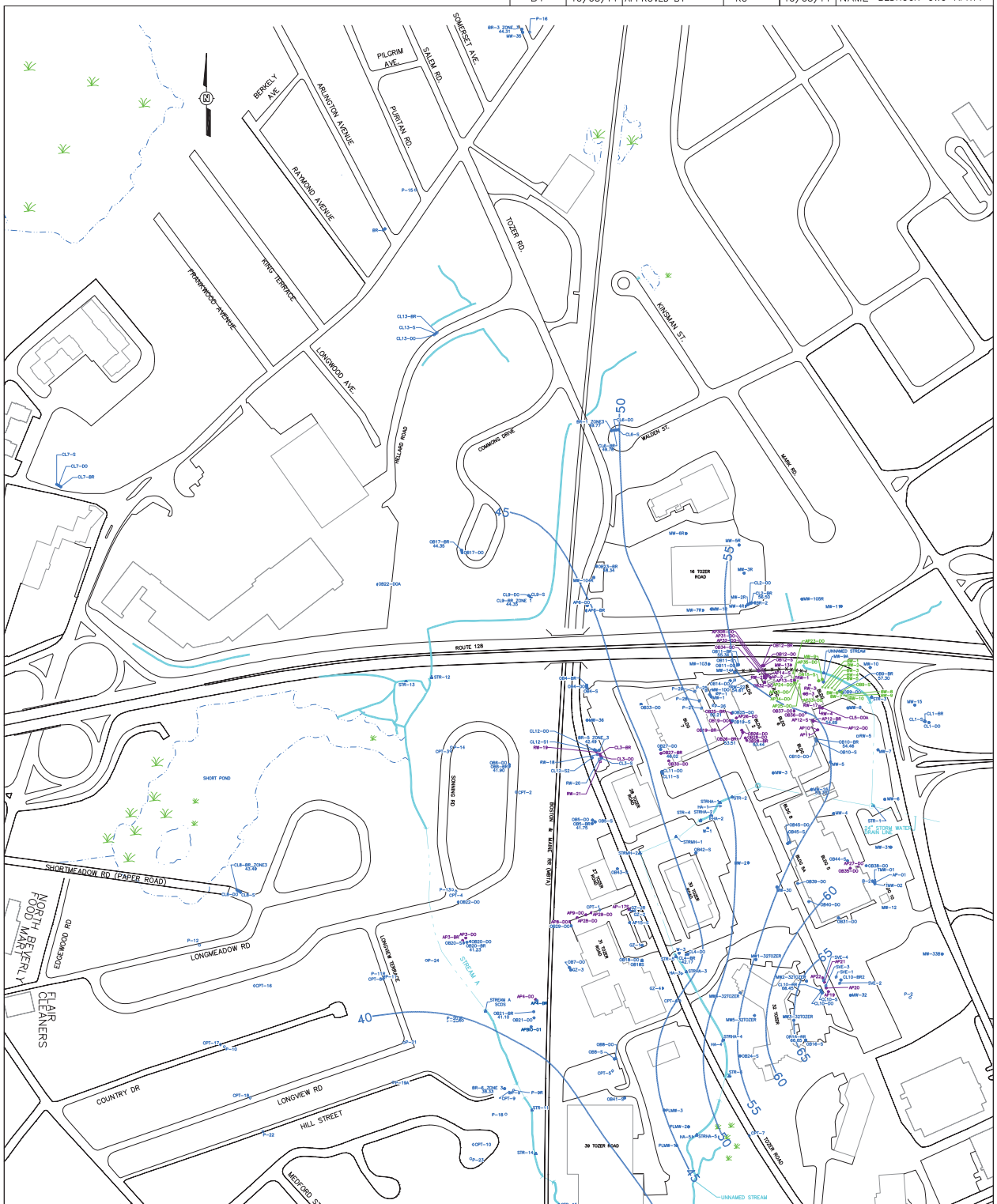

LEGEND:

- TEMPORARY INJECTION POINT
- ABANDONED OR DESTROYED WELL
- PIEZOMETER (P)
- BENCHMARK LOCATION (MSL)
- RECOVERY WELL (RW)
- MONITORING WELL (MW)
- SURFACE WATER STREAM (STR) SAMPLE LOCATION
- CONE PENETROMETER TESTPOINT (CPT)
- HAND AUGER SAMPLE LOCATION (HA) ADJACENT TO A STREAM (STRHA)
- BIOREMEDIATION INJECTION WELLS INJECTION LOCATIONS SHOWN IN GREEN
- SHALLOW BIOREMEDIATION BARRIER WELL (BW)
- STRMH 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

⊕ OB17-BR — WELL IDENTIFICATION
44.35 — GROUNDWATER ELEVATION - ELEVATION IN FEET
– GAUGING DATES 04/07/2014 THROUGH 04/29/2014
– DASHED WHERE INFERRED
( ) – NOT USED IN CONTOURING

PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE

CL-9 CLUSTER WELL NUMBER
S=SHALLOW BR=BEDROCK
DO=DEEP OVERBURDEN

STR-6 STREAM SAMPLE LOCATION NUMBER
STRHA-1 STREAM/SURFACE WATER SAMPLE
HA-1 HAND AUGER WELL LOCATION NUMBER
STRMH-1 STREAM/MANHOLE LOCATION NUMBER
MW-5 MONITORING WELL NUMBER
GZ-1 MONITORING WELL NUMBER
PLMW-1 MONITORING WELL NUMBER
BR-1 BEDROCK WELL NUMBER

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 IS TO THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE. THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JUNE 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, MAY 2014, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

SCALE IN FEET
0 340 680

FIGURE 7
GROUNDWATER ELEVATION CONTOURS
IN BEDROCK AQUIFER

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

SCALE: 1" = 170'	DRAFTED BY: CD
DATE: 03 OCTOBER 2014	PROJECT NO.: 146899

PREPARED BY:

CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

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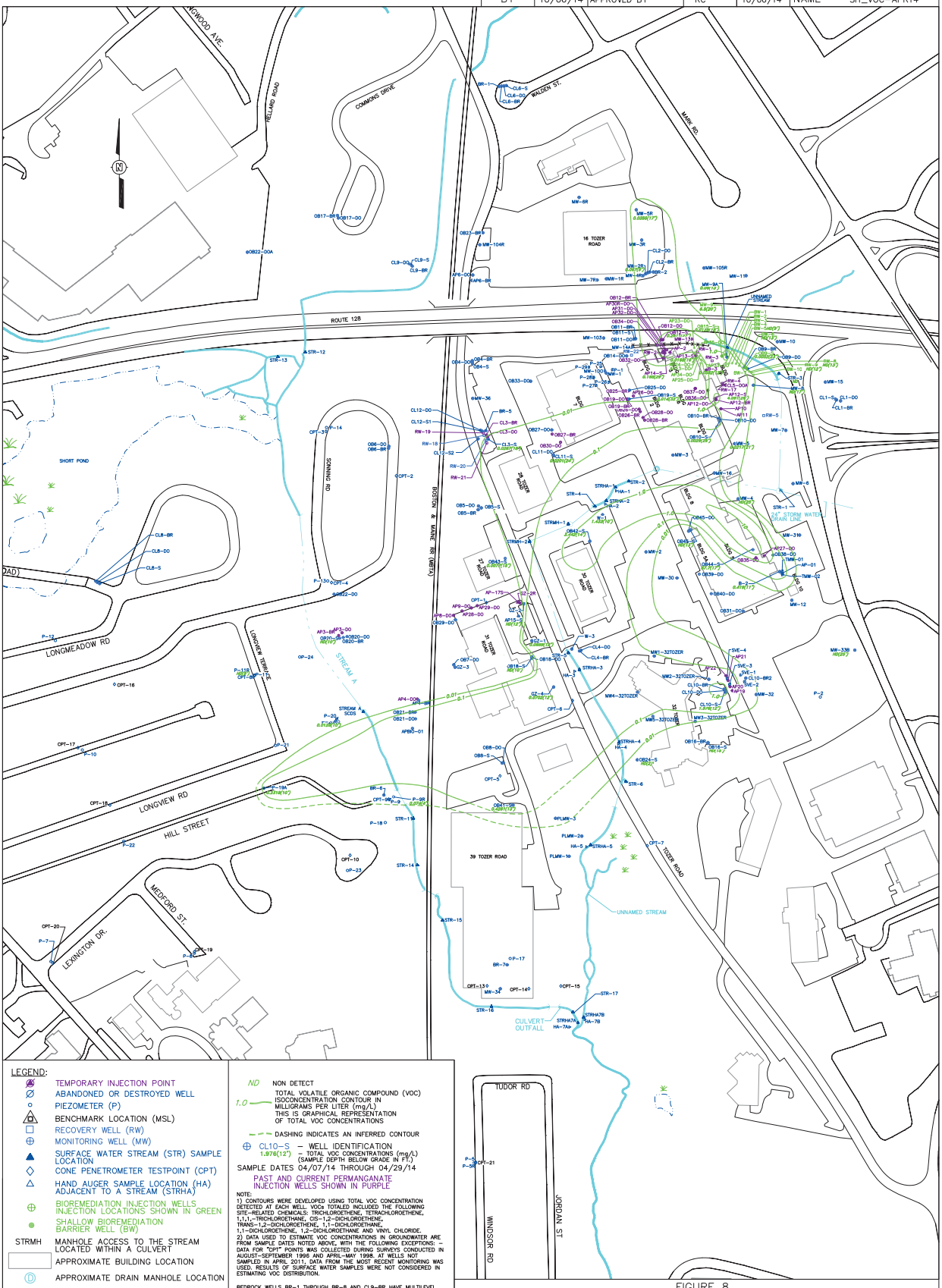

LEGEND:

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

STR-6	STREAM SAMPLE LOCATION NUMBER
STRHA-1	STREAM/SURFACE WATER SAMPLE
HA-1	HAND AUGER WELL LOCATION NUMBER
STRMH-1	STREAM/MANHOLE LOCATION NUMBER
MW-5	MONITORING WELL NUMBER
GZ-1	MONITORING WELL NUMBER
PLMW-1	MONITORING WELL NUMBER
BR-1	BEDROCK WELL NUMBER

ND — NON DETECT

1.0 — TOTAL VOLATILE ORGANIC COMPOUND (VOC) ISOCONCENTRATION CONTOUR IN MILLIGRAMS PER LITER (mg/L) THIS IS GRAPHICAL REPRESENTATION OF TOTAL VOC CONCENTRATIONS

– – – DASHING INDICATES AN INFERRED CONTOUR

CL10–S – WELL IDENTIFICATION
1.976(12') – TOTAL VOC CONCENTRATIONS (mg/L) (SAMPLE DEPTH BELOW GRADE IN FT.)

SAMPLE DATES 04/07/14 THROUGH 04/29/14

PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE

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

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 IS THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE.

THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JUNE 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, MAY 2014, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

SCALE IN FEET
0 300 600

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

PREPARED FOR: VARIAN MEDICAL SYSTEMS, INC. PALO ALTO, CALIFORNIA	
SCALE: 1" = 150'	DRAFTED BY: CD
DATE: 06 OCTOBER 2014	PROJECT NO.: 146899
PREPARED BY: CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.	

File: T:\MISC\Varian\Beverly, Ma\Phase 4\Rev2\DEEP\DO_VOC-APR14.dwg Layout: Layout1 User: chris.desiata Oct 23, 2014 - 3:08pm
XREF Files: SITE_XREF28 IMAGE Files:

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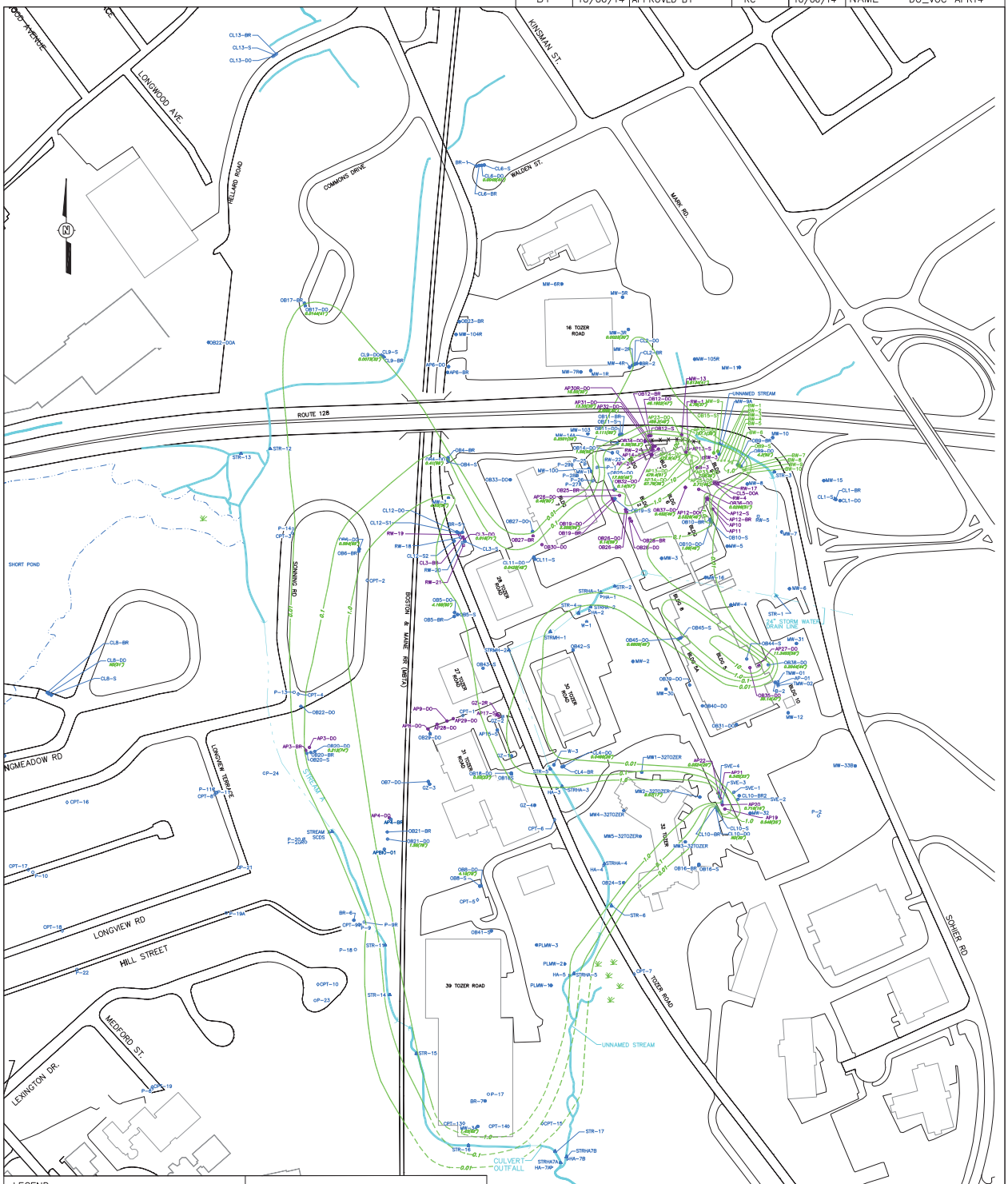
	10/06/14	APPROVED BY	RC	10/06/14	



LEGEND:

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

STR-6 STREAM SAMPLE LOCATION NUMBER
STRHA-1 STREAM/SURFACE WATER SAMPLE
HA-1 HAND AUGER WELL LOCATION NUMBER
STRMH-1 STREAM/MANHOLE LOCATION NUMBER
MW-5 MONITORING WELL NUMBER
GZ-1 MONITORING WELL NUMBER
PLMW-1 MONITORING WELL NUMBER
BR-1 BEDROCK WELL NUMBER

ND NON DETECT

1.0 TOTAL VOLATILE ORGANIC COMPOUND (VOC) ISOCONCENTRATION CONTOUR IN MILLIGRAMS PER LITER (mg/L)
THIS IS A GRAPHICAL REPRESENTATION OF TOTAL VOC CONCENTRATIONS

DASHING INDICATES AN INFERRED CONTOUR

CL4-DO – WELL IDENTIFICATION
0.0486(28') – TOTAL VOC CONCENTRATION (mg/L) (SAMPLE DEPTH BELOW GRADE IN FEET)
(NA) – SAMPLE NOT COLLECTED AT DISCRETE DEPTH (E.G. GRAB SAMPLE COLLECTED FOLLOWING WELL PURGING IN LIEU OF PDB SAMPLER)

SAMPLE DATES 04/07/14 THROUGH 04/29/14

PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE

NOTE:
1) CONTOURS WERE DEVELOPED USING TOTAL VOC CONCENTRATION DETECTED AT EACH WELL. VOCs TOTALED INCLUDED THE FOLLOWING SITE-RELATED CHEMICALS: TRICHLOROETHENE, TETRACHLOROETHENE, 1,1,1,-TRICHLOROETHANE, CIS-1,2-DICHLOROETHENE, TRANS-1,2-DICHLOROETHENE, 1,1-DICHLOROETHENE, 1,2-DICHLOROETHANE AND VINYL CHLORIDE.
2) DATA USED TO ESTIMATE VOC CONCENTRATIONS IN GROUNDWATER ARE FROM SAMPLE DATES NOTED ABOVE, WITH THE FOLLOWING EXCEPTIONS: – DATA FROM MW1-32TOZER, MW2-32TOZER, MW3-32TOZER WERE COLLECTED IN FEBRUARY 2011, DATA FOR "CPT" POINTS WAS COLLECTED DURING SURVEYS CONDUCTED IN AUGUST-SEPTEMBER 1996 AND APRIL-MAY 1998. AT WELLS NOT SAMPLED IN APRIL 2011, DATA FROM THE MOST RECENT MONITORING WAS USED.
BECAUSE WELLS BR-1 THROUGH BR-8 AND CL9-BR HAVE MULTILEVEL GROUNDWATER MONITORING SYSTEMS PRESENT WITHIN THE BEDROCK, ZONE 1 REFERS TO THE DEEPEST SAMPLING ZONE, ZONE 2 REFERS TO THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CLOSEST TO THE GROUND SURFACE.

THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JULY 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, MAY 2014, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.

SCALE IN FEET
0 300 600

FIGURE 9
ESTIMATED DISTRIBUTION OF TOTAL VOC CONCENTRATIONS IN DEEP OVERBURDEN AQUIFER

PREPARED FOR: VARIAN MEDICAL SYSTEMS, INC. PALO ALTO, CALIFORNIA	
SCALE: 1" = 150'	DRAFTED BY: CD
DATE: 06 OCTOBER 2014	PROJECT NO.: 146899
PREPARED BY: CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.	

File: T:\MISC\Varian\Beverly, Ma\Phase 4\Rev2\BEDROCK\BEDROCK_VOC-APR14.dwg Layout: Layout1 User: chris.desiata Oct 23, 2014 - 2:18pm
XREF Files: SITE_XREF28 IMAGE Files:

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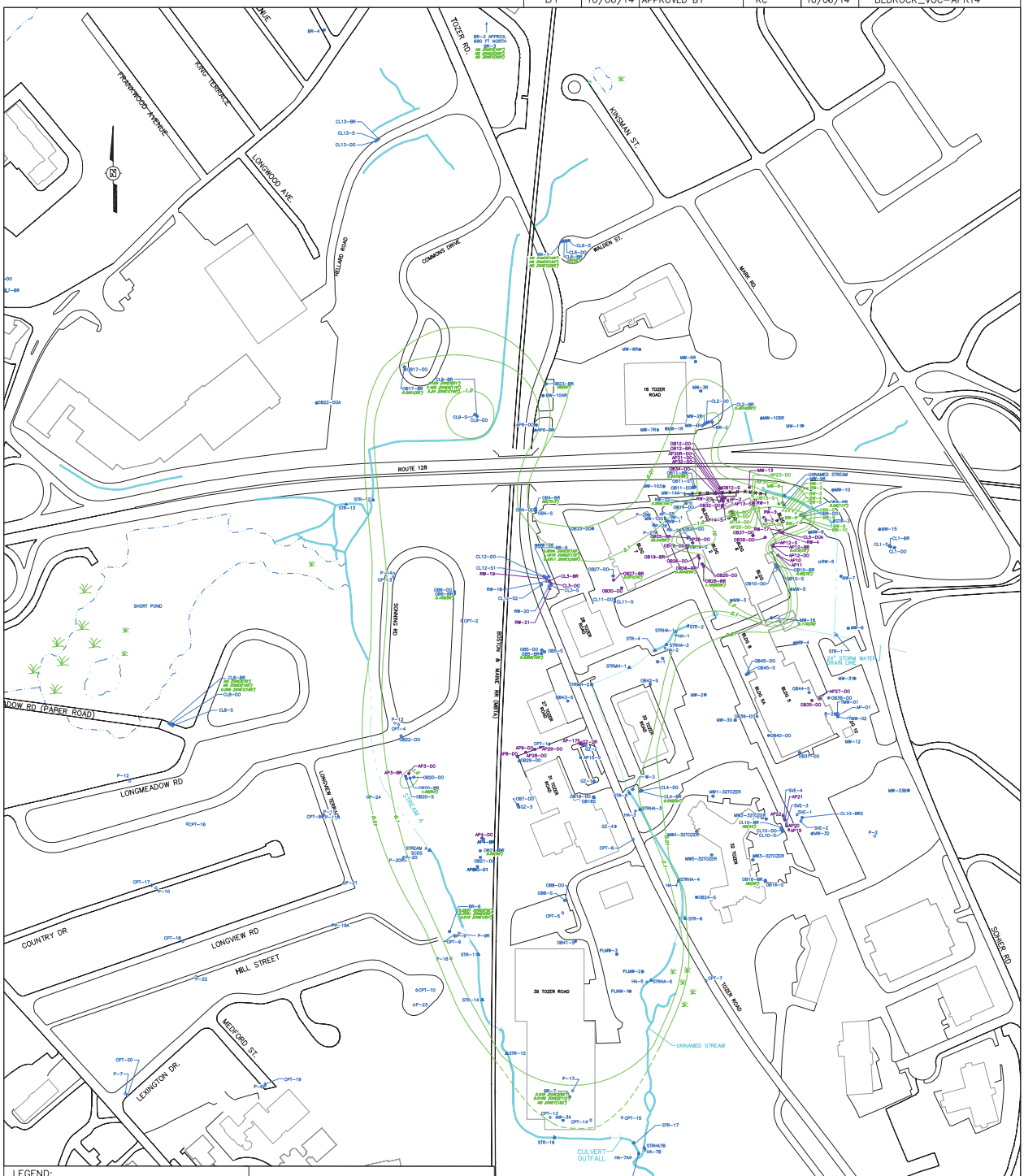


LEGEND:

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

STR-6	STREAM SAMPLE LOCATION NUMBER
STRHA-1	STREAM/SURFACE WATER SAMPLE
HA-1	HAND AUGER WELL LOCATION NUMBER
STRMH-1	STREAM/MANHOLE LOCATION NUMBER
MW-5	MONITORING WELL NUMBER
GZ-1	MONITORING WELL NUMBER
PLMW-1	MONITORING WELL NUMBER
BR-1	BEDROCK WELL NUMBER

ND NON DETECT

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

THIS IS A GRAPHICAL REPRESENTATION OF TOTAL VOC CONCENTRATIONS

DASHING INDICATES AN INFERRED CONTOUR

CL4-BR — WELL IDENTIFICATION
0.065(54') — TOTAL VOC CONCENTRATION (mg/L) (SAMPLE DEPTH BELOW GRADE IN FEET)
(NA) — SAMPLE NOT COLLECTED AT DISCRETE DEPTH (E.G. GRAB SAMPLE COLLECTED FOLLOWING WELL PURGING IN LIEU OF PDB SAMPLER)

SAMPLE DATES 04/07/14 THROUGH 04/29/14

PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE

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

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

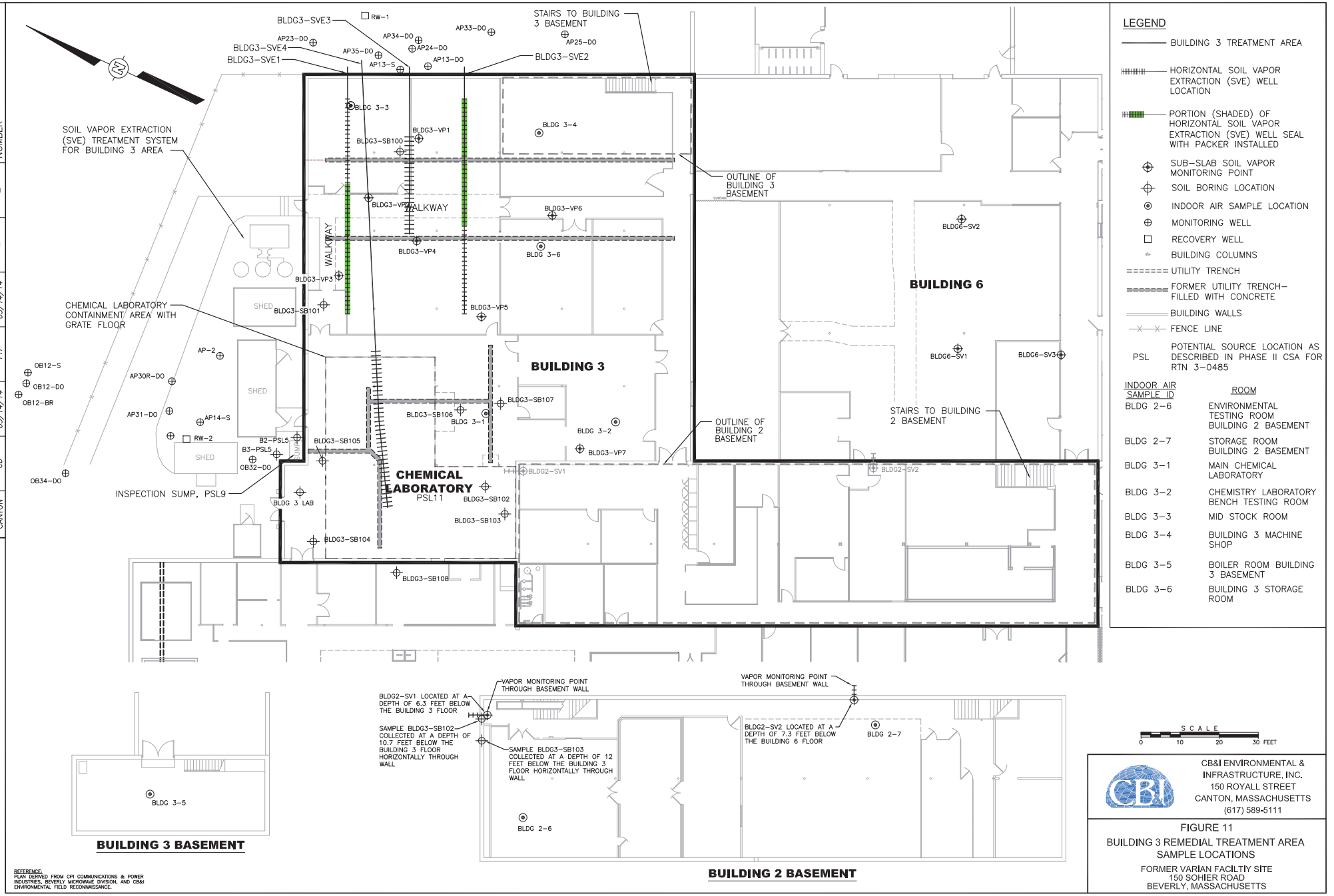
THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JULY 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, JULY 2012, FROM VARIOUS EXISTING PLANS, AND OBSERVATIONS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

SCALE IN FEET

0 300 600

FIGURE 10
ESTIMATED DISTRIBUTION OF TOTAL VOC CONCENTRATIONS IN BEDROCK AQUIFER APRIL

PREPARED FOR: VARIAN MEDICAL SYSTEMS, INC. PALO ALTO, CALIFORNIA	
SCALE: 1" = 150'	DRAFTED BY: CD
DATE: 6 OCTOBER 2014	PROJECT NO.: 146899
PREPARED BY: CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC.	



BUILDING 3 BASEMENT

BUILDING 2 BASEMENT

REFERENCE:
PLAN DERIVED FROM OPI COMMUNICATIONS & POWER INDUSTRIES, BEVERLY MICROWAVE DIVISION, AND CB&I ENVIRONMENTAL FIELD RECONNAISSANCE.

SCALE
0 10 20 30 FEET

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

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

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
CANTON	CD 05/14/14	PH 05/14/14	- -	150148-02

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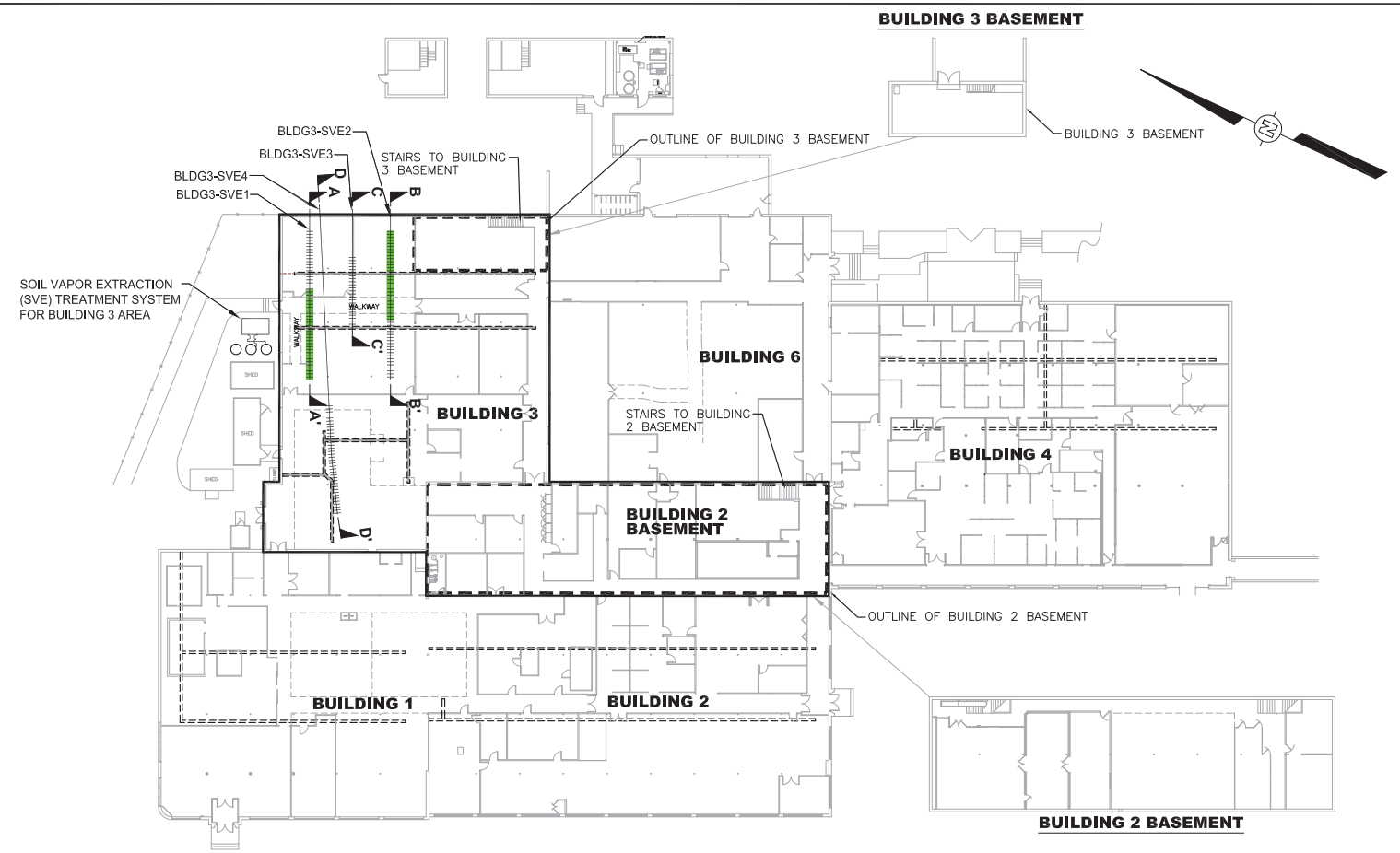
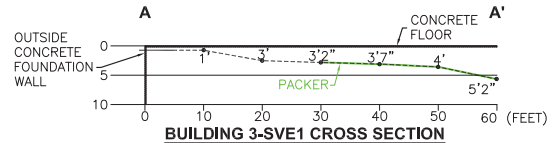
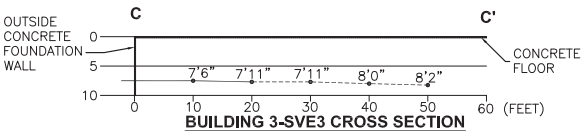
Plotted By: chris.desiato





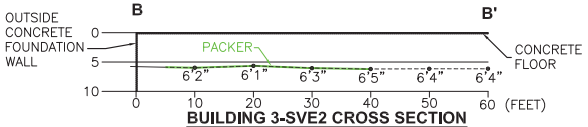
BUILDING 3-SVE1 CROSS SECTION
WELL CONSTRUCTION

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



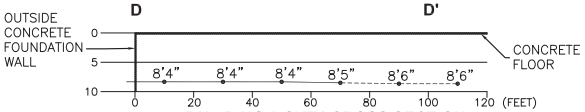
BUILDING 3-SVE3 CROSS SECTION
WELL CONSTRUCTION

25' OF 3" 0.010 SLOT SCHEDULE 80 PVC 15' of 3" SCHEDULE 80 PVC (8') DEPTH OF WELL BENEATH FLOOR



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



BUILDING 3-SVE4 CROSS SECTION
WELL CONSTRUCTION

40' OF 3" 0.010 SLOT SCHEDULE 80 PVC 70' of 3" SCHEDULE 80 PVC (8.5') DEPTH OF WELL BENEATH FLOOR

REFERENCE:
PLAN DERIVED FROM CPI COMMUNICATIONS & POWER INDUSTRIES, BEVERLY MICROWAVE DIVISION, AND CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC. FIELD RECONNAISSANCE.

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

FIGURE 12
BUILDING 3 REMEDIAL TREATMENT AREA - SVE CROSS SECTIONS
FORMER VARIAN FACILTIY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
CANTON	CD 10/14/14	PH 10/14/14	-	150148-D1

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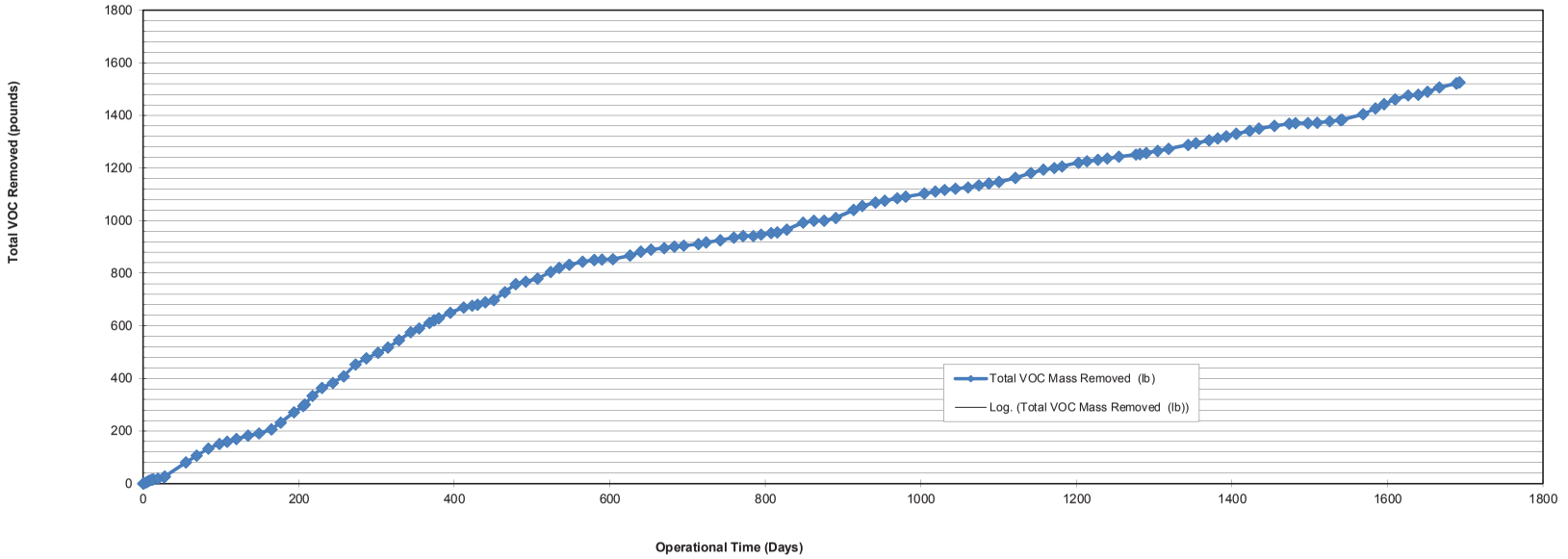
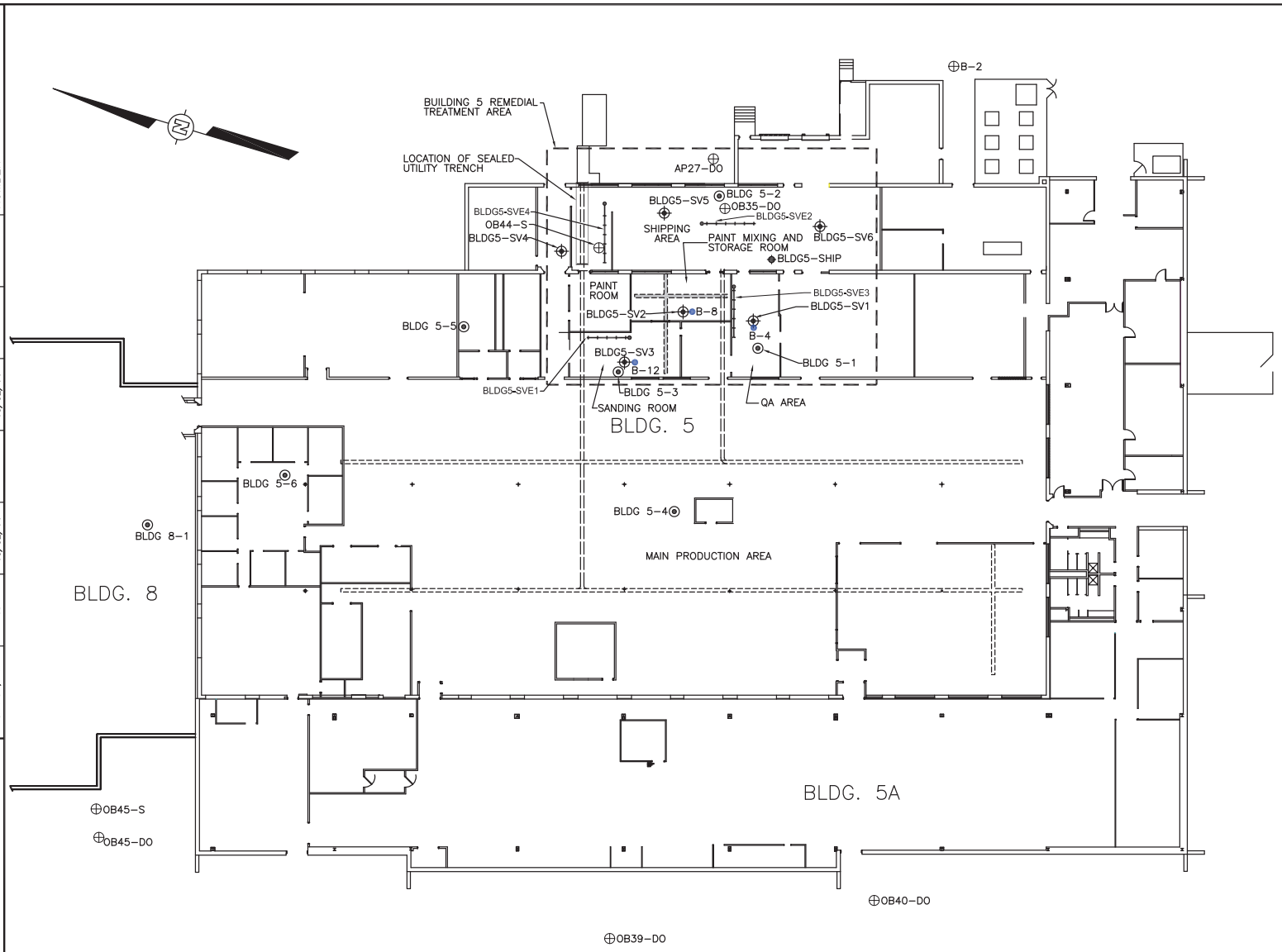
Plot Date/Time: 10/14/2014 - 2:24pm
Plotted By: chris.desisto

Figure 13
VOC Mass Removal Estimate
Building 3 Sub-Slab SVESystem
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts





LEGEND

- SUB-SLAB SOIL VAPOR SAMPLE LOCATION (2011-2014)
- INDOOR AIR SAMPLE LOCATION (2011-2014)
- SUB-SLAB SOIL VAPOR SAMPLE LOCATION (1995)
- MONITORING WELL
- SOIL BORING
- FORMER UTILITY TRENCH FILLED WITH CONCRETE
- UTILITY TRENCH
- SVE TRENCH WELL INSTALLED JULY/AUGUST 2012

INDOOR AIR SAMPLE ID RTN 3-0485	ROOM
BLDG 5-1	QA AREA
BLDG 5-2	SHIPPING AREA
BLDG 5-3	SANDING ROOM
BLDG 5-4	PRODUCTION AREA
BLDG 5-5	CATHODE SPRAY ROOM
BLDG 5-6	COMMON OFFICE AREA
BLDG 8-1	HIGH POWER TESTING BUILDING 8 BASEMENT

SCALE
0 30 60 FEET

REFERENCE:

PLAN DERIVED FROM COMMUNICATIONS & POWER INDUSTRIES MAP, DATED 07/11/03, CLEAN HARBORS ENVIRONMENTAL SERVICES, INC. MAP TITLED "1962-BUILDING 5", AND CB&I ENVIRONMENTAL FIELD RECONNAISSANCE, JULY 2012 AND APRIL 2014.

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

FIGURE 14
BUILDING 5 REMEDIAL TREATMENT AREA
FORMER VARIAN FACILITY
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
CANTON, MA	CD 10/02/14	PH 10/02/14	--	146898-SITE PLAN

XREF Files:
IMAGE Files:
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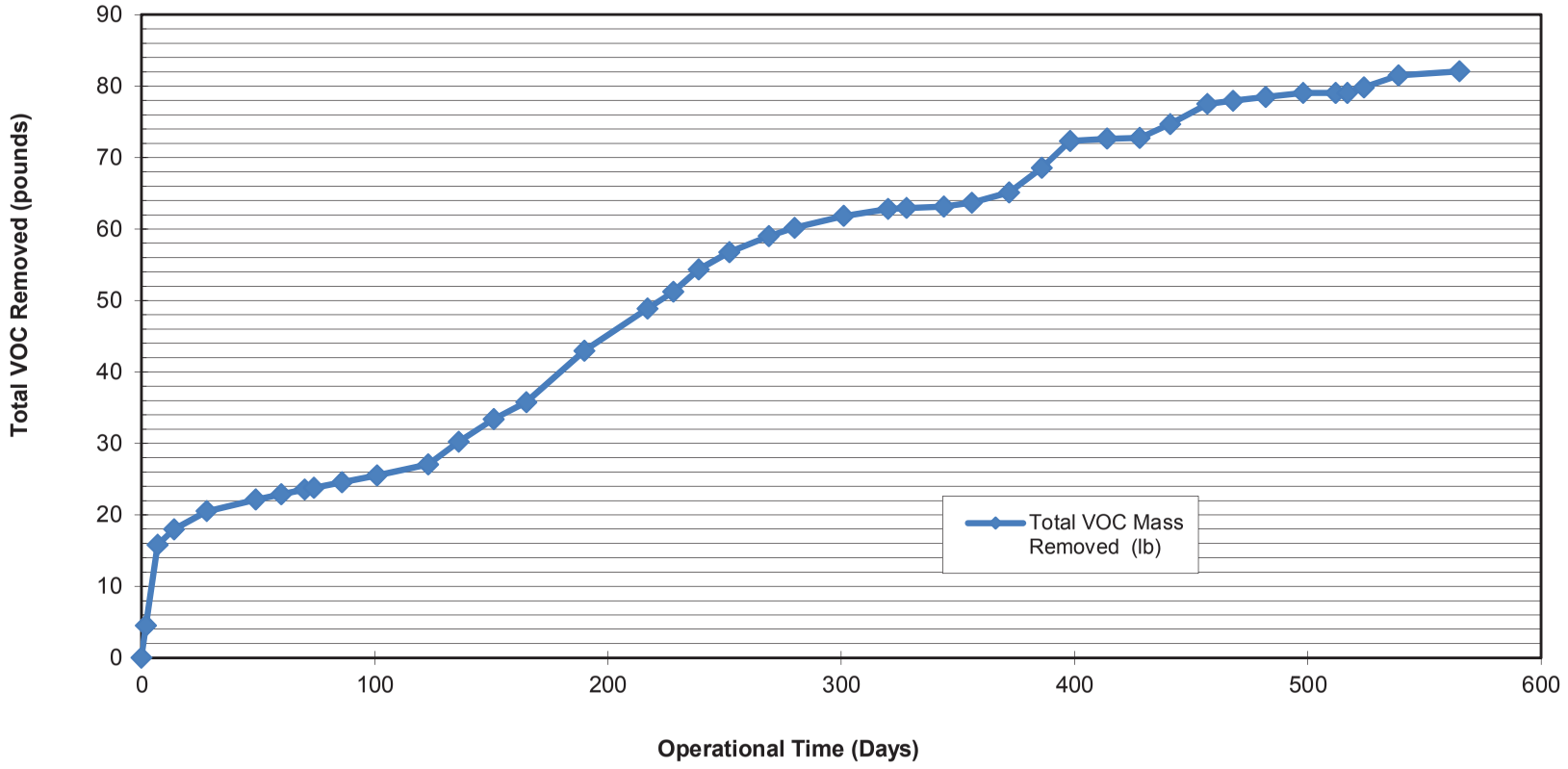
Plot Date/Time: Oct 16, 2014 - 9:09am
Plotted By: chris.desiato

Figure 15
VOC Mass Removal Estimate
Building 5 Sub-Slab SVE System
Former Varian Facility Site
150 Sohier Road
Beverly, Massachusetts



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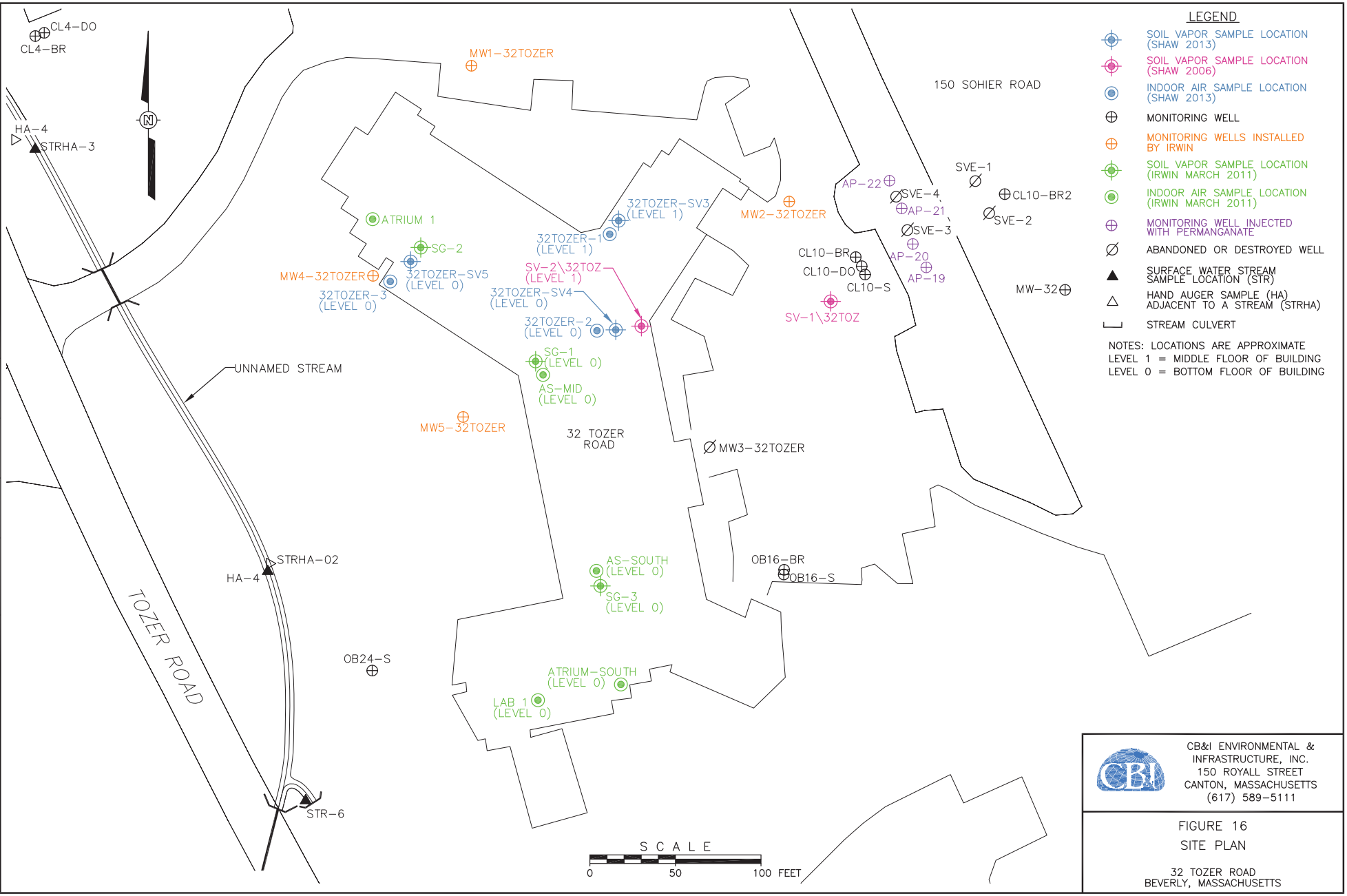

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
CANTON, MA	CD 05/22/14	RC 05/22/14	-- --	32TOZERROAD

XREF Files:
IMAGE Files:
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Plot Date/Time: Oct 16, 2014 - 9:14am
Plotted By: chris.desiato

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

FIGURE 16
SITE PLAN

32 TOZER 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:	**KPERNILLA**
Transaction ID:	**692716**
Document:	**BWSC108 Comp. Res. Action Transmittal Form & Phase I**
Size of File:	**932.75K**
Status of Transaction:	**In Process**
Date and Time Created:	**11/10/2014:11:42:15 AM**

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.

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

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.

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

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: 617-515-3004 5. Ext.: 6. Email:

7. Signature: TIMOTHY W KEMPER

8. Date: 11/10/2014 (mm/dd/yyyy)

9. LSP Stamp:

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

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

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☐ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: VARIAN MEDICAL SYSTEMS INC

3. Contact First Name: JOHN R 4. Last Name: BUCHANAN

5. Street: 3120 HANSEN WAY M/S G-100 6. Title: ENVIRONMENTAL AFFAIRS MANAGER

7. City/Town: PALO ALTO 8. State: CA 9. ZIP Code: 943041030

10. Telephone: 650-424-6103 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.

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

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

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

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

2. By: JOHN R BUCHANAN (Signature)

3. Title: ENVIRONMENTAL AFFAIRS MANAGER

4. For: VARIAN MEDICAL SYSTEMS INC (Name of person or entity recorded in Section D)

5. Date: 11/10/2014 (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:)

Received by DEP on 11/10/2014 11:25:49 AM

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

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

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

☐ a. 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: 4/1/2014 (mm/dd/yyyy) To: 9/30/2014 (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: MONTHLY

☑ 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:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: _____ b. Grade: _____
c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required
☑ 3. Not Applicable

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

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

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

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

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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

☑ i. Permanganates:

Name of Additive	Date	Quantity	Units
SODIUM PERMANGA	9/10/2014	1272.25	GALL

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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

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

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

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

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

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

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

c. Reason(s) for Unscheduled Shutdowns: _____

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

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

c. Reason(s) for Scheduled Shutdowns: _____

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

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

☐ b. No Further Effluent Discharges.

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

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

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

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

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

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

4. Indicate any Operational Problems or Notes:

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

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

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

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

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

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

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 4/1/2014 (mm/dd/yyyy) To: 9/30/2014 (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): MADEP POLICY #WSC94-150

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

☐ 4. Other Describe:

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: 157 b. GW Recovered (gals): _____
c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____
e. Avg. Soil Gas Recovery Rate (scfm): 171 f. Avg. Sparging Rate (scfm): _____

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

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

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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

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

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

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

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

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

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

c. Reason(s) for Unscheduled Shutdowns: _____

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

a. Number of Scheduled Shutdowns: 1 b. Total Number of Days of Scheduled Shutdowns: 26

c. Reason(s) for Scheduled Shutdowns: TEMPORARY SHUTDOWN TO MONITOR STATIC SITE CONDITIONS

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

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

☐ b. No Further Effluent Discharges.

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

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

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

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

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

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

4. Indicate any Operational Problems or Notes:

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

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

BWSC108 -A

Release Tracking Number
3 - 485

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

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

☑ a. 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: BUILDING 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)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:

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

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 4/1/2014 (mm/dd/yyyy) To: 9/30/2014 (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): MADEP POLICY #WSC94-150

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

☐ 4. Other Describe:

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: _____ b. Grade: _____
c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

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

☑ 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: 183 b. GW Recovered (gals): _____
c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____
e. Avg. Soil Gas Recovery Rate (scfm): 128 f. Avg. Sparging Rate (scfm): _____

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

☐ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

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

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

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

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

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

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

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

c. Reason(s) for Unscheduled Shutdowns: _____

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

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

c. Reason(s) for Scheduled Shutdowns: _____

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

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

☐ b. No Further Effluent Discharges.

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

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

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

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

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

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

4. Indicate any Operational Problems or Notes:

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

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)

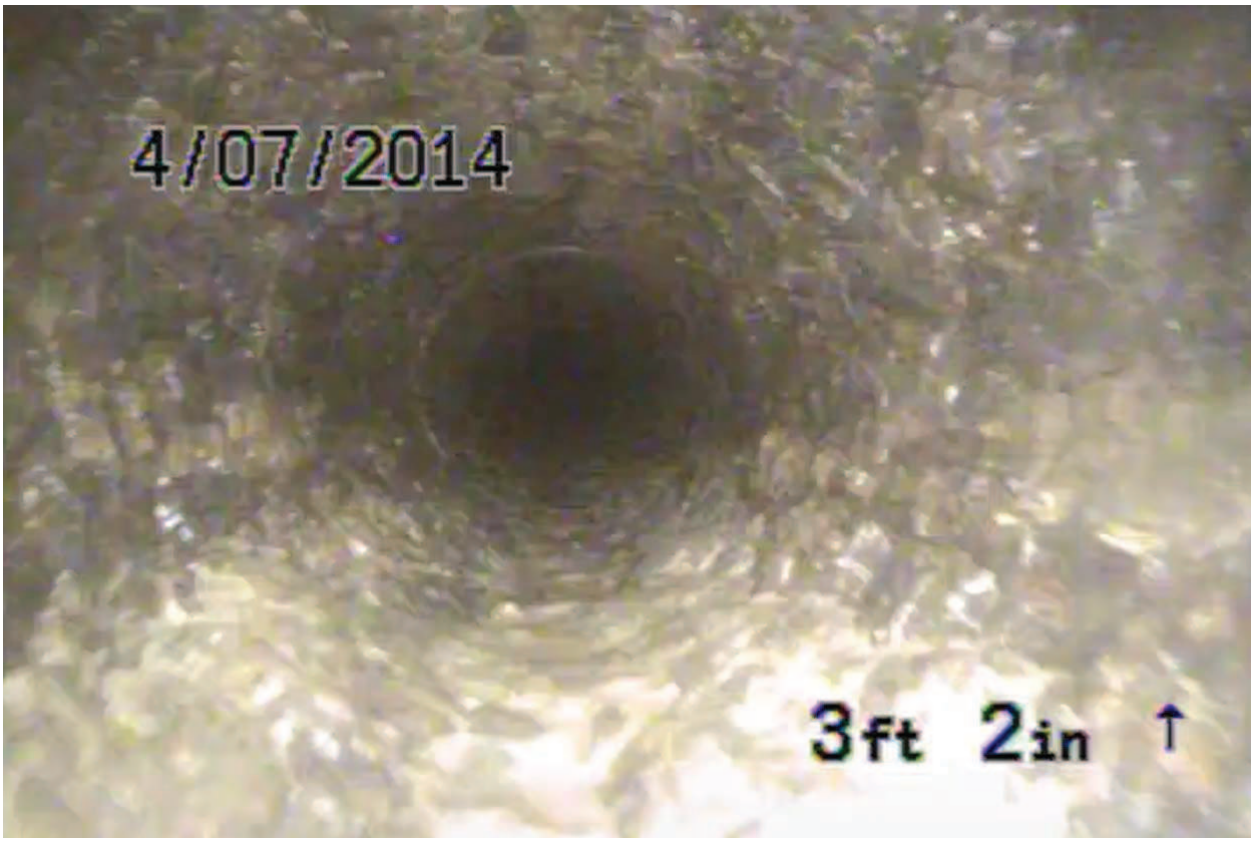
APPENDIX B

DRAIN LINE ASSESSMENT BUILDING 3 AND 5

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA

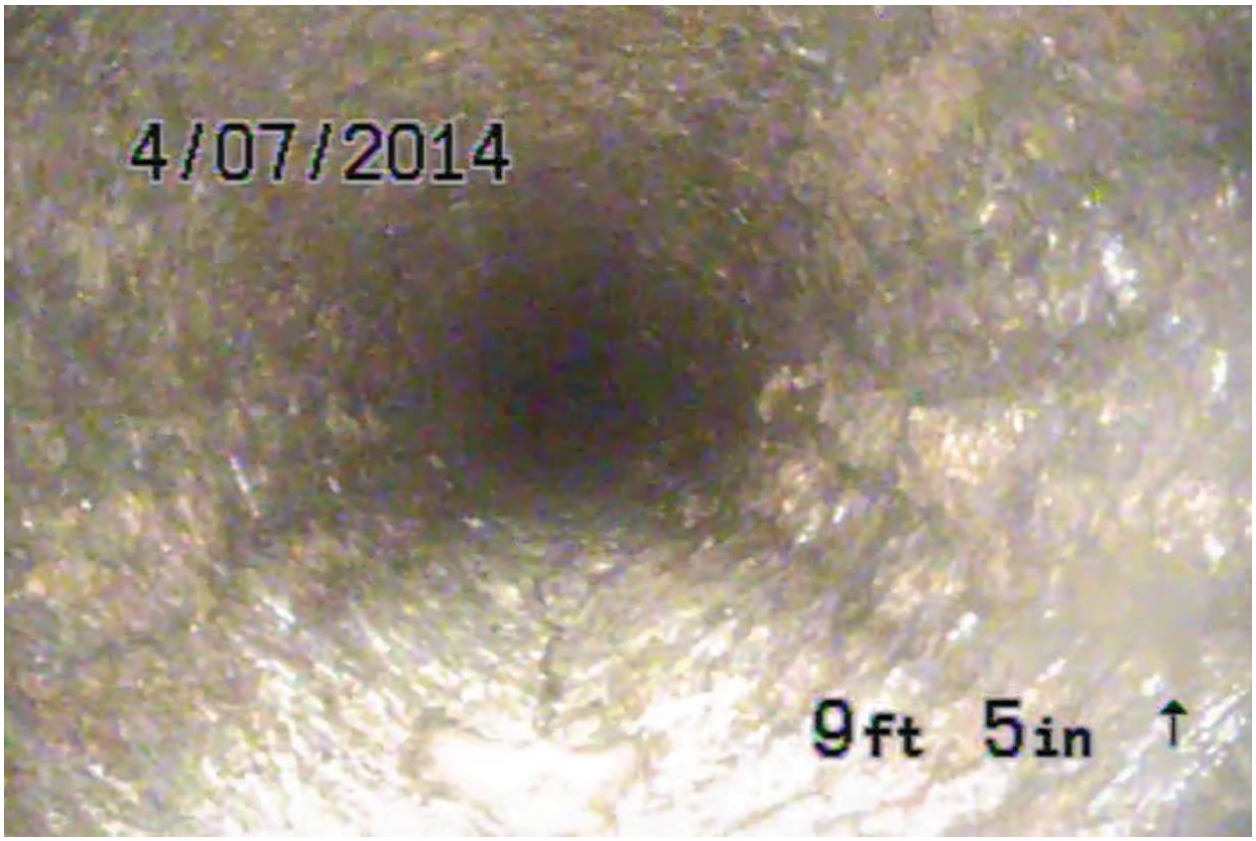
Screen shot 1: four-inch cast iron drain line 7 at Building 3 with wall deposits and sediment before cleaning

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA



Screen shot 2: four-inch cast iron drain line 7 at Building 3 after cleaning

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA

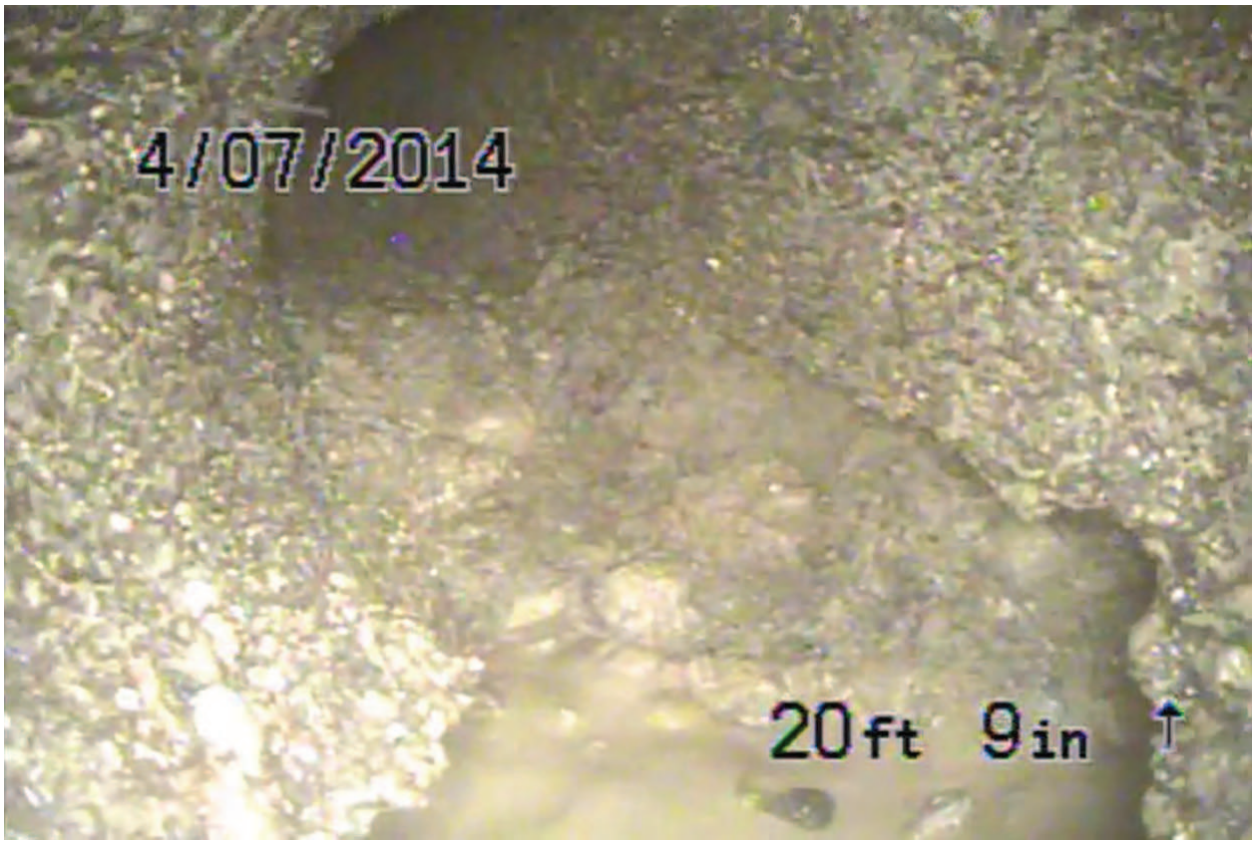


Screen shot 3: four-inch cast iron drain line 7 at Building 3 with crack and hole in bottom of pipe, approximately 9 feet from former sump

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA

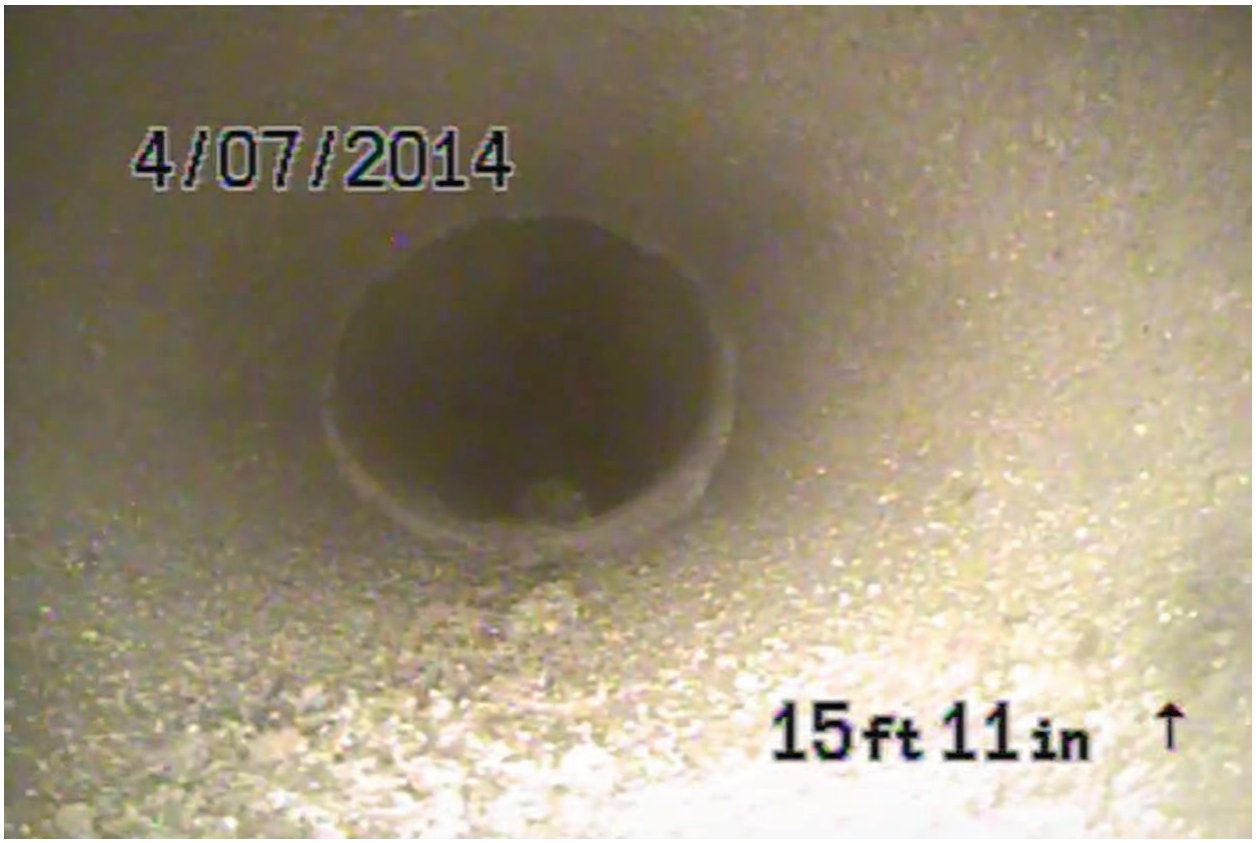
Screen shot 4: four-inch cast iron drain line 7 at Building 3 with unknown connection (left) and hole in bottom of pipe, approximately 18 feet from former sump

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA



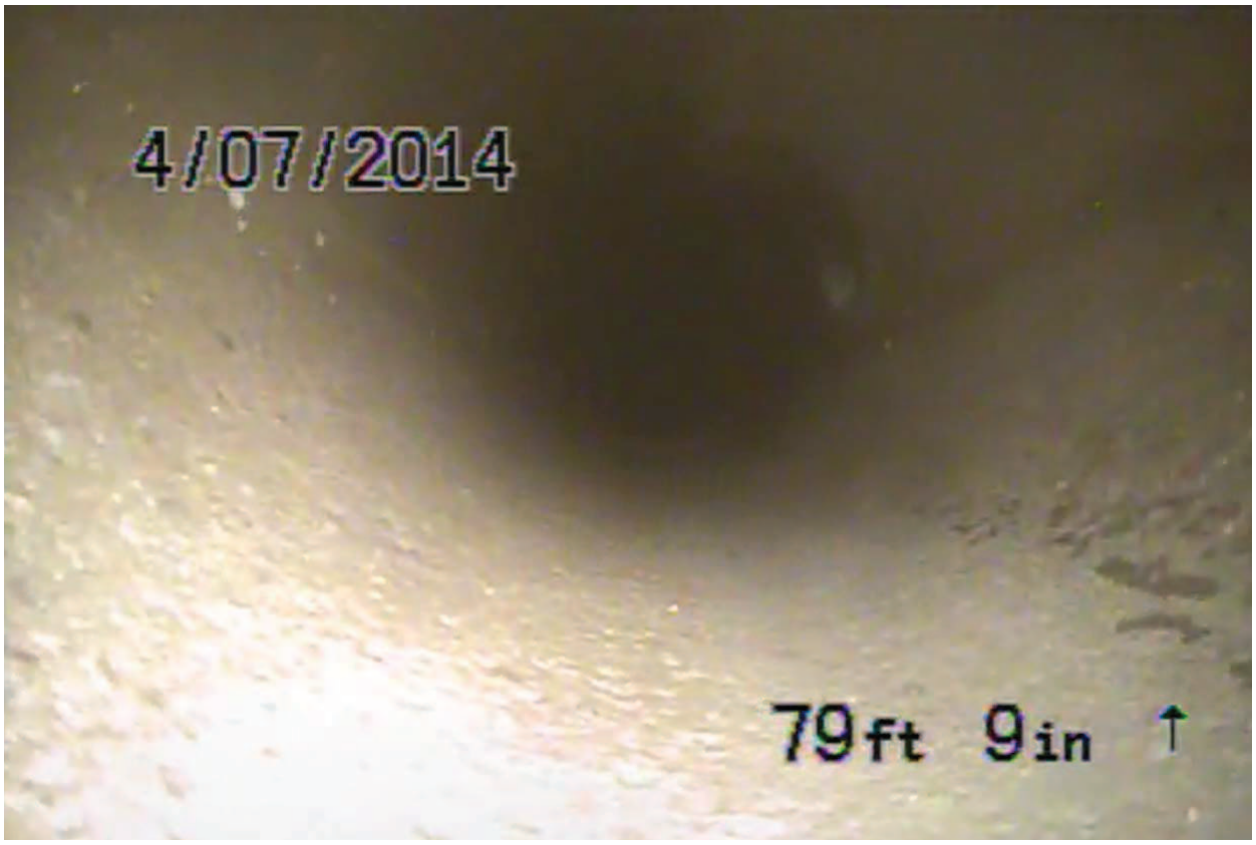
Screen shot 5: four-inch cast iron drain line 7 at Building 3 with bottom of third of pipe completely deaerated, approximately 20 feet from former sump

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA



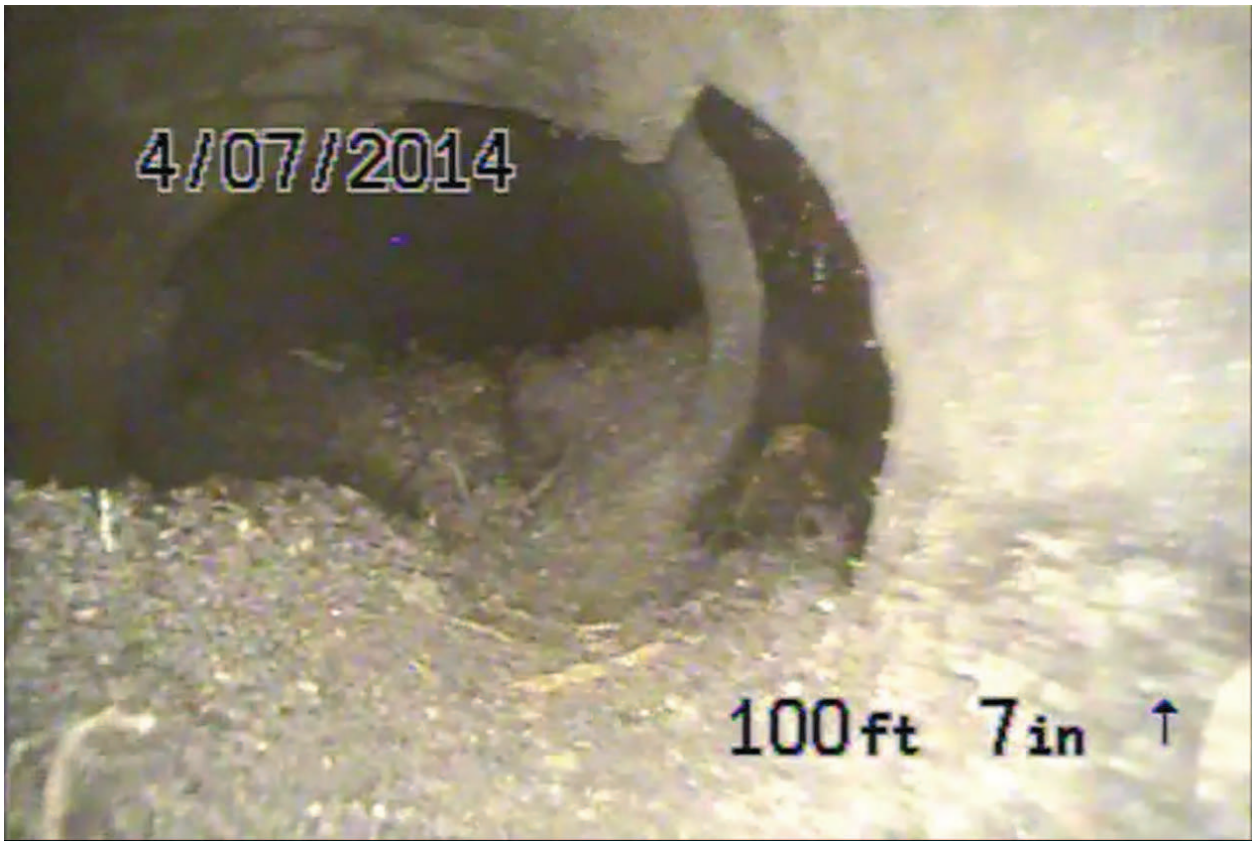
Screen shot 6: four-inch clay drain line 9 at Building 3

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA



Screen shot 7: four-inch clay drain line 9 at Building 3 with potential connection on right, approximately 80 feet from former sump

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA



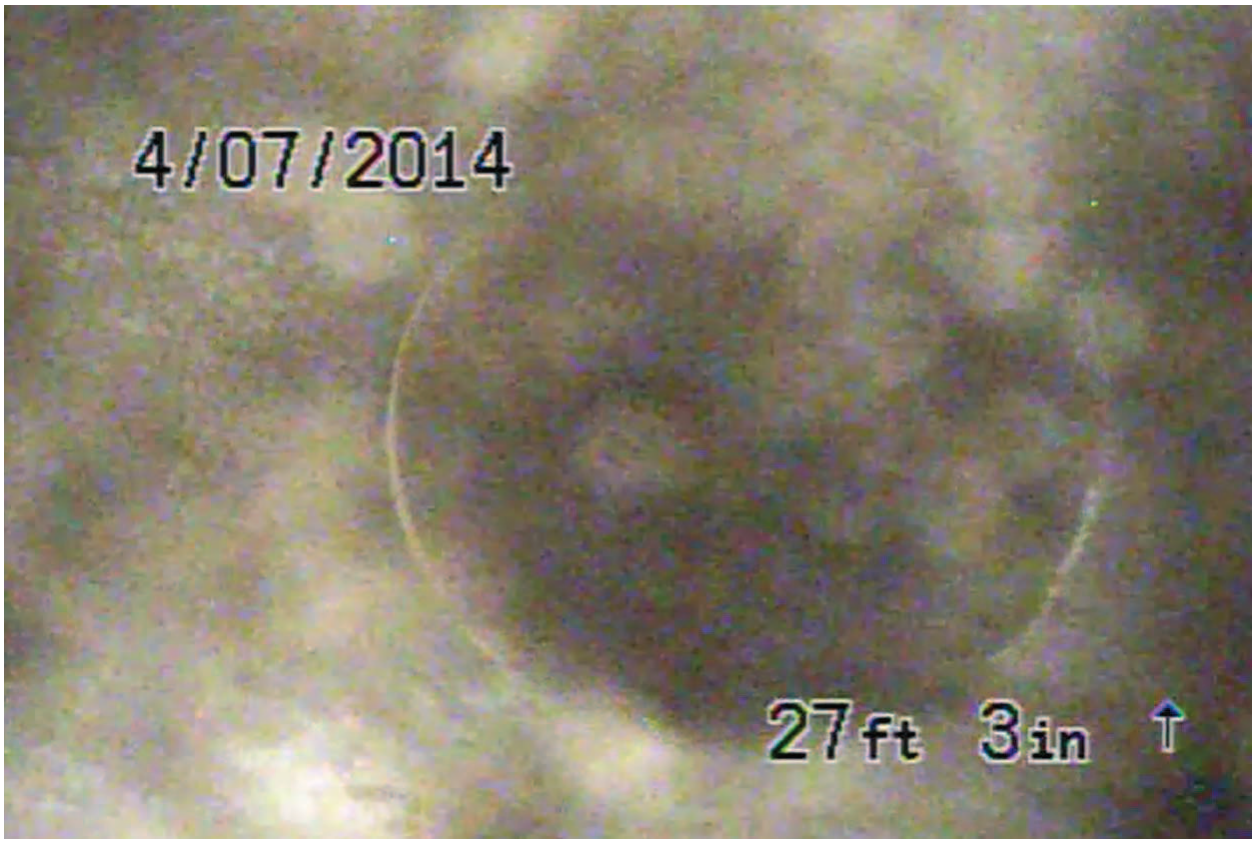
Screen shot 8: four-inch clay drain line 9 at Building 3 with potential break on right, approximately 100 feet from former sump

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA

Screen shot 9: four-inch clay drain line 9 at Building 3 with significantly off-set joint, approximately 110 feet from former sump

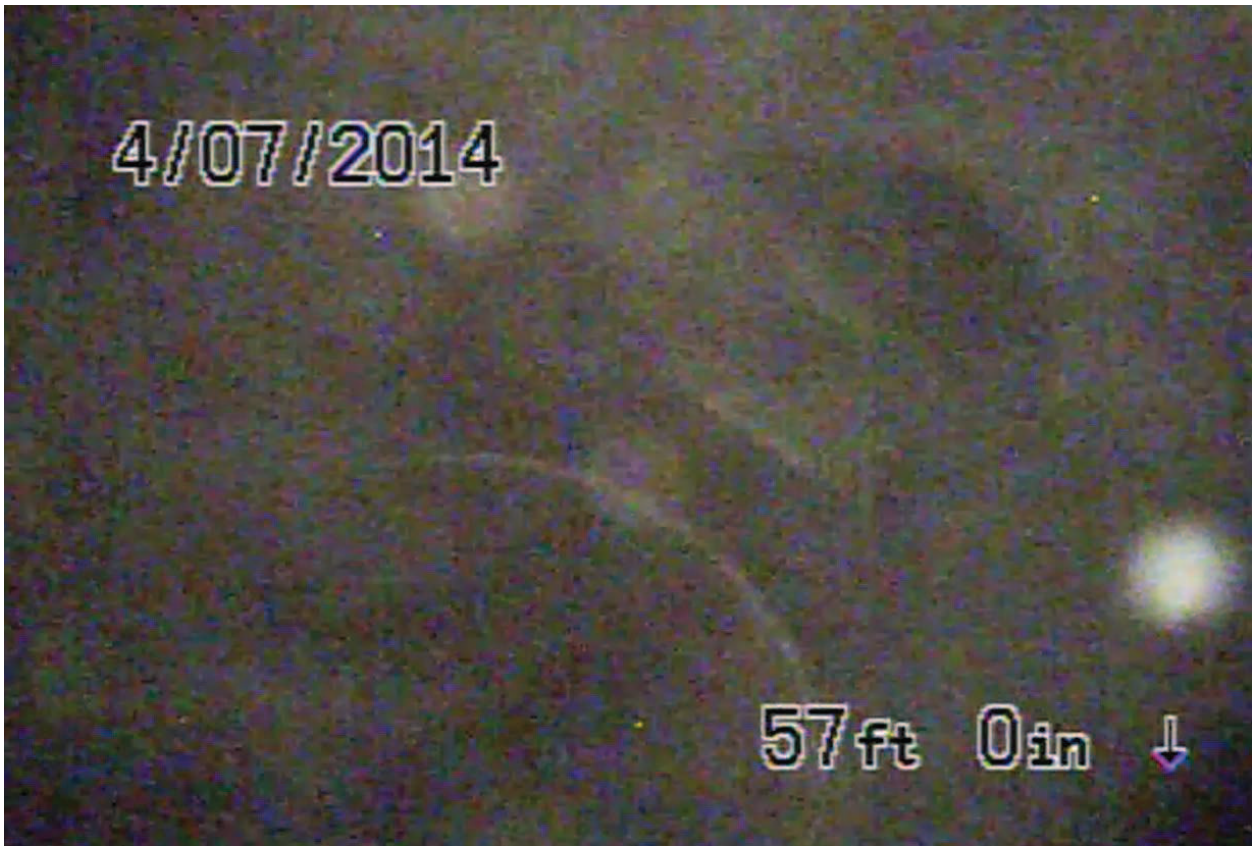
Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA

Screen shot 10: four-inch clay drain line 9 at Building 3 with off-set and cracked joint, approximately 113 feet from former sump

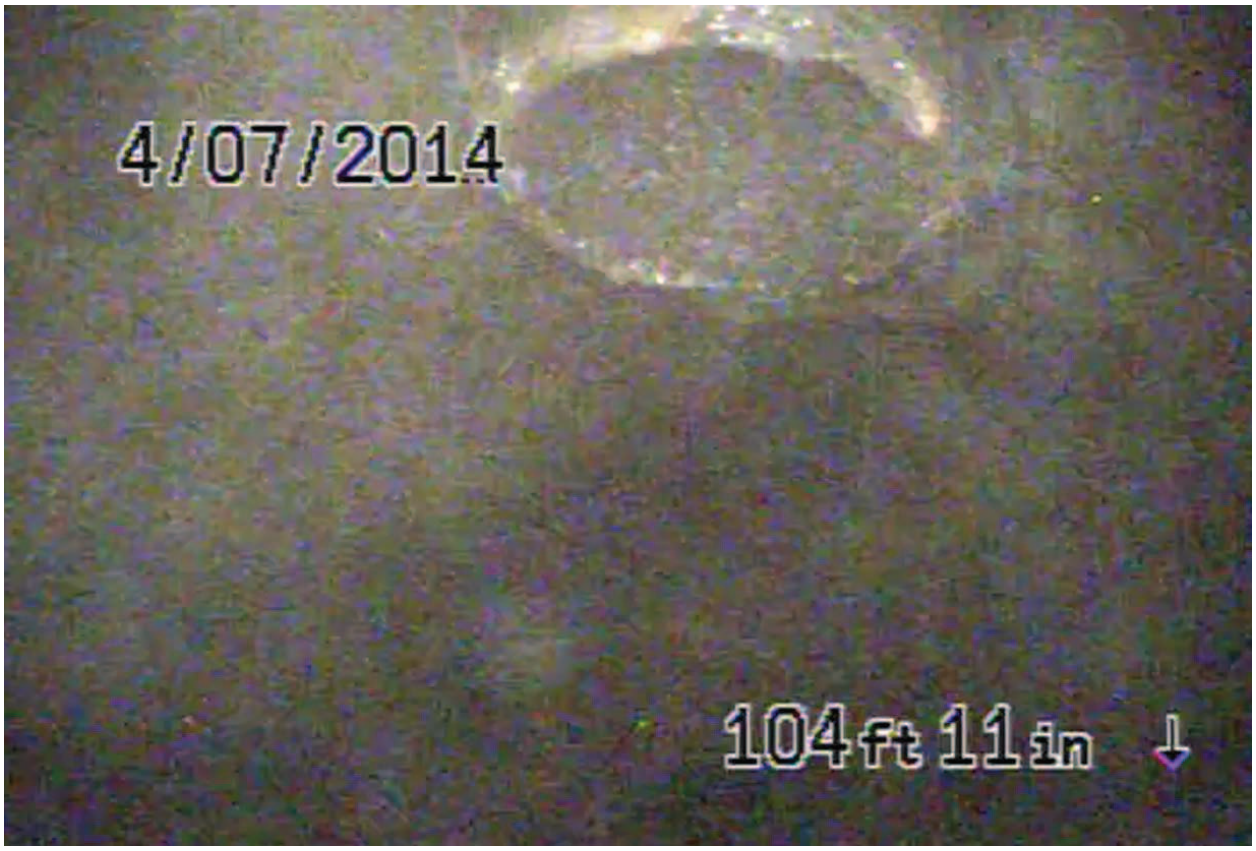


Screen shot 11: ten-inch clay drain line 10 at Building 5

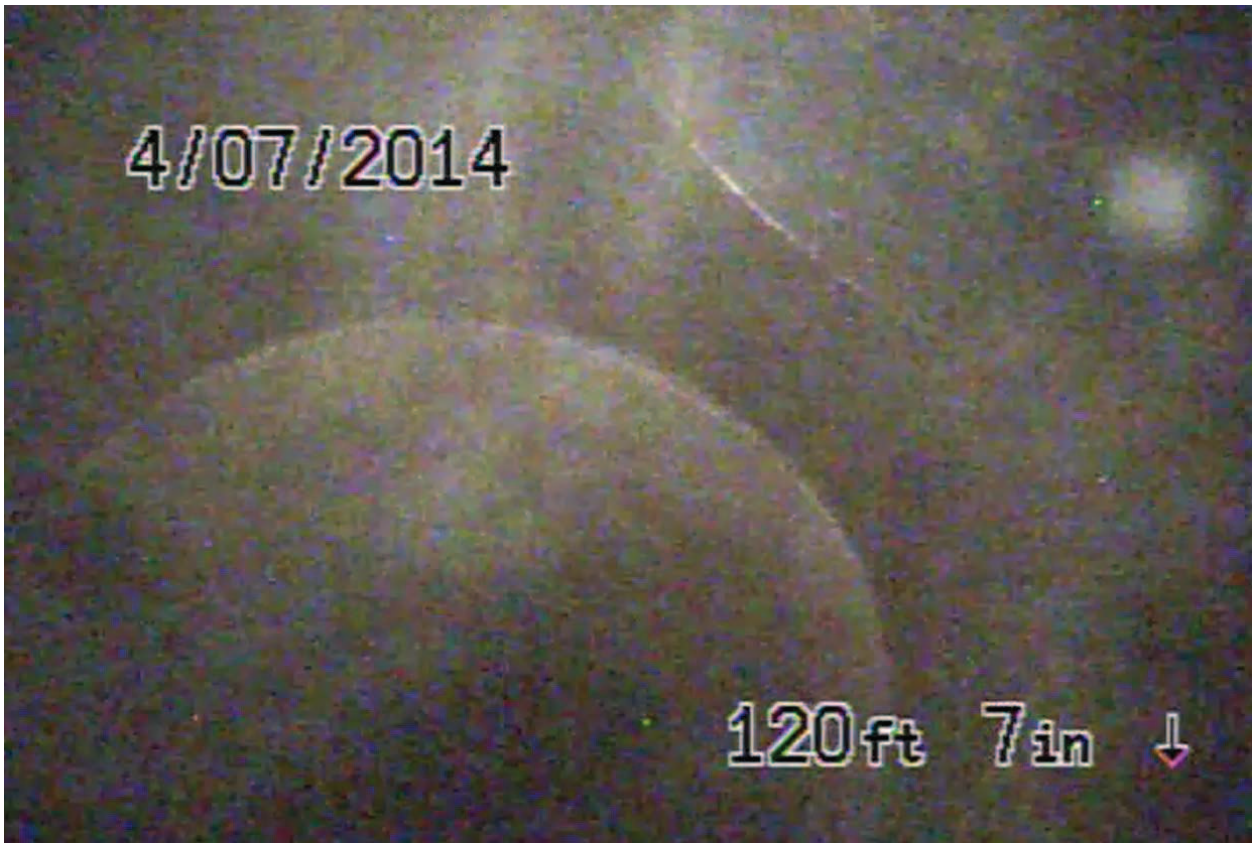
Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA



Screen shot 12: ten-inch clay drain line 10 at Building 5 with potential roof drain connection at upper right, approximately 57 feet from manhole

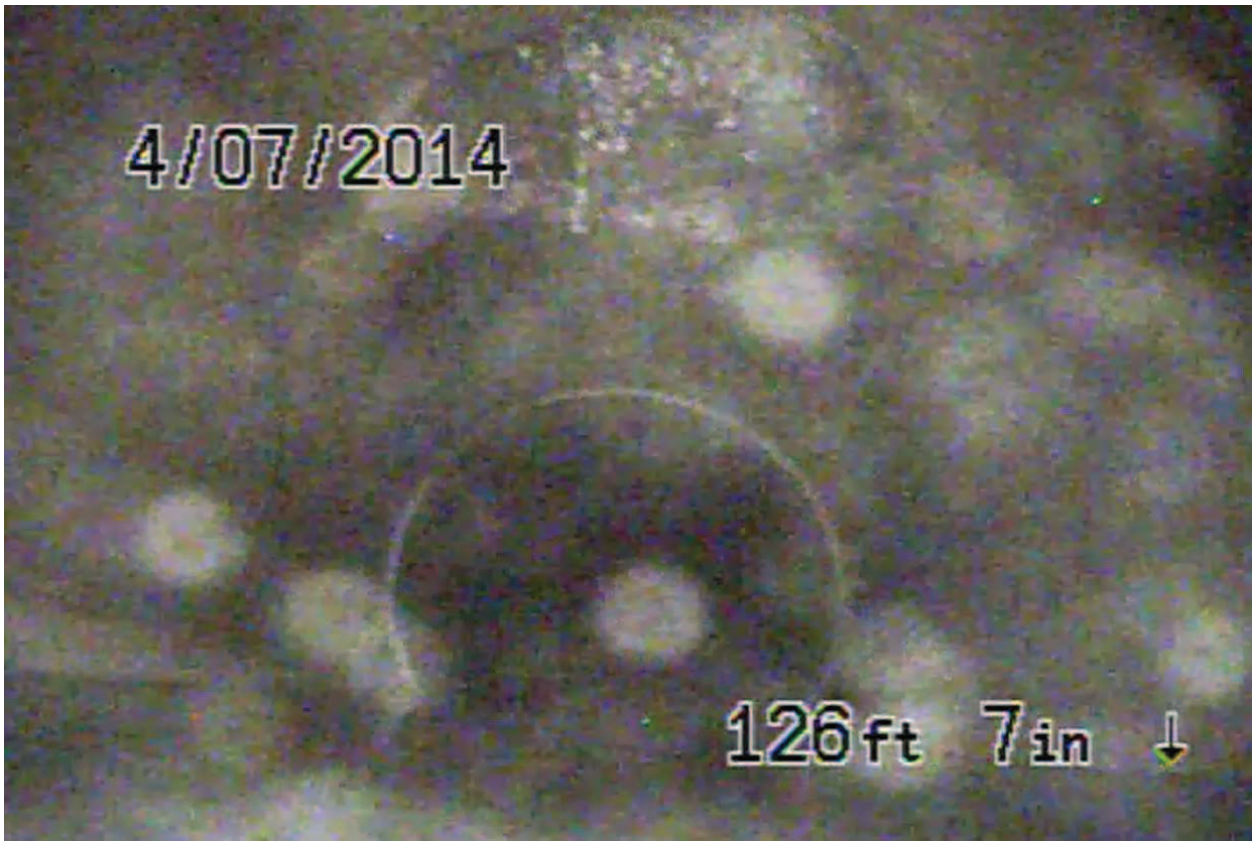


Screen shot 13: ten-inch clay drain line 10 at Building 5 with potential connection at top, approximately 104 feet from manhole



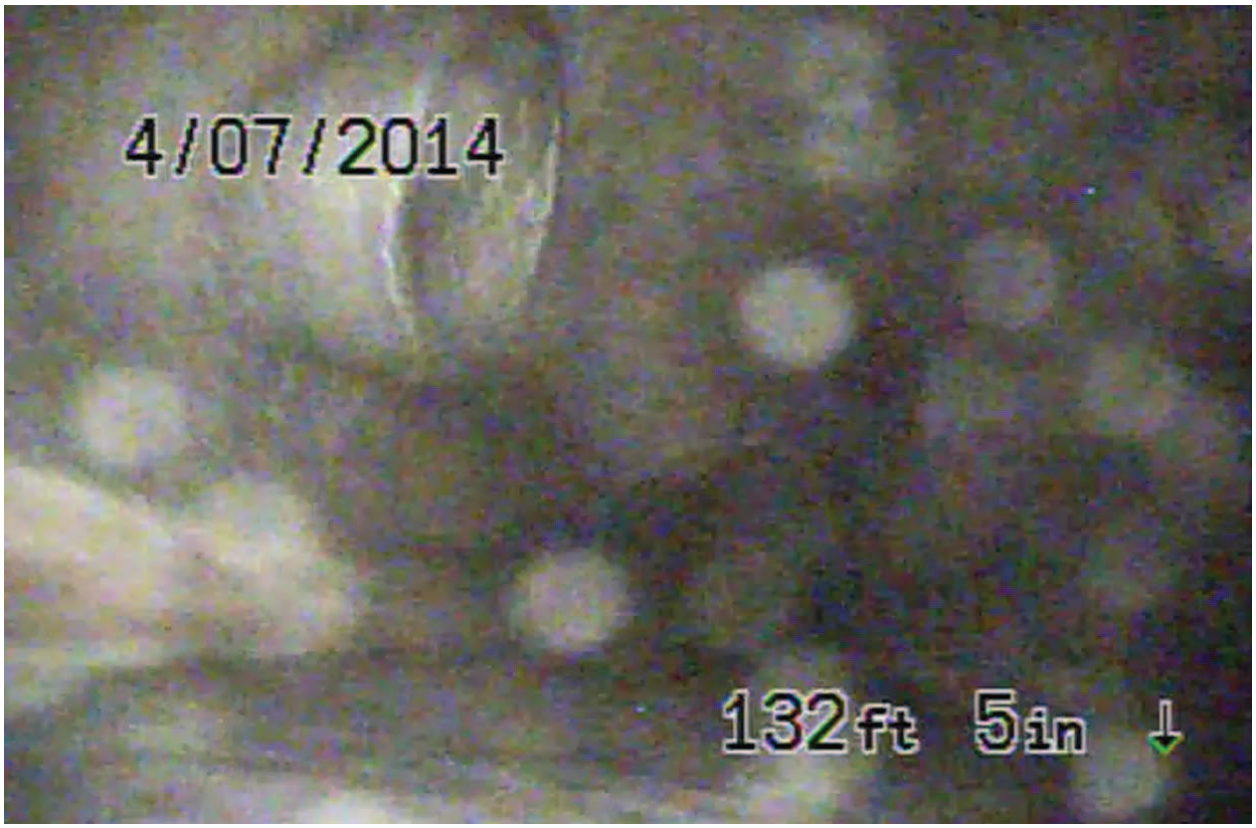
Screen shot 14: ten-inch clay drain line 10 at Building 5 with potential roof drain connection at upper right, approximately 120 feet from manhole

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA



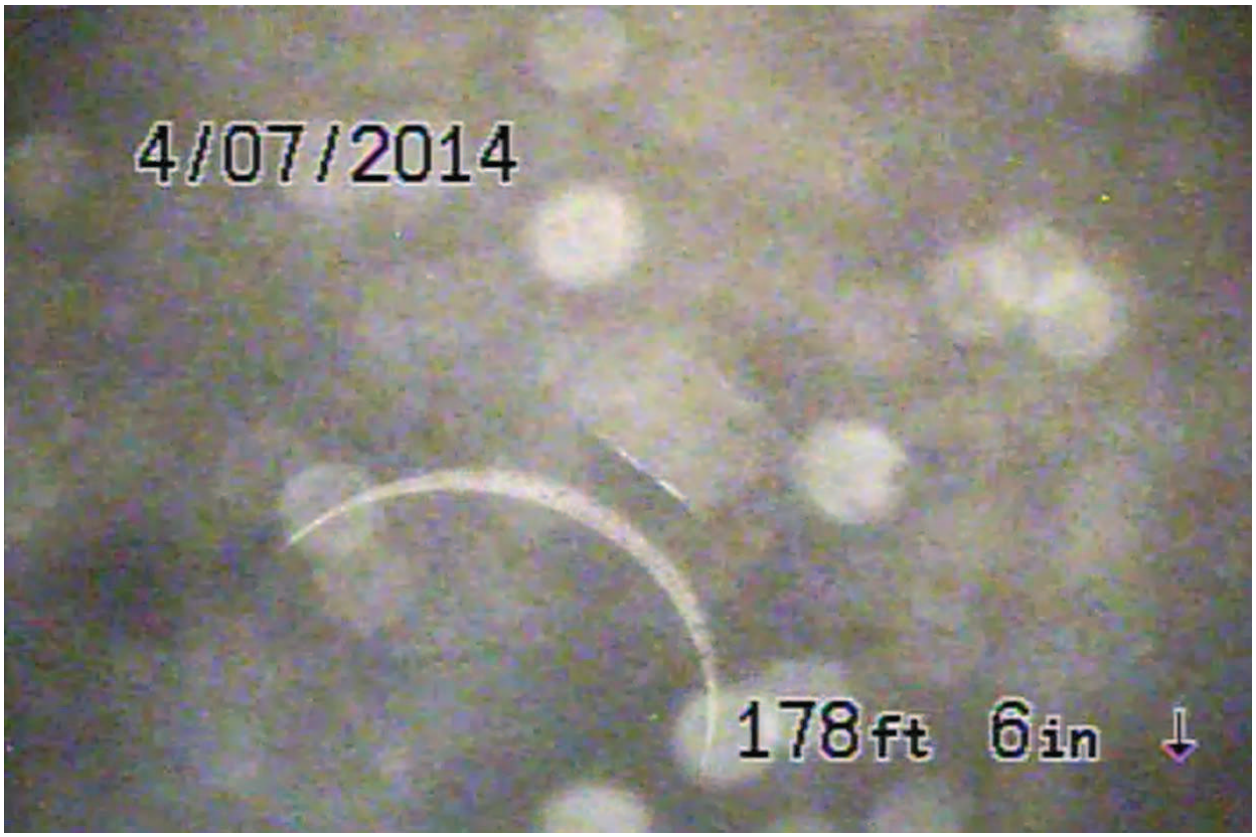
Screen shot 15: ten-inch clay drain line 10 at Building 5 with potential connection at top, approximately 126 feet from manhole

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA

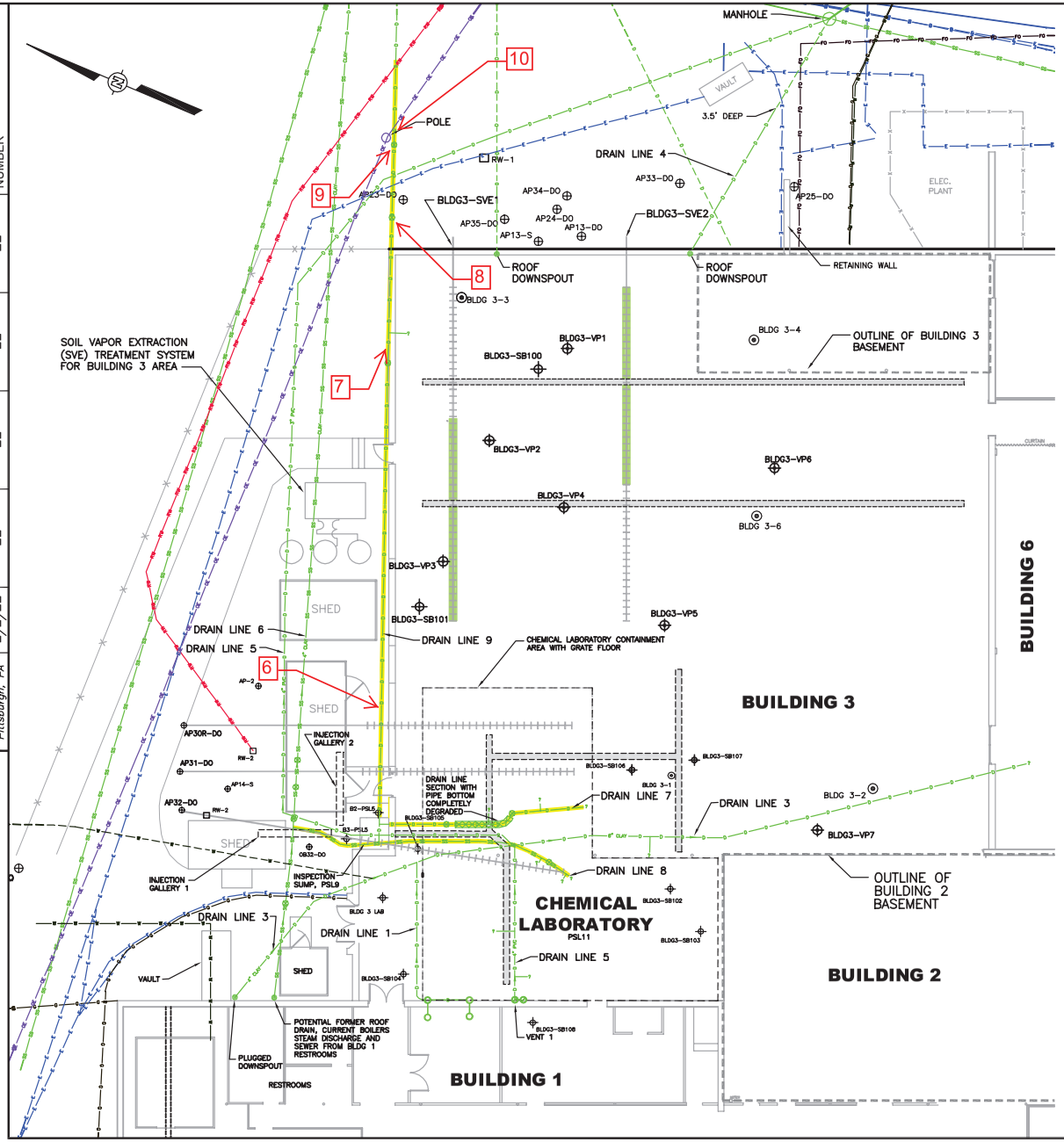


Screen shot 16: ten-inch clay drain line 10 at Building 5 with potential connection on left, approximately 132 feet from manhole

Drain Inspection Screen Shots
April 7, 2014 Video Drain Inspection
Former Varian Facility Site
Beverly, MA



Screen shot 17: ten-inch clay drain line 10 at Building 5 with potential roof drain connection upper right, approximately 178 feet from manhole



1 Screen Shot Location

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 4/7/14
- DRAIN LINES
- ACTIVE ROOF DRAINS
- FORMER SUCTION VENTS
- BUILDING WALLS
- FENCE LINE
- ELECTRICAL LINE
- OVERHEAD ELECTRIC LINE
- GAS
- SANITARY SEWER
- DRAIN LINE
- DRAIN LINE SUSPECTED LOCATION
- WATER
- RECOVERY WATER
- FIBER OPTIC
- CONNECTION TO UNKNOWN LINE
- POTENTIAL BREACH IN LINE

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.

SCALE
0 18 36 FEET

CB&I Environmental & Infrastructure, Inc.
150 Royall Street
Canton, Massachusetts
(617) 589-5111

APPENDIX B
FIGURE 1

BUILDING 3 REMEDIAL TREATMENT AREA
EXISTING WELLS AND UTILITIES
FORMER VARIAN FACILTIY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	-/-/--	--	--	--	--	150148-B5

Xref: Image: CB&I.jpg

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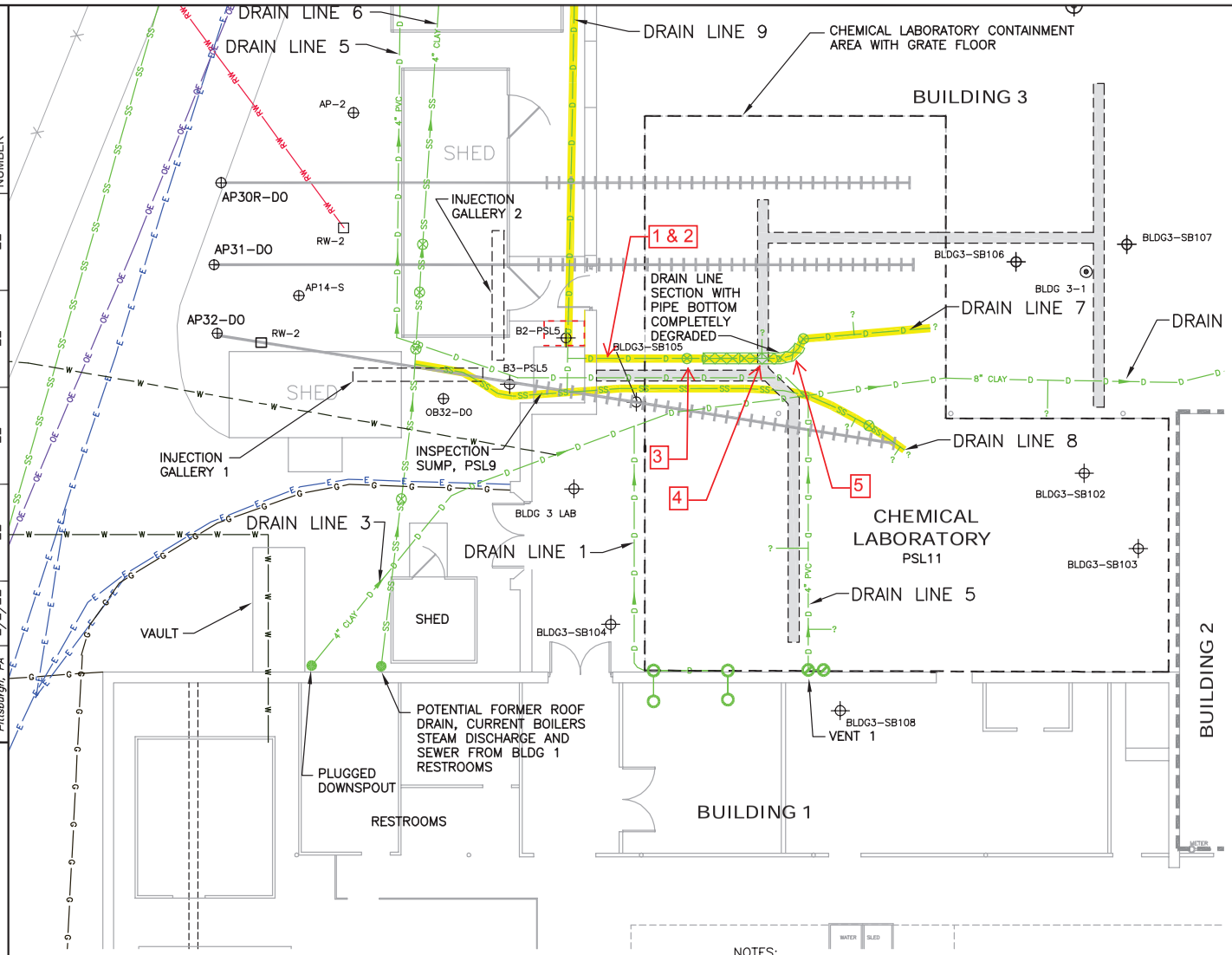
Plot Date/Time: Oct 06, 2014 - 7:12am
Plotted By: greg.jones



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 4/7/14
- ELECTRICAL LINE
- OVERHEAD ELECTRIC LINE
- GAS
- SANITARY SEWER
- DRAIN LINE
- DRAIN LINE SUSPECTED LOCATION
- WATER
- WATER SUSPECTED LOCATION
- RECOVERY WATER
- FIBER OPTIC
- CONNECTION TO UNKNOWN LINE
- POTENTIAL BREACH IN LINE
- FLOW DIRECTION

SCALE
0 10 20 FEET

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

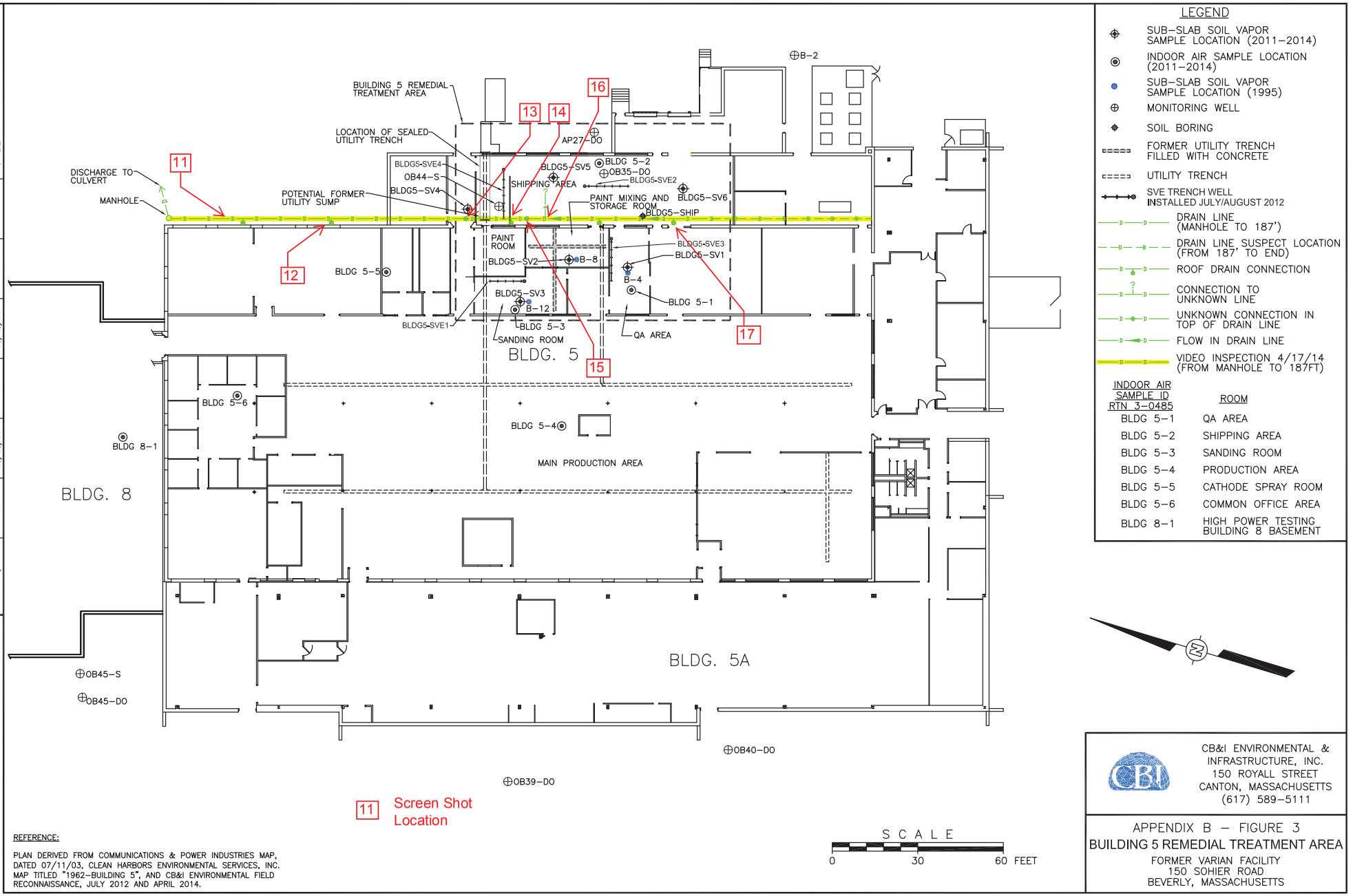
APPENDIX B
FIGURE 2

BUILDING 3 REMEDIAL TREATMENT AREA
EXISTING WELLS AND UTILITIES
FORMER VARIAN FACILTIY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

DRAWING NUMBER 150148-B6
APPROVED BY --
CHECKED BY --
DRAWN BY --
DESIGNED BY --
DATE --/--/--
OFFICE Pittsburgh, PA

Xref:
Image: CB&I.jpg

File: O:\Project\150148\150148-B5.dwg
Plot Date/Time: Oct 06, 2014 - 7:13am
Plotted By: greg.jones



11 Screen Shot Location

LEGEND

- SUB-SLAB SOIL VAPOR SAMPLE LOCATION (2011-2014)
- INDOOR AIR SAMPLE LOCATION (2011-2014)
- SUB-SLAB SOIL VAPOR SAMPLE LOCATION (1995)
- MONITORING WELL
- SOIL BORING
- FORMER UTILITY TRENCH FILLED WITH CONCRETE
- UTILITY TRENCH
- SVE TRENCH WELL INSTALLED JULY/AUGUST 2012
- DRAIN LINE (MANHOLE TO 187')
- DRAIN LINE, SUSPECT LOCATION (FROM 187' TO END)
- ROOF DRAIN CONNECTION
- CONNECTION TO UNKNOWN LINE
- UNKNOWN CONNECTION IN TOP OF DRAIN LINE
- FLOW IN DRAIN LINE
- VIDEO INSPECTION 4/17/14 (FROM MANHOLE TO 187FT)

INDOOR AIR SAMPLE ID RTN 3-0485	ROOM
BLDG 5-1	QA AREA
BLDG 5-2	SHIPPING AREA
BLDG 5-3	SANDING ROOM
BLDG 5-4	PRODUCTION AREA
BLDG 5-5	CATHODE SPRAY ROOM
BLDG 5-6	COMMON OFFICE AREA
BLDG 8-1	HIGH POWER TESTING BUILDING 8 BASEMENT

SCALE
0 30 60 FEET

REFERENCE:

PLAN DERIVED FROM COMMUNICATIONS & POWER INDUSTRIES MAP, DATED 07/11/03, CLEAN HARBORS ENVIRONMENTAL SERVICES, INC. MAP TITLED "1962-BUILDING 5", AND CB&I ENVIRONMENTAL FIELD RECONNAISSANCE, JULY 2012 AND APRIL 2014.

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

APPENDIX B – FIGURE 3
BUILDING 5 REMEDIAL TREATMENT AREA
FORMER VARIAN FACILITY
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
CANTON, MA	CD 10/13/14	RC 10/13/14	--	152780-DRAIN LINE

XREF Files:
IMAGE Files:
File: T:\MISC\Varian\Beverly, Ma\Phase 4\BUILDING 5 SYSTEM\152780-DRAIN LINE.dwg
Plot Date/Time: Oct 13, 2014 - 5:06pm
Plotted By: chris.desiato

APPENDIX C

COPIES OF WASTE MAINFESTS

717242

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	MAR000006774		(877) 813-0087	000863654 VES

GENERATOR

5. Generator's Name and Mailing Address: Attn R. Cadorette — VARIAN MEDICAL SYSTEMS C/O ~~CB&I~~ 150 ROYALL STREET CANTON, MA 02021 — Generator's Phone: 617 589-6102

Generator's Site Address (if different than mailing address): VARIAN MEDICAL SYSTEMS, INC 150 SOHIER ROAD- TRTMENT FAC BEVERLY, MA 01915

6. Transporter 1 Company Name: VEOLIA ES TECHNICAL SOLUTIONS — U.S. EPA ID Number: NJD080631369

7. Transporter 2 Company Name: ~~FREEHOLD CARTAGE INC~~ SJ Transportation Co Inc — U.S. EPA ID Number: ~~NJD054126164~~ MAD071629996

8. Designated Facility Name and Site Address: VEOLIA ES TECHNICAL SOLUTIONS HIGHWAY 73 3.5 MILES W. OF TAYLOR'S BAYOU PORT ARTHUR, TX 77640 — Facility's Phone: 409 736-2821 — U.S. EPA ID Number: TXD000838896

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. NA3077, HAZARDOUS WASTE, SOLID, n.o.s., (TRICHLOROETHYLENE), 9, III	1	DM	400	P	F002	D040	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS **CERTIFICATE OF DESTRUCTION REQUIRED**

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: Raymond J. Cadorette Agent for VMS — Signature — Month: 04 Day: 11 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jeremy Anderson — Signature — Month: 04 Day: 11 Year: 14

Transporter 2 Printed/Typed Name: Felix A. Covet Jr. — Signature — Month: 04 Day: 14 Year: 14

DESIGNATED FACILITY

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.
H040			

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: Dean Jones — Signature — Month: 04 Day: 23 Year: 14

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: MARO00016734

22. Page 2 of 2

23. Manifest Tracking Number: 008636541VES

24. Generator's Name: Varian Medical Systems Co

25. Transporter 3 Company Name: Veolia ES Technical Solutions — U.S. EPA ID Number: NJD986131869

26. Transporter 4 Company Name: TMD Transportation Inc — U.S. EPA ID Number: OHD988588791

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

TRANSCRIPT

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name: MARK WHEELER — Signature — Month: 4 Day: 21 Year: 14

34. Transporter ____ Acknowledgment of Receipt of Materials

Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: MAR000006734
2. Page 1 of: 1
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 006197508 FLE

GENERATOR

5. Generator's Name and Mailing Address:
VARIAN MEDICAL SYSTEMS c/o CBI
150 Rogill Street
Canton, MA 02021
Generator's Phone: 650-424-6103

Generator's Site Address (if different than mailing address):
VARIAN MEDICAL SYSTEMS
Former Varian Facility
150 Sohier Road
Beverly, MA 01915

6. Transporter 1 Company Name: Hardwith 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: Evoqua Water Technologies LLC
2523 Mutahar Street
Parker, AZ 85344
Facility's Phone: 928-669-5758
U.S. EPA ID Number: AZD982441263

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN3077, Hazardous Waste Solid, NOS (Solvents) 9, PGIII	12	DM	2000	P	F002		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
961: Spent Vapor (Carbon)
Profile # W703883KH-2 Exp: 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: Raymond J. Cadorette Agent for VMS
Signature:
Month: 5 Day: 12 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: ROBERT STAMETZ
Signature:
Month: 5 Day: 12 Year: 14
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

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:

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: MAR000067364 | 22. Page | 23. Manifest Tracking Number: 000284223656 JES

24. Generator's Name: Varian Medical

25. Transporter 5 Company Name: Veolia | U.S. EPA ID Number: NJD080631369

26. Transporter _____ Company Name | U.S. EPA ID Number

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

Transfer only

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name: KAT Adkins | Signature: Kat Adkins | Month: 06 Day: 26 Year: 14

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

721821

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	MAR 0 0 0 0 0 6 7 3 4	2	(877) 813-0087	000862236 VES

GENERATOR

5. Generator's Name and Mailing Address
VARIAN MEDICAL SYSTEMS C/O
CB&T ATTN: RAY CADORETTE
150 ROYALL STREET
CANTON, MA 02021
Generator's Phone: 617 589-6102

Generator's Site Address (if different than mailing address)
VARIAN MEDICAL SYSTEMS, INC
150 SOHIER ROAD - TRTMENT FAC.
BEVERLY, MA 01915

6. Transporter 1 Company Name
VEOLIA ES TECHNICAL SOLUTIONS
U.S. EPA ID Number
N J D 0 5 0 6 3 1 3 6 9

7. Transporter 2 Company Name
SS Transportation Co Inc
U.S. EPA ID Number
NJD 216299D6

8. Designated Facility Name and Site Address
VEOLIA ES TECHNICAL SOLUTIONS
HIGHWAY 73
3.5 MILES W. OF TAYLOR'S BAYOU
PORT ARTHUR, TX 77640
Facility's Phone: 409 736-2821
U.S. EPA ID Number
T X D 0 0 0 8 3 8 8 9 6

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. NA3082, HAZARDOUS WASTE, LIQUID, n.o.s., (TETRACHLOROETHYLENE), 9, III	3	D M	1200	P	F001	OUTS113H	
X	2. NA3082, HAZARDOUS WASTE, LIQUID, n.o.s., (TRICHLOROETHYLENE), 9, III	1	D M	400	P	F002	OUTS101H	
X	3. NA3077, HAZARDOUS WASTE, SOLID, n.o.s., (LEAD, TETRACHLOROETHYLENE), 9, III	1	D M	400	P	F001	D008 OUTS301H	
	4.							

14. Special Handling Instructions and Additional Information
ER Service Contracted by VESTS + 1) ERG:171 W:563653 A:PTAVES012 2) ERG:171 W:122982 A:PTAVES012 3) ERG:171 W:563649 A:PTA563649

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: Raymond F. Cadorette Agent for VMS
Signature:
Month: 06 Day: 13 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jeremy Anderson
Signature:
Month: 6 Day: 13 Year: 14

Transporter 2 Printed/Typed Name: Moises Ozuna
Signature:
Month: 6 Day: 16 Year: 14

DESIGNATED FACILITY

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.
H040	H040	H040	

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: Alane Thomas
Signature:
Month: 7 Day: 3 Year: 14

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: MAR000067744 | 22. Page 2 of 2 | 23. Manifest Tracking Number: 000862236 VES

24. Generator's Name: Varian Medical Systems c/o

25. Transporter 3 Company Name: Veolia ES Technical Solutions | U.S. EPA ID Number: NJD980631369

26. Transporter 4 Company Name: Thad Transport Inc | U.S. EPA ID Number: OKD981588771

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

Thad

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 2 Acknowledgment of Receipt of Materials

Printed/Typed Name: Brittany Blankenship | Signature: Brittany Blankenship | Month 6 | Day 17 | Year 19

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name: Kelly McClure | Signature: Kelly McClure | Month 6 | Day 23 | Year 19

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: MAR000006734
2. Page 1 of: 1
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 006197509 FLE

5. Generator's Name and Mailing Address: VARIAN MEDICAL SYSTEMS (PARTICLE) Attn: R. Cadorette, 150 ROGERS STREET, CAMBRIDGE, MA 02021
Generator's Site Address (if different than mailing address): VARIAN MEDICAL SYSTEMS, FORMER VARIAN BEVERLY, 150 SOHIER ROAD, BEVERLY, MA 01915
Generator's Phone: 650-424-6103

6. Transporter 1 Company Name: Howorth Trucks Inc — U.S. EPA ID Number: PAD146714594

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: EVOQUA WATER TECHNOLOGIES LLC, 2523 MUTAHAR STREET, PARKER, AZ 85344 — U.S. EPA ID Number: AZD982441263
Facility's Phone: 928-669-5758

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. NA3077, HAZARDOUS WASTE SOLID NOS (SOLVENTS) 9, PG III	10	DM	EST. 2000	P	F002
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
9b1) Spent Vapor Carbon
Profile# W90382RH-2 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/Offeror's Printed/Typed Name: Raymond J. Cadorette Agent for VMS — Signature: [signature] — Month 7 Day 8 Year 14

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: Dale Grarr — Signature: [signature] — Month 07 Day 08 Year 14
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

NON HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MAR000067343 | Manifest Document No.: 31133 | 2. Page 1 of 1

3. Generator's Name and Mailing Address
Varian Medical Systems, Inc
c/o C B & I, 150 Royal Street
Canton MA 02021
Attn: Raymond Cadorette

4. Generator's Phone (617) 589-6102

A. Non-Hazardous Manifest Document Number: NHZ001 31133

B. S.G.I. (Gen. Site Address): 150 Sohier Road, Beverly MA 01915

C. S.T.I. (Lic. Plate #)

5. Transporter 1 Company Name: ENPRO SERVICES, INC.

6. US EPA ID Number: MAD980670004

D. Transporter's Phone: 978-465-1595

7. Transporter 2 Company Name

8. US EPA ID Number

E. S.T.I. (Lic. Plate #)

F. Transporter's Phone

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

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 No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON DOT, NON RCRA REGULATED MATERIAL	003	DM	018000	P	State NONE / State NONE
b.					State / State
c.					State / State
d.					State / State

J. Additional Descriptions for Materials Listed Above
(S) SOIL CUTTINGS; VMS-001;
a. ME-0714-05070

b.

c.

d.

K. Handling Codes for Wastes Listed Above

Interim	Final	Interim	Final
a.	H/H	b.	
c.		d.	

15. Special Handling Instructions and Additional Information
ER CONTACT: ENPRO SERVICES, INC. - 24 HOURS - (800) 966-1102
1)// ENPRO PO: 28167

Point of Departure: ENPRO JOB# 7872-14

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.

GENERATOR

Printed/Typed Name: Raymond J. Cadorette Agent for VMS | Signature | Month Day Year: 10/25/14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Brian Thompson | Signature | Date: 10/25/14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date

FACILITY

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: Mike Sweet | Signature | Date: 10/25/14

ORIGINAL-RETURN TO GENERATOR

APPENDIX D

DRILLING LOGS

Drilling Log

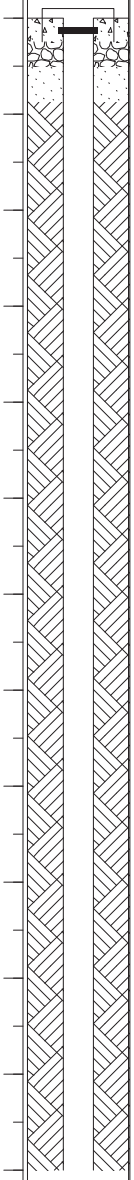
Monitoring Well **OB-45-DO**

Project: Varian Beverly | Owner: Varian Medical Systems, Inc.
Location: Building 5, 150 Sohier Road, Beverly, Massachusetts | Proj. No.: 150151
Surface Elev.: 76.7 ft. | Total Hole Depth: 49.0 ft. | North: | East:
Top of Casing: 76.48 ft. | Water Level Initial: NA | Static: NA | Diameter: 4 in.
Screen: Dia: 2 in. | Length: 15 ft. | Type/Size: PVC/Slot 0.010 in.
Casing: Dia: 2 in. | Length: 34 ft. | Type: PVC
Fill Material: Native, Bentonite, Grout, Sand | Rig/Core: Hollow Stem Auger
Drill Co.: TDS | Method: Hollow Stem Auger
Driller: G. Caovette | Log By: Dale Dailey | Date: 4/15/14 | Permit #: NA
Checked By: R. Cadorette | License No.:

COMMENTS

ND = Not detected

**PID response may have been due to moisture.*



Depth (ft.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
0					Hand clear to 5'
2				FILL	SAND and loose GRAVEL (Fill)
4					
6	ND	25%	23 32 35 28	CL	Light brown, dry, very stiff CLAY; some poorly sorted, coarse gravel
8					
10	ND	45%	15 27 30 30		Gray, dry, boulder to 11.5'
12				CL	Light brown, dry, very stiff CLAY to 12'
14					
16	ND	35%	18 30 28 30	CL	Light brown, damp, very stiff CLAY; some fine and coarse, poorly sorted gravel (1/4" to 3/4")
18					
20	ND	45%	17 35 28 35	CL	Light brown, damp, stiff, SANDY CLAY; some well sorted fine gravel
22					
24					

Continued Next Page

Drilling Log

Monitoring Well **OB-45-DO**

Project *Varian Beverly* Owner *Varian Medical Systems, Inc.*

Location *Building 5, 150 Sohier Road, Beverly, Massachusetts* Proj. No. *150151*

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / % Recovery	Blow Count / Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic Descriptions are Based on the USCS.
							Continued
24							
26		ND	60%	29 50		SW	Light brown, damp, very hard, SAND; some well sorted fine gravel (spoon refusal at 26.5' - 27')
28							
30		ND	40%	22 18 27 37		SW	Gray, dry, very hard, poorly sorted, coarse, SAND; some well sorted, coarse gravel
32							
34							
36		ND	25%	57 42 35 120		GC	Light gray, dry to slightly damp, coarse GRAVEL with some light brownish gray, interbedded clay lenses (approximately 0.5" - 1" in thickness)
38							
40							
		ND	35%	13 120		SW	Brown, dry, medium SAND, some well sorted, coarse GRAVEL (spoon refusal at 41')
42							
44							
46		5.3*	30%	17 25 50		SW	Brown, wet, poorly sorted, medium SAND; some poorly sorted, fine gravel
48							
50							End of exploration at 49 feet below surface grade
52							
54							
56							

Drilling Log

Monitoring Well **OB-45-S**

Project: Varian Beverly | Owner: Varian Medical Systems, Inc.

Location: Building 5, 150 Sohier Road, Beverly, Massachusetts | Proj. No.: 150151

Surface Elev.: 76.8 ft. | Total Hole Depth: 17.0 ft. | North: | East:

Top of Casing: 76.57 ft. | Water Level Initial: NA | Static: ▼ 11.4 ft. | Diameter: 4 in.

Screen: Dia 2 in. | Length: 10 ft. | Type/Size: PVC/Slot 0.010 in.

Casing: Dia 2 in. | Length: 5 ft. | Type: PVC

Fill Material: Native, Bentonite, Grout, Sand | Rig/Core: Hollow Stem Auger

Drill Co.: TDS | Method: Hollow Stem Auger

Driller: G. Caovette | Log By: Dale Dailey | Date: 4/14/14 | 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						FILL	SAND and loose GRAVEL (Fill)
4							
6		ND	40%	10 15 26 23		CL	Light brown, dry, very stiff CLAY; some poorly sorted, coarse gravel
8							
10							
12	▼	ND	25%	12 27		CL	Light brown, dry, very stiff CLAY; little fine gravel (Spoon refusal on potential boulder at 11.5'.)
14							
16		ND	60%	15 22 32 35		CL	Light brown, damp, very stiff CLAY; some fine and coarse, poorly sorted gravel (1/4" to 1")
18							End of exploration at 17 feet below surface grade
20							
22							
24							

Drilling Log

Vapor Extraction Well **BLDG3-SVE3**

Project *Varian Beverly* Owner *Varian Medical Systems, Inc.*

Location *Building 5, 150 Sohier Road, Beverly, Massachusetts* Proj. No. *152728*

Surface Elev. *NA* Total Hole Depth *40.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial *NA* Static *NA* Diameter _____

Screen: Dia *3 in.* Length *25 ft.* Type/Size *PVC/0.010 in.*

Casing: Dia *3 in.* Length *15 ft.* Type *PVC*

Fill Material *Native* Rig/Core *Ditch Witch 2720*

Drill Co. *Directional Technologies, Inc.* Method *Mud Rotary*

Driller *R. Jarex* Log By *Dale Dailey* Date *9/15/14* Permit # *NA*

Checked By *Raymond Cadorette* License No. _____

COMMENTS

Note: Nature of method prevents soil sampling or head space. Soil description is a rough estimate based on slurry consistency. Head space measured as composite of drill cuttings upon well completion.

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						Foundation wall 6 inches concrete.
10						
20					SM	Brown, SILTY SAND mixture with abundant gravel
30		276.6				
40						Horizontal well completed with screen, approximately 8 feet below building floor, to a distance of 40 feet from building foundation wall.
50						
60						
70						
80						
90						
100						
110						
120						
130						

CB&I_LOGO Rev: 8/9/13 2014_BLDG3.GPJ IT_CORP.GDT 10/22/14

Drilling Log

Vapor Extraction Well **BLDG3-SVE4**

Project *Varian Beverly* Owner *Varian Medical Systems, Inc.*

Location *Building 5, 150 Sohier Road, Beverly, Massachusetts* Proj. No. *152728*

Surface Elev. *NA* Total Hole Depth *110.0 ft.* North _____ East _____

Top of Casing *NA* Water Level Initial *NA* Static *NA* Diameter _____

Screen: Dia *3 in.* Length *40 ft.* Type/Size *PVC/0.010 in.*

Casing: Dia *3 in.* Length *70 ft.* Type *PVC*

Fill Material *Native* Rig/Core *Ditch Witch 2720*

Drill Co. *Directional Technologies, Inc.* Method *Mud Rotary*

Driller *R. Jarex* Log By *Dale Dailey* Date *9/15/14* Permit # *NA*

Checked By *Raymond Cadorette* License No. _____

COMMENTS

Note: Nature of method prevents soil sampling or head space. Soil description is a rough estimate based on slurry consistency. Head space measured as composite of drill cuttings upon well completion.

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						Foundation wall 6 inches concrete
10						
20						
30						
40						
50					SC	Brown, dense, CLAYEY SAND, some gravel
60						
70		417				
80						
90						
100						
110						Horizontal well completed with screen, approximately 8.5 feet below building floor, to a distance of 110 feet from building foundation wall.
120						
130						

CB&I_LOGO Rev: 8/9/13 2014_BLDG3.GPJ IT_CORP.GDT 10/22/14

APPENDIX E

GROUNDWATER GAUGING RESULTS, PHYSICAL PARAMETER DATA

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	04/10/14	71.32	16.63	54.69	
AP-12-DO	04/10/14	71.30	9.99	61.31	
AP-12-S	04/10/14	71.44	7.17	64.27	
AP-13-DO	04/18/14	68.86	13.53	55.33	
AP-13-DO	07/21/14	68.86	15.58	53.28	DTB = 52.00'
AP-13-S	04/10/14	68.98	9.09	59.89	
AP-14-S	04/21/14	74.97	11.17	63.80	
AP-15-S	04/08/14	45.88	4.63	41.25	
AP-19	04/11/14	81.30	10.88	70.42	
AP-19	07/22/14	81.30	12.96	68.34	
AP-19	08/14/14	81.30	NM	NA	
AP-19	09/23/14	81.30	NM	NA	
AP-20	04/11/14	81.43	9.60	71.83	
AP-20	07/22/14	81.43	13.39	68.04	
AP-20	08/14/14	81.43	NM	NA	
AP-20	09/23/14	81.43	NM	NA	
AP-21	04/11/14	81.50	9.91	71.59	
AP-21	07/22/14	81.50	NM	NA	Well inaccessible.
AP-21	08/14/14	81.50	NM	NA	
AP-21	09/23/14	81.50	NM	NA	
AP-22	04/11/14	81.96	11.87	70.09	
AP-22	07/22/14	81.96	15.93	66.03	
AP-22	08/14/14	81.96	NM	NA	
AP-22	09/23/14	81.96	NM	NA	
AP-23-DO	04/18/14	69.46	9.97	59.49	
AP-23-DO	07/21/14	69.46	12.93	56.53	DTB = 48.62'
AP-24-DO	04/18/14	69.56	9.19	60.37	
AP-24-DO	07/21/14	69.56	11.84	57.72	DTB = 48.48'
AP-25-DO	04/18/14	65.58	2.04	63.54	
AP-25-DO	07/21/14	65.58	6.87	58.71	DTB = 47.81'
AP-26-DO	04/16/14	73.99	12.82	61.17	
AP-26-DO	07/22/14	73.99	14.81	59.18	
AP-26-DO	08/14/14	73.99	15.40	58.59	
AP-26-DO	09/23/14	73.99	16.37	57.62	
AP-27-DO	07/21/14	77.34	16.80	60.54	
AP-27-DO	07/22/14	77.34	16.80	60.54	
AP-27-DO	08/14/14	77.34	17.41	59.93	
AP-27-DO	09/23/14	77.34	18.69	58.65	

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-30R-DO	04/08/14	NA	18.46	NA	
AP-30R-DO	07/21/14	NA	NM	NA	
AP-32-DO	07/22/14	NA	NM	NA	
AP-32-DO	08/14/14	NA	NM	NA	
AP-32-DO	09/23/14	NA	NM	NA	
AP-33-DO	04/18/14	66.49	5.99	60.50	
AP-33-DO	07/21/14	66.49	9.40	57.09	DTB = 38.19'
AP-34-DO	04/18/14	68.33	7.86	60.47	
AP-34-DO	07/21/14	68.33	10.57	57.76	DTB = 36.81'
AP-35-DO	04/18/14	68.92	8.45	60.47	
AP-35-DO	07/21/14	68.92	11.26	57.66	DTB = 36.69'
APBIO-01	04/21/14	42.19	1.06	41.13	
B-2	04/11/14	80.40	2.07	78.33	
B-3	04/10/14	66.23	6.55	59.68	
BR-1_ZONE1	04/21/14	58.60	8.96	49.64	
BR-1_ZONE2	04/21/14	58.60	8.91	49.69	
BR-1_ZONE3	04/21/14	58.60	8.83	49.77	
BR-3_ZONE1	04/21/14	62.36	18.05	44.31	
BR-3_ZONE2	04/21/14	62.36	NM	NA	Obstruction at 20.30'.
BR-3_ZONE3	04/21/14	62.36	NM	NA	Obstruction at 10.30'.
BR-5_ZONE1	04/11/14	51.04	4.45	46.59	
BR-5_ZONE2	04/11/14	51.04	4.45	46.59	
BR-5_ZONE3	04/11/14	51.04	8.55	42.49	
BR-6_ZONE1	04/11/14	38.33	0.00	38.33	
BR-6_ZONE2	04/11/14	38.33	0.00	38.33	
BR-6_ZONE3	04/11/14	38.33	0.00	38.33	
BR-7_ZONE1	04/21/14	35.15	0.00	35.15	
BR-7_ZONE2	04/21/14	35.15	0.00	35.15	
BR-7_ZONE3	04/21/14	35.15	0.00	35.15	
BW-05	04/10/14	65.17	6.06	59.11	
BW-06	04/10/14	65.44	6.39	59.05	
BW-08	04/10/14	65.44	6.39	59.05	

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
BW-09	04/10/14	65.30	6.48	58.82	
CL02-BR	04/11/14	62.79	5.40	57.39	DTB = 81.10'
CL02-BR	04/29/14	62.79	6.29	56.50	DTB = 81.10'
CL02-DO	07/22/14	62.76	8.07	54.69	
CL02-DO	08/14/14	62.76	7.93	54.83	
CL02-DO	09/23/14	62.76	8.80	53.96	
CL03-DO	04/09/14	50.40	8.61	41.79	
CL03-DO	07/22/14	50.40	9.43	40.97	
CL03-DO	08/14/14	50.40	9.71	40.69	
CL03-DO	09/23/14	50.40	10.43	39.97	
CL03-S	04/07/14	50.21	8.47	41.74	
CL04-BR	04/10/14	47.78	5.61	42.17	
CL04-DO	04/10/14	47.42	5.12	42.30	
CL06-BR	04/07/14	58.41	8.63	49.78	
CL06-DO	04/07/14	58.75	8.04	50.71	
CL08-BR_ZONE1	04/11/14	48.28	8.01	40.27	
CL08-BR_ZONE2	04/11/14	48.28	4.78	43.50	
CL08-BR_ZONE3	04/11/14	48.28	4.79	43.49	
CL08-DO	04/09/14	47.85	5.28	42.57	
CL09-BR_ZONE1	04/11/14	47.65	10.15	37.50	
CL09-BR_ZONE2	04/11/14	47.65	2.91	44.74	
CL09-BR_ZONE3	04/11/14	47.65	3.30	44.35	
CL09-DO	04/07/14	47.43	4.27	43.16	
CL10-BR	04/10/14	72.28	3.83	68.45	
CL10-DO	04/10/14	72.54	3.55	68.99	
CL10-DO	07/22/14	72.54	5.96	66.58	
CL10-DO	08/14/14	72.54	6.23	66.31	
CL10-DO	09/23/14	72.54	7.60	64.94	
CL10-S	04/10/14	72.54	3.72	68.82	
CL11-DO	04/11/14	68.72	18.58	50.14	
CL11-S	04/11/14	68.46	15.50	52.96	
GZ-1	04/08/14	48.28	6.68	41.60	
GZ-4	04/08/14	45.13	4.45	40.68	

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-002	04/11/14	80.08	11.09	68.99	
MW-002R	04/11/14	62.59	3.24	59.35	DTB = 42.35'
MW-002R	04/29/14	62.59	3.89	58.70	DTB = 10.75'
MW-003R	04/07/14	61.28	1.76	59.52	
MW-004	04/10/14	70.07	11.20	58.87	
MW-004R	04/11/14	62.63	2.99	59.64	DTB = 10.75'
MW-005	04/10/14	69.64	14.16	55.48	
MW-005R	04/07/14	62.96	3.64	59.32	
MW-008	04/10/14	68.96	10.09	58.87	
MW-009	04/08/14	63.48	3.15	60.33	
MW-009	07/21/14	63.48	5.70	57.78	DTB = 21.23'
MW-009A	04/10/14	63.86	4.45	59.41	
MW-013	04/09/14	69.11	8.86	60.25	
MW-014A	04/09/14	75.59	13.86	61.73	
MW-016	04/10/14	66.82	13.12	53.70	
MW-030	04/11/14	79.87	5.43	74.44	
MW-031	04/11/14	78.01	3.55	74.46	
MW-032	07/22/14	82.44	7.59	74.85	
MW-032	08/14/14	82.44	8.27	74.17	
MW-032	09/23/14	82.44	9.76	72.68	
MW-033B	04/11/14	91.16	1.98	89.18	
MW-034	04/09/14	35.30	0.00	35.30	
MW-036	04/07/14	52.64	10.95	41.69	
MW-2_32-TOZER	04/10/14	70.83	4.35	66.48	
MW-2_32-TOZER	07/22/14	70.83	7.16	63.67	
MW-2_32-TOZER	08/14/14	70.83	7.46	63.37	
MW-2_32-TOZER	09/23/14	70.83	8.46	62.37	
MW-4_32-TOZER	04/10/14	54.54	5.22	49.32	
MW-5_32-TOZER	04/10/14	54.61	5.57	49.04	
OB-04-DO	04/09/14	54.35	11.97	42.38	
OB-05-BR	04/08/14	49.01	7.26	41.75	
OB-05-DO	04/08/14	49.06	7.43	41.63	

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-06-BR	04/09/14	48.70	6.80	41.90	
OB-06-DO	04/09/14	49.21	7.24	41.97	
OB-08-DO	04/08/14	38.29	0.00	38.29	
OB-09-BR	04/10/14	65.25	7.95	57.30	
OB-09-DO	04/10/14	65.11	7.89	57.22	
OB-09-S	04/09/14	65.22	5.25	59.97	
OB-09-S	07/21/14	65.22	7.82	57.40	DTB = 20.99'
OB-10-BR	04/10/14	71.04	16.58	54.46	
OB-10-S	04/10/14	70.91	8.43	62.48	
OB-11-BR	04/09/14	75.37	20.03	55.34	
OB-11-DO	04/09/14	75.50	17.87	57.63	
OB-12-BR	07/22/14	73.67	20.54	53.13	
OB-12-BR	08/14/14	73.67	20.98	52.69	
OB-12-BR	09/23/14	73.67	21.63	52.04	
OB-12-DO	04/09/14	73.54	13.63	59.91	
OB-12-DO	07/22/14	73.54	15.96	57.58	
OB-12-DO	08/14/14	73.54	NM	NA	
OB-12-DO	09/23/14	73.54	NM	NA	
OB-12-S	04/09/14	73.46	11.45	62.01	
OB-14-DO	04/09/14	75.05	11.54	63.51	
OB-15-S	04/08/14	63.26	2.49	60.77	
OB-15-S	07/21/14	63.26	5.41	57.85	DTB = 19.66'
OB-16-BR	04/10/14	67.61	0.96	66.65	
OB-16-S	04/10/14	67.69	6.76	60.93	
OB-17-BR	04/07/14	49.19	4.84	44.35	
OB-17-DO	04/07/14	48.86	3.00	45.86	
OB-18-DO	04/08/14	45.10	3.29	41.81	
OB-18-S	04/08/14	44.98	3.37	41.61	
OB-19-DO	04/16/14	74.28	18.37	55.91	
OB-19-DO	07/22/14	74.28	16.78	57.50	
OB-19-DO	08/14/14	74.28	17.33	56.95	
OB-19-DO	09/23/14	74.28	18.24	56.04	
OB-19-S	04/21/14	73.96	7.33	66.63	

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-20-BR	04/21/14	43.85	2.62	41.23	
OB-20-DO	04/21/14	43.98	2.70	41.28	
OB-20-S	04/21/14	43.79	5.47	38.32	
OB-21-BR	04/21/14	43.88	2.78	41.10	
OB-21-DO	04/21/14	43.28	2.16	41.12	
OB-23-BR	04/07/14	56.48	8.14	48.34	
OB-24-S	04/10/14	44.24	0.36	43.88	
OB-25-BR	04/16/14	74.26	22.05	52.21	
OB-25-BR	07/22/14	74.26	23.22	51.04	
OB-25-BR	08/14/14	74.26	32.51	41.75	
OB-25-BR	09/23/14	74.26	NM	NA	
OB-25-DO	04/09/14	74.52	20.79	53.73	
OB-25-DO	07/21/14	74.52	22.71	51.81	DTB = 68.74'
OB-25-DO	07/22/14	74.52	22.73	51.79	
OB-25-DO	08/14/14	74.52	23.15	51.37	
OB-25-DO	09/23/14	74.52	23.78	50.74	
OB-26-BR	04/16/14	74.44	20.93	53.51	
OB-26-DO	04/16/14	74.48	13.58	60.90	
OB-27-BR	04/11/14	71.68	25.66	46.02	
OB-27-DO	07/22/14	72.06	23.39	48.67	
OB-27-DO	08/14/14	72.06	23.93	48.13	
OB-27-DO	09/23/14	72.06	25.04	47.02	
OB-28-BR	04/16/14	74.35	20.91	53.44	
OB-32-DO	04/21/14	75.70	11.32	64.38	
OB-34-DO	07/22/14	75.10	16.78	58.32	
OB-34-DO	08/14/14	75.10	18.50	56.60	
OB-34-DO	09/23/14	75.10	18.38	56.72	
OB-35-DO	04/21/14	81.41	9.75	71.66	
OB-35-DO	07/22/14	81.41	NM	NA	
OB-35-DO	08/14/14	81.41	NM	NA	
OB-35-DO	09/23/14	81.41	NM	NA	
OB-36-DO	04/21/14	75.92	14.42	61.50	
OB-37-DO	04/21/14	75.86	17.61	58.25	
OB-38-DO	04/11/14	77.45	6.40	71.05	
OB-39-DO	04/11/14	79.01	14.99	64.02	
OB-39-DO	07/22/14	79.01	18.57	60.44	
OB-39-DO	08/14/14	79.01	19.24	59.77	

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-39-DO	09/23/14	79.01	20.50	58.51	
OB-40-DO	04/11/14	80.26	15.74	64.52	
OB-41-S	04/08/14	33.26	4.11	29.15	
OB-42-S	04/09/14	51.40	5.03	46.37	
OB-43-S	04/08/14	52.58	4.35	48.23	
OB-44-S	04/21/14	81.49	6.50	74.99	
OB-44-S	07/22/14	81.49	7.08	74.41	
OB-44-S	08/14/14	81.49	7.58	73.91	
OB-44-S	09/23/14	81.49	7.31	74.18	
OB-45-DO	04/29/14	76.48	13.68	62.80	DTB = 41.10'
OB-45-DO	07/22/14	76.48	15.71	60.77	
OB-45-DO	08/14/14	76.48	16.29	60.19	
OB-45-S	04/29/14	76.57	8.77	67.80	DTB = 14.70'
OB-45-S	09/23/14	76.57	13.06	63.51	
P-09R	04/11/14	37.86	3.09	34.77	DTB = 4.54'
P-09R	04/29/14	37.86	3.54	34.32	DTB = 4.54'
P-11R	04/21/14	47.92	6.17	41.75	
P-19A	04/21/14	47.51	7.50	40.01	
P-20R	04/21/14	42.56	1.63	40.93	
RW-01_MW-18	04/09/14	63.32	7.42	55.90	
RW-01_MW-18	07/21/14	63.32	9.87	53.45	DTB = 36.68'
RW-22	04/09/14	75.15	20.54	54.61	
W-1	04/09/14	51.37	4.08	47.29	

Feet = Measured below surface grade NM = Not Measured NA = Not Applicable

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-13-DO	05/12/14	Clear	-48	6.77	0.001	19.24
AP-13-DO	07/21/14	Clear	--	--	--	--
AP-19	07/22/14	Clear	-17.4	7.40	0.300	0.80
AP-19	08/14/14	Dark Purple	--	--	--	--
AP-19	09/23/14	Light Purple	--	--	--	--
AP-20	07/22/14	Clear	-55.7	7.00	0.502	0.93
AP-20	08/14/14	Dark Purple	--	--	--	--
AP-20	09/23/14	Dark Purple	--	--	--	--
AP-21	08/14/14	Dark Purple	--	--	--	--
AP-21	09/23/14	Dark Purple	--	--	--	--
AP-22	07/22/14	Clear	--	--	--	--
AP-22	08/14/14	Dark Purple	--	--	--	--
AP-22	09/23/14	Dark Purple	--	--	--	--
AP-23-DO	05/12/14	Clear	-309.1	9.41	10.19	0.35
AP-23-DO	07/21/14	Clear	-130.6	6.52	5.327	0.38
AP-23-DO	09/23/14	Clear	--	--	--	--
AP-24-DO	05/12/14	Clear	-123	6.93	2.19	2.66
AP-24-DO	07/21/14	Clear	-165.7	7.28	2.152	0.44
AP-25-DO	07/21/14	Clear	-114.4	7.97	0.275	0.77
AP-26-DO	07/22/14	Clear	572.2	7.01	0.357	5.87
AP-26-DO	08/14/14	Clear	601.7	7.53	0.368	2.12
AP-26-DO	09/23/14	Clear	500.3	7.04	0.361	3.82
AP-27-DO	07/22/14	Clear	280.6	7.75	0.971	0.52
AP-27-DO	08/14/14	Clear	197.6	7.87	0.958	0.69
AP-27-DO	09/23/14	Clear	175.0	7.74	0.937	0.89
AP-30R-DO	07/21/14	Light Purple	--	--	--	--
AP-32-DO	07/22/14	Dark Purple	--	--	--	--
AP-33-DO	05/12/14	Clear	-212	6.69	4.50	1.58
AP-33-DO	07/21/14	Clear	-135.0	6.73	2.591	0.94
AP-34-DO	05/12/14	Clear	-162.9	6.55	2.62	0.54
AP-34-DO	07/21/14	Clear	-149.6	6.69	2.169	0.53
AP-35-DO	05/12/14	Clear	-215.2	6.26	2.19	29.64
AP-35-DO	07/21/14	Clear	-138.4	6.16	6.626	0.60
CL02-DO	07/22/14	Clear	234.7	5.52	2.283	1.11
CL02-DO	08/14/14	Clear	38.8	6.67	1.567	2.46
CL02-DO	09/23/14	Clear	-69.9	6.78	1.528	0.53
CL03-DO	07/22/14	Clear	246.7	6.28	0.160	0.39
CL03-DO	08/14/14	Clear	124.1	6.85	0.162	11.60
CL03-DO	09/23/14	Clear	67.3	6.92	0.164	0.82
CL10-DO	07/22/14	Clear	610.9	7.05	1.177	8.67
CL10-DO	08/14/14	Light Purple	--	--	--	--
CL10-DO	09/23/14	Light Purple	--	--	--	--

NOTES: -- = Not Analyzed
mV=millivolts

ORP= Oxidation reduction potential
S/m= Siemans 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)
MW-013	07/21/14	Clear	698.9	6.64	4.451	42.65
MW-032	07/22/14	Clear	113.8	7.01	0.042	0.58
MW-032	08/14/14	Clear	166.2	7.10	0.035	8.82
MW-032	09/23/14	Clear	-120.5	7.16	0.118	0.33
MW-2_32-TOZER	07/22/14	Clear	-72.2	6.57	3.008	0.95
MW-2_32-TOZER	08/14/14	Clear	16.3	6.31	3.430	0.12
MW-2_32-TOZER	09/23/14	Clear	19.9	6.64	3.275	0.67
OB-12-BR	07/22/14	Clear	91.0	9.60	0.097	0.89
OB-12-BR	08/14/14	Clear	62.9	9.78	0.098	0.53
OB-12-BR	09/23/14	Clear	13.6	10.19	0.100	0.95
OB-12-DO	07/22/14	Clear	221.7	7.77	0.347	35.33
OB-12-DO	08/14/14	Dark Purple	--	--	--	--
OB-12-DO	09/23/14	Dark Purple	--	--	--	--
OB-19-DO	07/22/14	Clear	-58.7	7.39	0.573	0.74
OB-19-DO	08/14/14	Clear	215.7	7.16	0.576	0.47
OB-19-DO	09/23/14	Clear	40.3	7.34	0.572	0.78
OB-25-BR	07/22/14	Clear	234.8	6.73	2.614	1.34
OB-25-BR	09/23/14	Dark Purple	--	--	--	--
OB-25-DO	07/21/14	Clear	147.0	7.84	0.482	32.64
OB-25-DO	07/22/14	Clear	147.0	7.84	0.482	32.64
OB-25-DO	08/14/14	Clear	354.6	8.21	0.468	5.86
OB-25-DO	09/23/14	Clear	367.8	7.91	0.450	26.48
OB-27-DO	07/22/14	Clear	336.0	6.29	1.328	1.67
OB-27-DO	08/14/14	Clear	129.2	6.70	1.293	0.52
OB-27-DO	09/23/14	Clear	23.5	6.40	1.246	0.80
OB-34-DO	07/22/14	Clear	502.6	7.86	0.341	3.04
OB-34-DO	08/14/14	Clear	486.8	7.77	0.365	2.42
OB-34-DO	09/23/14	Clear	462.1	8.63	0.348	4.61
OB-35-DO	07/22/14	Dark Purple	--	--	--	--
OB-35-DO	08/14/14	Dark Purple	--	--	--	--
OB-35-DO	09/23/14	Dark Purple	--	--	--	--
OB-39-DO	07/22/14	Clear	304.4	8.37	0.211	1.02
OB-39-DO	08/14/14	Clear	-91.4	7.91	0.304	0.36
OB-39-DO	09/23/14	Clear	216.3	8.05	0.531	0.49
OB-44-S	07/22/14	Clear	--	--	--	--
OB-44-S	08/14/14	Clear	--	--	--	--
OB-44-S	09/23/14	Clear	--	--	--	--
OB-45-DO	07/22/14	Clear	197.3	7.98	0.525	0.87
OB-45-DO	08/14/14	Clear	-161.4	7.88	0.527	0.30
OB-45-DO	09/23/14	Clear	223.6	7.99	0.297	0.56
RW-01_MW-18	05/12/14	Clear	-379	10.18	8.19	6.62
RW-01_MW-18	07/21/14	Clear	-401.4	9.98	5.733	0.15
UNNAMED_STREAM	07/22/14	Clear	--	--	--	--

NOTES: -- = Not Analyzed
mV=millivolts
ORP= Oxidation reduction potential
S/m= Siemans 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	08/14/14	Clear	--	--	--	--

NOTES: -- = Not Analyzed
mV=millivolts

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

Deg.C= Degrees Celcius

APPENDIX F

LABORATORY ANALYTICAL REPORTS

17 Princess Road
Lawrenceville, NJ 08648
Tel: 609/895-5370
Fax: 609/895-1858

Reduced Deliverable Package

Prepared for
Varian, Beverly MA

Lab ID
9108

Project Number: 77150151 03000000

Samples Received
9-Apr-14

Report
30-Apr-14

NJDEP Certified Lab 11001

4-30-14

Randi K Rothmel, PhD **Date**
Laboratory Director

Table of Contents

1.0 General Information

Sample delivery Group	040914_2

Sample ID Table

Lab ID	Location ID
9108- 1	AP13-DO(51')
9108- 2	AP23-DO(48')
9108- 3	AP24-DO(47')
9108- 4	AP33-DO(36')
9108- 5	AP34-DO(36')
9108- 6	AP35-DO(35')
9108- 7	MW-9 (20')
9108- 8	OB15S (18')

Chain of Custody (s)

17 Princess Rd
Lawrenceville, NJ 08648
609-895-5370/ 609-895-1858
CB&I - Federal Services, LLC

CHAIN OF CUSTODY

4 SDG 040914-2

Ref. Document #

Page 1 of 1

Lab ID # (lab use) 9108 ☐ R&D

Project Contact: Raymond Cadorette 617-589-6102 (Name & phone #)

Send Report To:	Raymond Cadorette
Phone/Fax Number:	617-589-6102
Address:	150 Royall Street
City/State:	Canton, MA 02021

Project Number/Cost code: 77150151 / 03000000
Project Name / Location: Varian / Beverly, MA
Purchase Order #: 873489

Shipment Date: 4.8.14
Waybill/Airbill Number:
Lab Destination:
Lab Contact Name / ph. #:

Sampler's Name(s):

Lab No.	Sample ID Number	Sample Description	Collection Information Date	Time	G/C	Matrix	# of containers	Container size	Preservative HCL	NaOH	HNO_3	H_2SO_4	Ice	Analyses Requested: Dehalococcoides sp.	Any Additional information	Turn Around Time Requested
1	AP13-DO (51')	GW	4.8.14	1030	G	GW	1	1L					√	√		
2	AP23-DO (48')			0900		GW	1	1L					√	√		
3	AP24-DO (47')			1100		GW	1	1L					√	√		
4	AP33-DO (36')			1300		GW	1	1L					√	√		
5	AP34-DO (36')			1245		GW	1	1L					√	√		
6	AP35-DO (35')			1330		GW	1	1L					√	√		
7	MW-9 (20')			1500		GW	1	1L					√	√		
8	OB15-S (18')		"	1400	"	GW	1	1L					√	√		

Special Instructions:

Known Waste Stream Circle:
RCRA PCB/dioxin PAH/oil RAD Corrosive Flammable Reactive

QC/Data Package Level Required:
I II III IV NJ EDD GIS EDD Preliminary data

Relinquished By: Date: 4.9.14 Time: 1530
Received By: Date: 4/9/14 Time: 10:15
Relinquished By: Date: Time:
Received By: Date: Time:
Relinquished By: Date: Time:
Received By: Date: Time:

G/C Codes
C = Composite G = Grab

QC Package Codes
Level I = data summary
Level II = data summary + basic QC
Level III = New Jersey QC reduced deliverable
Level IV = Full deliverable CLP package

Cooler temperature upon arrival at Lab:

Instructions: Do not Fill Shaded Areas; Check R&D Box if R&D samples Only

Lab ID 9108

Client:

Date Received:

CBI -Federal Services Analytical and Treatability Laboratories Internal Chain of Custody

Pg _____ of _____

Sample ID	Parameter	Bottle Type	Perservative	Date/Time Removed	Relinquishing Custodian Initials	Receiving Analyst Initials	Date/Time Returned	Receiving Custodian Initials	Relinquishing Analyst Initials
9108-1	9 PCB	1-L	None	4/14/14 7:00			4/14/14 0730		
2									
3									
4									
5									
6									
7									
9108-8	9 PCB	1-L	None						

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^{o}C until processed (cells lysed and DNA extracted) for performing qPCR to quantify *Dehalococcoccoides* 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 detectd 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 asociated 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9108-01**	**Date Sampled**	04/08/2014
Sample ID	**AP13-DO (51')**	**Time Sampled**	10:30
		Date Received	04/09/2014
		Date Filtered	04/14/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	172.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Prep Factor**	*Method Code*
DHE (1)	04/22/2014	12:30	11	J	cells/ml	70	9	5.81	EISTLAW-ATL068
								crossing threshold=	31.1

* Preparation 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 paramaters 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9108-02**	**Date Sampled**	04/08/2014
Sample ID	**AP23-DO (48')**	**Time Sampled**	9:00
		Date Received	04/09/2014
		Date Filtered	04/14/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	211.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Prep Factor**	*Method Code*
DHE (1)	04/22/2014	12:30	9	J	cells/ml	57	8	4.74	EISTLAW-ATL068
								crossing threshold=	31.1

* Preparation 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 paramaters 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9108-03**	**Date Sampled**	04/08/2014
Sample ID	**AP24-DO (47')**	**Time Sampled**	11:00
		Date Received	04/09/2014
		Date Filtered	04/14/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	498.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Prep Factor**	*Method Code*
DHE (1)	04/22/2014	12:30	3	J	cells/ml	24	3	2.01	EISTLAW-ATL068
								crossing threshold=	31.4

* Preparation 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 paramaters 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9108-04**	**Date Sampled**	04/08/2014
Sample ID	**AP33-DO (36')**	**Time Sampled**	12:00
		Date Received	04/09/2014
		Date Filtered	04/14/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	131.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Prep Factor**	*Method Code*
DHE (1)	04/22/2014	12:30	92	U	cells/ml	92	12	7.63	EISTLAW-ATL068
								crossing threshold=	none - not detected

* Preparation 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 paramaters 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9108-05**	**Date Sampled**	04/08/2014
Sample ID	**AP34-DO (36')**	**Time Sampled**	12:45
		Date Received	04/09/2014
		Date Filtered	04/14/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	141.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Prep Factor**	*Method Code*
DHE (1)	04/22/2014	12:30	85	U	cells/ml	85	11	7.09	EISTLAW-ATL068
								crossing threshold= >32 nondetect	

* Preparation 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 paramaters 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9108-06**	**Date Sampled**	04/08/2014
Sample ID	**AP35-DO (35')**	**Time Sampled**	13:30
		Date Received	04/09/2014
		Date Filtered	04/14/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	130.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Prep Factor**	*Method Code*
DHE (1)	04/22/2014	12:30	92	U	cells/ml	92	12	7.69	EISTLAW-ATL068
								crossing threshold= >32 nondetect	

* Preparation 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 paramaters 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9108-07**	**Date Sampled**	04/08/2014
Sample ID	**MW-9 (20')**	**Time Sampled**	15:00
		Date Received	04/09/2014
		Date Filtered	04/14/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	85.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Prep Factor**	*Method Code*
DHE (1)	04/22/2014	12:30	19	J	cells/ml	141	19	11.76	EISTLAW-ATL068
								crossing threshold=	31.3

* Preparation 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 paramaters 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9108-08**	**Date Sampled**	04/08/2014
Sample ID	**OB15-S (18')**	**Time Sampled**	14:00
		Date Received	04/09/2014
		Date Filtered	04/14/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	80.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Prep Factor**	*Method Code*
DHE (1)	04/22/2014	12:30	150	U	cells/ml	150	20	12.50	EISTLAW-ATL068
								crossing threshold=	none- non detect

* Preparation 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 paramaters 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

Lab ID	Analysis dates	QC batch
9108- 1	4/22/2014	042214-DHE
9108- 2	4/22/2014	042214-DHE
9108- 3	4/22/2014	042214-DHE
9108- 4	4/22/2014	042214-DHE
9108- 5	4/22/2014	042214-DHE
9108- 6	4/22/2014	042214-DHE
9108- 7	4/22/2014	042214-DHE
9108- 8	4/22/2014	042214-DHE

Calibration Summary: DHE

Calibration Standard :

	Calibration Date:	4/22/2014	12:30
Sample:	expected copy number	Crossing Threshold	copies observed
std 1	1.67E+08	7.6	112,000,000
std 2	1.67E+07	10.2	19,800,000
std 3	1.67E+06	13.1	2,870,000
std 4	1.67E+05	16.9	229,000
std6	1670	25.9	573
std8	16	30.6	25

curve = y=35.442-3.4597log(x)

r2=0.995

QC Method Blank Summary: DHE

QC Batch	Date	Time	Parameter	Result	Qualifier	Units	MDL
042214-DHE	4/22/2014	12:30	DHE	10	U	cells/ml	1.6

CB & I

17 Princess Road
Lawrenceville, NJ 08648
Tel: 609/895-5370
Fax: 609/895-1858

Reduced Deliverable Package

Prepared for
Varian, Beverly MA

Lab ID
9187

Project Number: 77150151 03000000

Samples Received
7-Aug-14

Report
19-Aug-14

NJDEP Certified Lab 11001

Randi K Rothmel, PhD 8-19-14
Randi K Rothmel, PhD Date
Laboratory Director

Table of Contents

1.0 General Information

Sample ID Table

Lab ID	Location ID	SDG
9187- 1	AP23-DO(49')	080714_2
9187- 2	AP24-DO(46')	080714_2
9187- 3	AP33-DO(35')	080714_2
9187- 4	AP34-DO(33')	080714_2
9187- 5	AP35-DO(33')	080714_2

Chain of Custody (s)

SDG 080714-2

Field Activity Daily Log

DATE

Job No.: 9187 ☐ R&D

Project Contact: Raymond Cadorette 617-589-6102 (Name & phone #)

Send Report To: Raymond Cadorette
Phone/Fax Number: 617-589-6102
Address: 150 Royall Street
City/State: Canton, MA 02021

Project Number/Cost code: 150151 / 03000000
Project Name / Location: Varian / Beverly, MA
Purchase Order #:

Shipment Date: 8/6/14
Waybill/Airbill Number:
Lab Destination: Lancaster, NY
Lab Contact Name / ph. #: Randi Rothrock

Ref. Document #: CRGA14-01 Page 1 of 1

Sampler's Name(s): R Rader, D Healy

Lab No.	Sample ID Number	Sample Description	Collection Information: Date	Time	G/C	Matrix	# of containers	Container size	Preservative: HCL	NaOH	HNO_3	H_2SO_4	Ice	Analyses Requested: Detailococcoides sp.						Any Additional Information	Turn Around Time Requested
	AP13-DO (49')	Sample Not Collected	8/6/14			GW	1	1L					✓	✓							
1	AP23-DO (46')			10:30		GW	1	1L					✓	✓							
2	AP24-DO (46')			12:00		GW	1	1L					✓	✓							
3	AP33-DO (35')			13:00		GW	1	1L					✓	✓							
4	AP34-DO (33')			11:30		GW	1	1L					✓	✓							
5	AP35-DO (33')			11:00		GW	1	1L					✓	✓							

Special Instructions:

Known Waste Stream Circle:
RCRA PCB/dioxin PAH/oil RAD Corrosive Flammable Reactive

QC/Data Package Level Required:
I II III IV NJ EDD GIS EDD Preliminary data

G/C Codes
C = Composite G = Grab

QC Package Codes
Level I = data summary
Level II = data summary + basic QC
Level III = New Jersey QC reduced deliverable
Level IV = Full deliverable CLP package

Cooler temperature upon arrival at Lab:

Relinquished By:	Date: 8/6/14	Received By: UPS	Date: 8/6/14
	Time: 16:00		Time: 1600
Relinquished By:	Date:	Received By:	Date: 8/7/14
	Time:		Time: 11:25
Relinquished By:	Date:	Received By:	Date:
	Time:		Time:

Instructions: Do not Fill Shaded Areas; Check R&D Box if R&D samples Only

Lab ID 7187
Client: Varian
Date Received: 8/7/14

CBI -Federal Services Analytical and Treatability Laboratories Internal Chain of Custody

Pg 1 of 1

Sample ID	Parameter	Bottle Type	Perservative	Date/Time Removed	Relinquishing Custodian Initials	Receiving Analyst Initials	Date/Time Returned	Receiving Custodian Initials	Relinquishing Analyst Initials
1	Dehalococcoides sp	1L	Ice						
2									
3									
4									
5									
6									
	QPCR PCR	1L	—	8/11/14 9:00	RM	—	8/11/14 10:00		T
1									
2									
3									
4									
5									
1	QPCR DHE and		—	8-13-14 10:00	QQ	R	Depleted	QQ	RM
2									
3									
4									
5									

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^{o}C until processed (cells lysed and DNA extracted) for performing qPCR to quantify *Dehalococcoccoides* 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 detectd 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 asociated 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

Chicago Bridge and Iron
Analytical and Treatability Laboratories

17 Princess Road
Lawrenceville, New Jersey 08648
Tel; 609/895-5370
Fax: 609/895-1858

Sample Information			
Lab ID	**9187-01**	**Date Sampled**	08/06/2014
Sample ID	**AP23-DO(46')**	**Time Sampled**	10:30
		Date Received	08/07/2014
		Date Filtered	08/11/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	227.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Preparation Factor**	*Method Code*
DHE (1)	08/13/2014	11:00	3,170		cells/ml	10	1.6	4.41	EISTLAW-ATL068
								crossing threshold= 21.7	

* Preparaton 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 paramaters 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

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Sample Information			
Lab ID	**9187-02**	**Date Sampled**	08/06/2014
Sample ID	**AP24-DO(46')**	**Time Sampled**	12:00
		Date Received	08/07/2014
		Date Filtered	08/11/2014
Matrix	***Aqueous***	**Amount Filtered (ml)**	381.0

Analysis

Parameter	*Date Analyzed*	*Time analyze*	*Concentration*	*Qual (see below)*	*Units*	*PQL*	*MDL*	*Preparation Factor**	*Method Code*
DHE (1)	08/13/2014	11:00	5.6	J	cells/ml	10	1.6	2.62	EISTLAW-ATL068
								crossing threshold= 29.2	

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

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( ) 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