

10 April 2015

Ms. Alana Lee  
EPA Region 9, Superfund Division  
75 Hawthorne Street, SFD-7-3  
San Francisco, California 94105

**Subject: 2014 Annual Progress Report  
501 Ellis Street, Mountain View, California**

Dear Ms. Lee:

This letter transmits the subject report for 501 Ellis Street, Mountain View, California. This report describes the work that was performed pursuant to Sections XV A&B of CERCLA §106 Order, EPA Docket No. 91-4, as amended on 16 September 2011, and Section 2.6.2 of the Statement of Work for Remedial Design and Remedial Action to Address the Vapor Intrusion Pathway. Geosyntec Consultants prepared this report on behalf of Renesas Electronics America, Inc. If you have any questions or comments, please call either of the undersigned at (510) 836-3034.

Sincerely,



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Senior Engineer



Frances Mansfield, P.G.  
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*Prepared for*

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# **2014 ANNUAL PROGRESS REPORT**

**501 ELLIS STREET  
MOUNTAIN VIEW, CALIFORNIA**

*Prepared by*

**Geosyntec**   
consultants

engineers | scientists | innovators

1111 Broadway, 6<sup>th</sup> Floor  
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Project Number: WR0434A

10 April 2015

**2014 Annual Progress Report**  
**501 Ellis Street**  
**Mountain View, California**

*Prepared by*

**Geosyntec Consultants, Inc.**  
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## LIST OF ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
106 Order	Amendment 91-4A to Unilateral Administrative Order 91-4
bgs	below ground surface
btoc	below top of casing
cis-1,2-DCE	cis-1,2-dichloroethene
CL	silty clay
COPCs	chemicals of potential concern
CSM	conceptual site model
EPA	United States Environmental Protection Agency
ft/day	feet per day
ft/ft	feet per foot
ft <sup>2</sup> /day	square feet per day
Geosyntec	Geosyntec Consultants, Inc.
GP	gravel
gpd	gallons per day
gpm	gallons per minute
Iris	Iris Environmental
Locus	Locus Technologies
MCL	Maximum Contaminant Level
MEW	Middlefield-Ellis-Whisman
mg/kg	milligrams per kilogram
ML	gravelly silt
ML	silt
MNA	monitored natural attenuation
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
PRCC	Periodic Report of Continued Compliance
Renesas	Renesas Electronics America, Inc.
Report	Annual Progress Report

RPDs	relative percent differences
RWQCB	Regional Water Quality Control Board
RWQCP	Regional Water Quality Control Plant
SCGWR	Source Control Groundwater Remediation
SM	silty sand
SOW	Statement of Work
SP	sand
TCE	trichloroethene
the 106 Order	Sections XV A&B of CERCLA §106 Order, EPA Docket No. 91-4, as amended on 16 September 2011
ROD	Record of Decision
the Site	501 Ellis Street, Mountain View, California
Tiering Work Plan	Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering
VI	vapor intrusion
VOCs	volatile organic compounds

## 1. INTRODUCTION

This Annual Progress Report (Report) summarizes facility specific environmental work and related activities that were performed at 501 Ellis Street, Mountain View, California (the Site) during the period 1 January through 31 December 2014. The work described in this report was performed pursuant to Sections XV A&B of CERCLA §106 Order, EPA Docket No. 91-4, as amended on 16 September 2011 (the 106 Order) (United States Environmental Protection Agency [EPA], 2011a). Geosyntec Consultants, Inc. (Geosyntec) prepared this report on behalf of Renesas Electronics America, Inc. (Renesas)<sup>1</sup>, in accordance with the EPA 6 May 2005 email correspondence prescribing 2004 and future Annual Report contents (EPA, 2005). The 2014 Annual Report Checklist is included as **Appendix A**. In addition, this report includes the annual progress reporting requirements prescribed in Section 2.6.2 of the Statement of Work for Remedial Design and Remedial Action to Address the Vapor Intrusion Pathway (EPA, 2011a).

### 1.1 Site Background

The Site is located at 501 Ellis Street and lies within the larger area bounded by Middlefield Road, Ellis Street, Whisman Road, and U.S. Highway 101 in Mountain View, California (**Figure 1**). This area includes historical locations of semiconductor manufacturing and other industrial activities, including the Site. In 1985, the EPA identified this area as the Middlefield-Ellis-Whisman (MEW) Study Area. Numerous investigations at the properties within the MEW Study Area have been conducted, and extensive soil and groundwater remedial activities have been implemented and are ongoing at many of the properties.

The Site is approximately 2 acres in size. A single-story building, constructed in 1967, occupies about 28,000 square feet of the western portion of the property, and a paved parking area occupies the eastern portion of the property. From 1968 to 1978, Electronic Arrays Corporation operated at the Site and manufactured semiconductor devices and related components. Solvents and other chemicals were used in the manufacturing process. From 1978 until April 1984, NEC operated at the Site.

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<sup>1</sup> Formerly NEC Electronics America, Inc. (NEC) prior to 15 April 2010. In this report both names (NEC and Renesas) are used in association with activities conducted at the Site.

In 1982, NEC initiated a groundwater monitoring and soil sampling program in response to the California Regional Water Quality Control Board (RWQCB) investigation of all companies that used underground chemical tanks in their production processes prior to 1 January 1975. Between 1982 and 1990, NEC completed several Site investigations that identified detectable concentrations of some volatile organic compounds (VOCs), primarily trichloroethene (TCE), in the soil and groundwater beneath the Site. Soil and groundwater remedial actions were implemented in the 1990s and groundwater remedial actions are ongoing (Section 1.3).

The 501 Ellis Street building is currently used for office and meeting space. Prior to occupancy, tenant improvement construction (including temporarily opening the building slab and excavating shallow trenches beneath the building for the purpose of installing sub slab utilities) were completed in fall 2014. Details of field monitoring and sampling activities that were conducted by Iris Environmental (Iris) during tenant improvement activities were submitted to EPA in March 2015 (Iris, 2015).

## **1.2 Local Hydrogeology**

The Site is located on a relatively flat tract of land that slopes gently to the north towards San Francisco Bay. San Francisco Bay is approximately two miles to the north, and the Santa Cruz Mountains are approximately six miles to the south.

Sediments beneath the Site are composed of varying proportions of unconsolidated to poorly consolidated gravel, sand, silt and clay typical of alluvial, estuarine, and bay deposits. The interbedded materials are generally lenticular, laterally gradational, and heterogeneous (Bechtel, 1996).

Water-bearing materials beneath the Site and larger MEW Study Area are divided into an upper aquifer zone, comprised of the A and B aquifers and their associated aquitards, and a lower aquifer zone, comprised of the C and deeper aquifers and their associated aquitards (Geosyntec, 2014). The A aquifer at the Site is approximately 15 to 20 feet thick, extending from a depth of about 10 feet below ground surface (bgs) to a maximum depth of about 30 feet bgs. Based on geologic logs developed during the drilling of Site wells, the A aquifer is composed of silty sand (SM), sand (SP), and gravel (GP), with interbedded layers of silty clay (CL), silt (ML) and gravelly silt (ML).

### **1.3 Summary of Remedial Action**

Remedial actions for soil and groundwater at the Site have reduced soil concentrations of TCE to below MEW cleanup levels, and continue to control and reduce the concentrations of VOCs in groundwater. The investigation and remediation efforts at the Site have been documented in several reports (e.g., Bechtel, 1992 and Bechtel, 1996) and are periodically updated in progress reports to EPA, in accordance with the 106 Order (EPA, 2011a).

#### **1.3.1 Soil**

On 6 September 1991, NEC submitted a proposed final remedial design for treating VOCs in unsaturated soils located behind (east of) the Site building to EPA. Applicable treatment technologies for shallow unsaturated soils in the MEW Study Area are specified in the Record of Decision (ROD), issued by EPA in June 1989, and consist of soil removal and aeration or in-situ vapor extraction. NEC elected to excavate and send offsite for treatment and disposal unsaturated soils with TCE concentrations greater than the cleanup level of 0.5 milligrams per kilogram (mg/kg). Soil excavations have been completed and NEC received EPA approval of the soil investigations and remediation at the Site in 1995.

#### **1.3.2 Groundwater**

In October 1997, NEC began operating the Source Control Groundwater Remediation (SCGWR) System at the Site. The SCGWR system is a groundwater extraction and treatment system that was designed to control, contain, and extract VOCs at the Site and to complement the regional groundwater remediation program for the MEW Study Area. As originally designed, the SCGWR system extracted groundwater from the A aquifer at the Site and treated the groundwater using granular activated carbon prior to discharge to the storm drain. The SCGWR system has been continuously operational (i.e., shut down only for routine and non-routine maintenance) since start-up in October 1997.

On 3 September 2008, Geosyntec submitted an Optimization Evaluation for the SCGWR system on behalf of NEC (Geosyntec, 2008). The Optimization Evaluation recommended the following modifications to the SCGRW system:

- Adjust the groundwater extraction rates. Based on an evaluation of groundwater extraction rates for the SCGWR system, the following modifications to groundwater extraction were recommended to improve cost effectiveness while maintaining effective groundwater capture:
  - Discontinue groundwater extraction from NEC-1AE. The pump in NEC-1AE would remain in the well should extraction need to be resumed.
  - Continue operation of NEC-27AE and NEC-28AE at extraction rates near or slightly greater than 2.0 gallons per minute (gpm). If a 2.0 gpm extraction rate could not be maintained at well NEC-28AE, then extraction from NEC-1AE at low rates could be resumed if necessary.
  - Monitor the direction and magnitude of the regional groundwater gradient for changes that might affect groundwater capture at the Site.
- Evaluate the possibility of direct discharge of extracted groundwater to the Palo Alto Regional Water Quality Control Plant (RWQCP).

During a 3 November 2008 meeting between EPA and Geosyntec, EPA concurred with these recommendations, provided that 1) contingencies were given for restart of NEC-1AE if groundwater capture became inadequate and 2) a monitoring program for evaluating groundwater capture was implemented. A plan for implementing the Optimization Evaluation recommendations and addressing EPA comments was provided in the 2008 Annual Progress Report (Geosyntec, 2009). The Optimization Evaluation recommendations were implemented in 2009 and the SCGWR system has operated in the optimized configuration since that time.

Operation of the optimized SCGWR system includes direct discharge of extracted groundwater to the Palo Alto RWQCP and is conducted under the requirements of a City of Mountain View Wastewater Discharge Permit, Permit ID Number 925.

### **1.3.3 Vapor Intrusion Pathway**

In 2012, Renesas conducted an investigation to evaluate the potential for vapor intrusion at the 501 Ellis Street building, including indoor air, outdoor air, and sub slab vapor sampling (Geosyntec, 2012). The sampling results indicated that concentrations of VOCs indoor air were below indoor air cleanup levels but greater than outdoor air concentrations. Based on these findings, a preliminary recommendation was made that

the building at 501 Ellis Street be categorized as Tier 3A, which would require long-term indoor air monitoring and institutional controls.

Since completion of the of the 2012 vapor intrusion investigation, tenant improvement construction work was completed inside the 501 Ellis Street building during fall 2014. The construction work included temporary opening of the building slab, trenching for the installation of sub slab utilities, slab repair, and sealing of potential conduits for vapor intrusion. Indoor and outdoor air sampling was conducted by Iris prior to and following the tenant improvement construction activities. MEW chemicals of potential concern (COPCs) were not detected in indoor air samples collected following construction with the exception of Freon 113, which was detected at comparable concentrations in outdoor air (Iris, 2015).

These results indicate that a Tier 3B categorization, which is limited to implementation of institutional controls, is appropriate for the 501 Ellis Street building with completion of the tenant improvement activities. A final determination of the vapor intrusion response action tier for the Site will be made following EPA approval of the *Revised Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering* (Haley & Aldrich, 2013).

#### **1.4 Summary of 2014 Activities**

The following section summarizes field and reporting activities that were completed for the Site in 2014.

##### **1.4.1 Field Activities**

- 26 March, 23 June, 30 September, and 18 December. Locus Technologies (Locus) conducted quarterly operations and maintenance (O&M) of the SCGWR system. As part of each O&M event, a sample was collected from the SCGWR system effluent as required under the City of Mountain View Wastewater Discharge Permit and from well NEC-1AE as specified in the revised SCGWR extraction and monitoring program included in the 2008 Annual Progress Report.
- 20 March and 18 September. Semi-annual groundwater levels were measured in Site monitoring wells.

- 2 October, 24 October, and 28 October. Geosyntec staff was onsite to observe repairs to slab penetrations that were conducted as part of the Fall 2014 tenant improvement construction activities at the Site.
- 24 and 25 October. Annual sampling of the Site groundwater monitoring wells.<sup>2</sup>

#### **1.4.2 Order Reporting Activities**

- On 16 January 2014, Renesas submitted to the City of Mountain View a semiannual Periodic Report of Continued Compliance (PRCC) summarizing the results of self-monitoring analysis conducted during the second half of 2013.
- On 15 April 2014, Renesas submitted the 2013 Annual Progress Report to EPA.
- On 16 July 2014, Renesas submitted to the City of Mountain View a semiannual PRCC summarizing the results of self-monitoring analysis conducted during the first half of 2014.

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<sup>2</sup> Groundwater sampling was moved from December to October beginning in 2011 to comply with the revised MEW groundwater monitoring schedule specified by EPA in a letter dated 20 June 2011 (EPA, 2011b).

## 2. GROUNDWATER REMEDY

The following sections present a summary of the operation and maintenance of the SCGWR system, results of a hydraulic control and capture zone analysis for the system, and results from the 2014 annual groundwater sampling at the Site.

### 2.1 SCGWR System Description

The SCGWR system is a groundwater extraction and treatment system that was designed to control, contain, and extract VOCs from the A aquifer at the Site and to complement the regional groundwater remediation program for the MEW Study Area. The SCGWR system has operated since start-up in October 1997. On 13 May 2009, the modifications to the SCGRW system recommended in the 2008 Optimization Evaluation (Section 1.3) were completed. These modifications included adjustments to groundwater extraction rates at the three extraction wells and converting the system from carbon treatment followed by discharge to Stevens Creek under an National Pollutant Discharge Elimination System (NPDES) permit to direct discharge of untreated groundwater to the sanitary sewer for treatment at the Palo Alto RWQCP under a City of Mountain View wastewater discharge permit.

### 2.2 SCGWR System Operations and Maintenance

Performance of the SCGWR system, including monthly average flow rates, extraction totals, and calculated VOC mass removal, is summarized in **Table 1**. As of 31 December 2014<sup>3</sup>, 39,695,050 gallons of water have been extracted since startup of the SCGWR system on 16 October 1997. The average daily processing rate has been 6,536 gallons per day (gpd) or 4.5 gpm. Since system optimization in 2009, the average daily processing rate has been 4.0 gpm.

Approximately 2.0 pounds of VOCs were removed by the SCGWR system in 2014. The total mass of VOCs removed by the treatment system from start-up through 31 December 2014 is approximately 49.0 pounds. **Figure 2** shows the cumulative groundwater extracted and mass of VOCs removed since system startup.

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<sup>3</sup> Although the fourth quarter treatment system sampling was conducted on 18 December 2014, the fourth quarter 2014 SCGWR system O&M visit, including recording of extraction well and discharge totalizer readings, took place on 31 December 2014.

## **2.3 Hydraulic Control and Capture Zone Analysis**

Site monitoring and extraction wells are completed within the A aquifer (**Table 2**). Depth to groundwater in the monitoring wells ranged from approximately 7 to 18 feet below top of casing (btoc) during the March monitoring event and approximately 9 to 19 feet btoc during the September monitoring event (**Table 3** and **Table 4**). A hydrograph of groundwater elevations in selected monitoring wells across the Site is shown in **Figure 3**.

### **2.3.1 Capture Zone Analysis Methodology**

#### ***2.3.1.1 Javandel and Tsang Method***

Capture of groundwater beneath the Site was estimated using two methods. The first method is the analytical solution of Javandel and Tsang (1987), which consists of calculating a stagnation point and capture zone width, followed by projection of streamlines perpendicular to groundwater contours. The 2014 capture zone calculations using this approach are provided in **Appendix B**.

#### ***2.3.1.2 Numerical Modeling Method and Model Development***

The second method for estimating groundwater capture uses a steady-state numerical simulation of groundwater flow incorporating particle tracking. Numerical simulations were performed using Visual MODFLOW Professional, Version 2011.1®.

The SCGWR system is designed to provide complete containment of the A aquifer groundwater directly beneath the Site. The conceptual site model (CSM) used in the numerical model treats the interlayered heterogeneities of the A aquifer as a single unit extending from 10 to 30 feet bgs. The unit is assumed to have a uniform transmissivity of 91 square feet per day (ft<sup>2</sup>/day), estimated from pumping tests conducted on wells NEC-12A and NEC-22A during groundwater extraction system design (Bechtel, 1996; Geosyntec, 2001) and confirmed based on an analysis of the specific capacity of the extraction wells (Driscoll, 1986). The transmissivity was incorporated into the numerical model using an aquifer thickness of 20 feet, resulting in a hydraulic conductivity of 4.6 feet per day (ft/day). This value is consistent with the average hydraulic conductivity of 2.3 ft/day estimated from slug tests conducted in the vicinity of the Site (Bechtel, 1989). The value is also within the range of reported regional A aquifer hydraulic conductivities across the MEW Study Area (0.35 ft/day to 2,050

ft/day), although it should be noted that based on the regional data the A aquifer is highly heterogeneous and flow through the aquifer can vary considerably.

For the purpose of the Site numerical model, a uniform horizontal gradient with a direction of N28°W and a magnitude of 0.008 feet per foot (ft/ft) is assumed for the A aquifer groundwater beneath the Site. The horizontal gradient was estimated based on offsite groundwater elevations and regional potentiometric surface maps developed for the MEW Study Area (Weiss, 2004), and is consistent with historical estimates (Bechtel, 1989; Bechtel, 1996). However, the observed groundwater gradient direction beneath the Site does not appear to be uniform based on groundwater elevations in Site monitoring wells. Due to the position of the Site within and relative to the MEW Study Area and the presence of active groundwater extraction systems onsite and to the west of the Site, the gradient appears to shift locally to the west in the northern and downgradient (northwestern) portions of the Site.

For the purpose of the Site numerical model, it is also assumed that there is no contribution of groundwater from the underlying B1 aquifer into the A aquifer. This assumption is consistent with observations from B1 aquifer wells that showed no response when monitored during onsite pumping tests conducted in the A aquifer (Bechtel, 1996).

The model domain is 2,500 feet wide by 2,500 feet long, with 20 feet by 20 feet grid blocks. The numerical simulation has one vertical layer with a 30 foot thickness. The upper 10 feet of the vertical layer is unsaturated. The upper and lower boundaries of the vertical layer are sloped in a direction consistent with the groundwater gradient to maintain a uniform aquifer thickness. Given the large number of groundwater wells currently operating within the MEW Study Area, only groundwater extraction rates and elevation data within the immediate vicinity of the Site are used to evaluate groundwater capture.

### ***2.3.1.3 Other Analysis Methods***

Other techniques commonly used to evaluate the performance of groundwater extraction systems, such as contaminant concentration trends in up- and downgradient monitoring wells, or tracer tests, are not applicable to the Site due to its position relative to the MEW regional plume and contributions of similar contaminants to groundwater from upgradient offsite sources.

### 2.3.2 Estimated Capture Zones for 2014

Based on the A aquifer thickness of 20 feet and a bulk hydraulic conductivity of 4.6 ft/day described above, the coupled analytical solution using the Javandel and Tsang method and potentiometric surface evaluation shows capture of the A aquifer groundwater beneath the majority of the Site during the groundwater elevation measurements conducted in March and September 2014 (**Figure 4** and **Figure 5**). Capture may be potentially incomplete over the easternmost portion of the Site in the vicinity of well NEC-12A. However, concentrations of TCE in that portion of the Site are below the California Maximum Contaminant Level (MCL) of 5 micrograms per liter ( $\mu\text{g/L}$ ) (See Section 2.4).

Particle path lines indicating simulated groundwater capture in the A aquifer beneath the Site based on groundwater extraction rates averaged over each quarter of 2014 are shown in **Figure 6** through **Figure 9**. The groundwater capture zones predicted by the numerical solution are in generally good agreement with the groundwater capture zones developed based on observed water levels in Site monitoring wells and the Javandel and Tsang method (**Figure 4** and **Figure 5**). For the A aquifer thickness and bulk hydraulic conductivity estimated as part of the CSM, the numerically simulated capture zones demonstrate nearly complete capture of A aquifer groundwater beneath the Site. The only identified area of potentially incomplete capture is the northeastern corner of the Site (near NEC-12A), where TCE concentrations are less than the California MCL of 5  $\mu\text{g/L}$ .

### 2.3.3 Horizontal and Vertical Gradients

Groundwater elevation contour maps for March and September 2014 (**Figure 4** and **Figure 5**) indicate that groundwater flow at the Site is generally to the north-northwest, towards the operating groundwater extraction wells NEC-27AE and NEC-28AE. The groundwater elevation contours steepen around these wells, indicating the pumping cones of depression.

The current Site monitoring network consists of A aquifer monitoring wells. Depth to groundwater measurements are only collected for the A aquifer at the Site and vertical gradients between deeper groundwater zones are not evaluated.

## 2.4 Analytical Results

**Table 5** summarizes the analytical data for groundwater samples collected in October 2014 from the Site monitoring and extraction wells. TCE isoconcentration contours for the October 2014 sampling event are shown in **Figure 10**. Time-series plots of TCE concentration for selected Site wells are provided in **Figure 11**. Laboratory analytical reports for the October 2014 sampling (provided to EPA only) are included as **Appendix C** and historical groundwater analytical data is included on the CD provided with this report (provided to EPA only). The Quality Assurance Report for data collected during 2014 is provided as **Appendix D** and quality control results are summarized in **Tables D-1, D-2, and D-3**.

### 2.4.1 Analytical Results Summary

Eight chlorinated VOCs were detected in one or more Site monitoring well in 2014. TCE was detected in all of the wells that are sampled at the Site. The highest TCE concentration detected during the October 2014 sampling event was 100 µg/L in monitoring well NEC-8A. This is lower than the highest TCE concentration detected in 2013, which was 160 µg/L, at well NEC-26A.

The highest TCE concentrations at the Site have historically been detected in groundwater samples collected from monitoring well NEC-1A (**Figure 11**). Prior to November 2000, the TCE concentrations in NEC-1A varied cyclically, with higher concentrations (above 1,000 µg/L) detected in November and lower concentrations (below 1,000 µg/L) detected in May. Since May 2000, TCE concentrations in NEC-1A have been below 500 µg/L, and concentrations have been at or below 100 µg/L since December 2009. During the October 2014 sampling event, the concentration of TCE in monitoring well NEC-1A was 55 µg/L.

As part of the optimized SCGWR extraction and monitoring program, quarterly groundwater sampling of NEC-1AE began after extraction from the well ceased. Results of the 2014 quarterly groundwater samples are summarized in **Table 6**. Once pumping ceased in NEC-1AE in May 2009, concentrations of TCE immediately decreased from 150 µg/L to between 38 and 70 µg/L, where they have remained until December 2014, when a value of 96 µg/L was reported (**Figure 12**). The TCE concentration trend will be monitored in 2015 to evaluate potential concentration rebound of TCE in the vicinity of NEC-1AE. However, concentrations of cis-1,2-

dichloroethene (*cis*-1,2-DCE) at NEC-1AE since shutdown have more than doubled, from approximately 20 µg/L to over 50 µg/L, with the highest concentration observed in December 2014. *cis*-1,2-DCE is a reductive dechlorination daughter product of TCE, and the observation that *cis*-1,2-DCE concentrations are stable or increasing relative to long-term TCE concentrations indicates that ongoing natural attenuation processes at the Site may be occurring with increased efficiency in the absence of groundwater extraction.

TCE and *cis*-1,2-DCE concentration trends at all Site monitoring wells were evaluated using Mann-Kendall trend analysis, a non-parametric trend test that uses only the relative magnitudes of the data rather than their measured values to evaluate trends. Vinyl chloride (a further daughter product of TCE reductive dechlorination) has only been detected at monitoring well NEC-12A in the previous 10 years' monitoring events, therefore Mann-Kendall trend analysis for vinyl chloride in well NEC-12A was also performed. Non-detect results are reported at the reporting limit. TCE, *cis*-1,2-DCE, and vinyl chloride concentration trends at the 90% confidence level based on the previous 10 years of monitoring data are summarized in **Table E-1** of **Appendix E**. **Appendix E** also includes a summary worksheet of the Mann-Kendall analysis conducted for each individual well.

Of the 20 monitoring and extraction wells at the Site, 13 wells exhibit decreasing TCE concentration trends, three exhibit increasing TCE concentration trends, and four do not demonstrate a trend for TCE concentrations at a 90% confidence level (**Figure 13**). The wells showing increasing trends are:

- NEC-7A, located crossgradient of the former operations area at the Site. Since 2006, TCE concentrations at that well have varied between approximately 60 µg/L and 90 µg/L. All concentrations detected since 2006 are less than historical high concentrations observed at the well, consistent with the long-term decreasing concentration trends observed across the Site.
- NEC-PZ-1A and NEC-PZ-2A, located adjacent to the downgradient groundwater extraction wells NEC-27AE and NEC-28AE and within their estimated zone of capture. The statistical increase in TCE concentration at these wells may therefore be related to capture of upgradient groundwater with higher TCE concentrations, rather than a change in groundwater conditions in the vicinity of the wells.

TCE did not exhibit a statistically significant trend at upgradient well NEC-26A, which has historically shown an increasing concentration trend for TCE.

In addition to the decreasing TCE concentration trends, seven of the monitoring and extraction wells at the Site show increasing *cis*-1,2-DCE concentration trends, which may indicate that natural attenuation processes at the Site are resulting in the reductive dechlorination of TCE.

#### 2.4.2 Data Quality Assurance Summary

Quality control results are summarized in **Tables D-1, D-2, and D-3** of **Appendix D**.

- Percent recoveries and relative percent differences (RPDs) for both laboratory control spikes and matrix spikes were within project goals.
- VOCs were not detected in field, laboratory, or trip blanks.
- A blind duplicate sample was collected at monitoring well NEC-23A. The primary sample was diluted (dilution factor = 2) which resulted in non-detects for *trans*-1,2-dichloroethene and 1,1-dichloroethane. These compounds were detected close to the reporting limit in the undiluted duplicate sample. Approximate RPDs were calculated for these compounds, assuming a detection of 0.5x reporting limit. The project average RPDs for the remaining detected VOCs were within project goals.

### **3. OTHER 2014 ACTIVITIES**

- On 6 March 2014, Renesas participated in an EPA requested MEW All Parties meeting to discuss the status of the groundwater and vapor intrusion (VI) remedies at the MEW Study Area.
- On 21 April 2014, Renesas participated in a meeting with the EPA to present a project update on present and planned activities at the Site.
- On 8 September 2014, Renesas participated in and EPA requested MEW All Parties meeting to discuss the status of facility-specific and EPA-led work at the MEW Study Area.

#### **4. PROBLEMS ENCOUNTERED**

No problems related to operation of the SCGWR system were encountered in 2014.

## 5. TECHNICAL ASSESSMENT – GROUNDWATER REMEDY

**Is the remedy functioning as intended?** Yes, the SCGWR system is effectively extracting and containing groundwater from the Site.

**Are capture zones adequate?** Converging lines of evidence indicate the capture zones at the Site are adequate for the A aquifer at the Site. Capture zones were estimated semi-annually (corresponding to the depth to groundwater monitoring events) using the Javandel and Tsang methodology (**Figure 4** and **Figure 5**) and quarterly using a Site-specific numerical simulation (**Figure 6** through **Figure 9**). The simulation results are in good agreement with the capture zone estimates based on depth to groundwater measurements and the capture zones show nearly complete capture of the A aquifer groundwater beneath the Site. The portions of the Site with potentially incomplete capture are limited to the easternmost part of the Site, where TCE concentrations are below 5 µg/L.

**Are vertical gradients appropriate?** Not applicable to the Site.

**Are VOC concentrations decreasing over time?** Yes, concentrations are decreasing over time. As shown in **Figure 11**, TCE concentrations in monitoring well NEC-1A have decreased from a maximum concentration of 2,400 µg/L in November 1991 to 64 µg/L during the October 2014 monitoring event. NEC-1AE ceased pumping in 2009 and concentrations of TCE in that well have declined from 150 µg/L to less than 100 µg/L (**Figure 12**). Mann-Kendall trend analysis of Site monitoring and extraction wells indicate decreasing TCE concentration trends at a majority of wells. The three wells exhibiting increasing concentration trends are located either crossgradient of the former operational area of the Site (NEC-7A) or are located near the two downgradient extraction wells (NEC-PZ1A and NEC-PZ2A).

## 6. OPTIMIZATION PROGRESS

As described in Section 1.3, Renesas has implemented the groundwater remedy optimizations recommended in the Optimization Evaluation for 501 Ellis Street (Geosyntec, 2008).

Because VOC concentrations at 501 Ellis Street are low (less than 100 µg/L) and are decreasing at nearly all Site wells, during the 2 March 2011 MEW All Parties meeting, EPA suggested that Renesas propose a trial shutdown of the SCGWR system. The objectives of the trial shutdown would be to assess plume stability in the absence of groundwater extraction and evaluate whether monitored natural attenuation (MNA) is a viable alternative remedy for the Site. Geosyntec submitted the Work Plan for Trial Shutdown of Groundwater Extraction System to EPA on behalf of Renesas on 12 September 2011 (Geosyntec, 2011). In a follow up phone call on 21 November 2011, EPA informed Geosyntec that the trial shut down could not be approved until the *Revised Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering* (Haley & Aldrich, 2013) was approved and implemented at 501 Ellis Street.

Since 2011, VOC concentrations in groundwater have continued to decrease at 501 Ellis Street. In addition, tenant improvement construction work was completed inside the 501 Ellis Street building during fall 2014. The post-construction indoor air sampling results suggest that a Tier 3B vapor intrusion response categorization, which is limited to implementation of institutional controls, is appropriate for the 501 Ellis Street building with completion of the tenant improvement activities. Based on the new information developed for the Site since 2011, a trial shutdown of the SCGWR remains appropriate. Geosyntec therefore plans to revise the Work Plan for Trial Shutdown of Groundwater Extraction System, as needed, and resubmit the document to EPA on behalf of Renesas in 2015.

## 7. CONCLUSIONS AND RECOMMENDATIONS

The following section presents conclusions and recommendations for the groundwater and VI remedies.

### 7.1 Groundwater

During 2014, the SCGWR system removed a total of 2.0 pounds of VOCs. No problems related to system operation were noted in 2014.

Converging lines of evidence indicate the groundwater capture zones are adequate for the A aquifer at the Site. The capture zones during the semi-annual depth to groundwater measuring events were estimated using the Javandel and Tsang methodology. Capture zones were also estimated quarterly based on groundwater extraction rates using a site-specific numerical simulation. The numerical simulation results are in good agreement with the capture zone estimates based on depth to groundwater measurements and the capture zones show nearly complete capture of the A aquifer groundwater beneath the Site. The areas of the Site with potentially incomplete capture are limited to the easternmost part of the Site, where TCE concentrations are below 5 µg/L.

Concentrations of TCE in the Site monitoring wells have decreased since the implementation of the SCGWR system. In monitoring well NEC-1A, the TCE concentration has decreased from a maximum concentration of 2,400 µg/L in November 1991 to 64 µg/L in October 2014. Trend analyses indicate stable or decreasing concentrations in all Site wells, except for three wells that are located crossgradient of the former operations area of the Site (NEC-7A) or near the two downgradient extraction wells (NEC-PZ-1A and NEC-PZ-2A).

The modifications to the SCGWR system recommended in the 2008 Optimization Evaluation and implemented in May 2009 have not adversely impacted the groundwater remedy performance. In addition, concentration rebound has not been observed at extraction well NEC-1AE since it was shut down as part of the May 2009 optimization activities. TCE concentrations at NEC-1AE decreased from 150 µg/L before the optimization to 57 µg/L immediately following shutdown and have remained below 100 µg/L through December 2014 (**Table 6, Figure 12**). Since 2009, cis-1,2-DCE concentrations at NEC-1AE have also more than doubled from approximately 20 µg/L

to over 50 µg/L, indicating that ongoing natural attenuation processes at the Site may occur with increased efficiency in the absence of groundwater extraction.

## **7.2 Vapor Intrusion**

Results from indoor air sampling conducted in 2012 with the building HVAC system off indicated that concentrations of VOCs in indoor air are below site-specific cleanup levels (Haley & Aldrich, 2011). Based on the indoor air sampling results, a preliminary recommendation was made for categorizing the building at 501 Ellis Street as Tier 3A (i.e., a building with indoor air concentrations below indoor air cleanup levels, but greater than outdoor concentrations). Since completion of the 2012 vapor intrusion investigation, tenant improvement construction work was completed inside the 501 Ellis Street building during Fall 2014. The construction work included temporary opening of the building slab, trenching for the installation of sub slab utilities, slab repair, and sealing of potential conduits for vapor intrusion. Indoor and outdoor air sampling was conducted by Iris prior to and following the tenant improvement construction activities. MEW COPCs were not detected in indoor air samples collected following construction with the exception of Freon 113, which was detected at comparable concentrations in outdoor air (Iris, 2015). These results indicate that a Tier 3B categorization, which is limited to implementation of institutional controls, is appropriate for the 501 Ellis Street building with completion of the tenant improvement activities.

Additional indoor air sampling is recommended to determine the response action tiering for the 501 Ellis Street building following completion of the tenant improvement activities. Additional indoor air sampling, a final determination of the vapor intrusion response action tier for the Site, and implementation of response actions based on the final placement of the Site into a tier will be completed following EPA approval of the *Revised Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering* (Haley & Aldrich, 2013).

## **8. FOLLOW-UP ACTIONS**

### **8.1 Groundwater Remedy**

During the 2 March 2011 MEW All Parties meeting, EPA suggested that Renesas propose a trial shutdown of the SCGWR system. The objectives of the trial shutdown would be to assess plume stability in the absence of groundwater extraction and evaluate whether MNA is a viable alternative remedy for the Site. Geosyntec submitted the Work Plan for Trial Shutdown of Groundwater Extraction System to EPA on behalf of Renesas on 12 September 2011 (Geosyntec, 2011). In a follow up phone call on 21 November 2011, EPA informed Geosyntec that the trial shut down could not be approved until the *Revised Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering* (Haley & Aldrich, 2013) was approved and implemented at 501 Ellis Street.

As described in Section 6, indoor air sampling results collected following completion of tenant improvement activities in 2014 suggest that a Tier 3B vapor intrusion response categorization is appropriate for the 501 Ellis Street building. Given the presumptive placement of the building into Tier 3B and the continuing decreases in VOC concentrations across the Site, a trial shutdown of the SCGWR remains appropriate. Geosyntec therefore plans to revise the Work Plan for Trial Shutdown of Groundwater Extraction System, as needed, and resubmit the document to EPA on behalf of Renesas in 2015.

### **8.2 Vapor Intrusion Remedy**

On 16 August 2010, EPA issued its ROD Amendment for the Vapor Intrusion Pathway for the MEW Study Area 9 (EPA, 2010). EPA issued a Statement of Work (SOW) for the Remedial Design and Remedial Action to Address the Vapor Intrusion Pathway at MEW in September 2011. The SOW was included as an attachment to Amendment 91-4A to Unilateral Administrative Order 91-4 (106 Order), which requires implementation of additional response actions required by the VI remedy at MEW (EPA, 2011a). In an email dated 23 September 2011, Renesas notified EPA of its intent to comply with Amendment 91-4A.

On 29 September 2011, Haley & Aldrich submitted a Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering (Tiering Work Plan) (Haley & Aldrich, 2011). On 22 January 2013, EPA issued its comments on the Tiering

Work Plan (EPA, 2013). On 22 March 2013, Haley & Aldrich submitted a revised Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering (Revised Tiering Work Plan) (Haley & Aldrich, 2013).

Following approval of the Revised Tiering Work Plan, Renesas will implement the VI remedy for the Site.

### **8.3 Third Five-Year Review**

On 30 September 2014, EPA released the Final Third Five-Year Review Report for the MEW Study Area (EPA, 2014). The report concluded that the SCGWR system is achieving capture of A aquifer groundwater beneath the 501 Ellis Street facility and that TCE concentration trends across the property are generally decreasing. No facility-specific follow-up actions were recommended for the 501 Ellis Street property in the report.

**9. UPCOMING WORK IN 2015 AND PLANNED FUTURE ACTIVITIES**

Upcoming work planned in 2015 is summarized in the table below.

<b>January</b>	<b>Routine SCGWR O&amp;M</b>
February	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> </ul>
March	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> <li>• Quarterly SCGWR system effluent sampling</li> <li>• Quarterly sampling of NEC-1AE</li> <li>• Semi-annual groundwater level measurements</li> </ul>
April	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> <li>• Submit Annual Status Report to USEPA</li> </ul>
May	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> </ul>
June	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> <li>• Quarterly SCGWR system effluent sampling</li> <li>• Quarterly sampling of NEC-1AE</li> <li>• Submit Revised Work Plan for Trial Shutdown of Groundwater Extraction System</li> </ul>
July	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> </ul>
August	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> </ul>
September	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> <li>• Quarterly SCGWR system effluent sampling</li> <li>• Quarterly sampling of NEC-1AE</li> <li>• Semi-annual groundwater level measurements</li> </ul>
October	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> <li>• Annual groundwater sampling</li> </ul>
November	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> </ul>
December	<ul style="list-style-type: none"> <li>• Routine SCGWR O&amp;M</li> <li>• Quarterly SCGWR system effluent sampling</li> <li>• Quarterly sampling of NEC-1AE</li> </ul>

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# TABLES

**Table 1**  
**SCGWR System Performance Summary**  
**501 Ellis Street, Mountain View, California**

Discharge Period	Primary Adsorber Replaced	Discharge (days)	Total Discharge (gallons)	Average Rate (gpd)	Influent VOCs (µg/L)	Effluent VOCs (µg/L)	VOCs Removed (lbs)
Startup Oct 16, 1997		0	0	NA	NA	NA	0.00
Oct 16- Nov 13, 1997		27	109,340	4,050	152	0	0.14
Nov 14- Dec 17, 1997		34	153,010	4,500	202	0	0.26
Dec 18, 1997-Jan 15, 1998		29	152,110	5,245	134	0	0.17
Jan 16-Feb 19, 1998		35	194,870	5,568	138.1	0	0.22
Feb 20-Mar 19, 1998		28	149,510	5,340	144	1.4	0.18
Mar 20-Apr 22, 1998	3/23/1998	34	157,430	4,630	137.4	0	0.18
Apr 23-May 28, 1998		36	104,370	2,899	69.9	0	0.06
May 29-June 23, 1998		25	95,110	3,804	110	15.28	0.08
June 24-July 22, 1998	7/14/1998	29	145,370	5,013	83	0	0.10
July 23-Aug 20, 1998		29	118,290	4,107	60.8	0	0.06
Aug 21-Sep 23, 1998		34	129,190	3,791	196.6	1.1	0.21
Sep 24-Oct 28, 1998	10/8/1998	35	277,800	7,919	125.3	0	0.29
Oct 29-Nov 30, 1998		32	283,740	8,890	110	0	0.26
Dec 1-Dec 15, 1998	12/21/1998	15	120,120	7,959	146.2	0	0.15
Dec 16, 1998 - Jan 27, 1999	1/8/1999	42	326,540	7,777	168.7	0	0.46
Jan 28 - Feb 24, 1999		27	233,490	8,721	167.9	0	0.33
Feb 25 - Mar 24, 1999	3/5/1999	27	242,060	8,956	195	0	0.39
Mar 25 - Apr 28, 1999	4/12/1999	35	289,730	8,253	159.4	0	0.39
Apr 21 - May 26, 1999		30	237,970	7,953	202.1	0	0.40
May 27 - June 23, 1999	6/8/1999	26	235,210	9,040	182.4	0	0.36
June 23 - July 28, 1999		35	292,100	8,325	178.4	2.8	0.43
July 29 - Aug 25, 1999	8/9/1999	28	228,510	8,209	184	3.3	0.34
Aug 26 - Sep 22, 1999	9/16/1999	28	160,730	5,730	57.9	0	0.08
Sep 23 - Oct 27, 1999		36	224,710	6,242	184	3.7	0.34
Oct 28 - Nov 23, 1999	11/12/1999	26	210,000	8,024	180.4	0	0.32
Nov 24 - Dec 22, 1999		29	222,120	7,696	231.9	2.2	0.43
Dec 23, 1999 - Jan 26, 2000	12/23/1999	35	275,070	7,872	201.3	1.2	0.46
Jan 27 - Feb 23, 2000	2/7/2000	28	212,950	7,608	208.6	8.8	0.35
Feb 24 - Mar 22, 2000	3/11/2000 and 3/20/2000	27	202,020	7,493	210	0	0.35
Mar 23 - Apr 26, 2000	4/17/2000	35	260,110	7,432	186.5	0	0.40
Apr 27 - May 31, 2000	5/26/2000	35	252,920	7,226	201.5	0	0.43
June 1 - June 28, 2000	6/26/2000	28	190,590	6,807	170.1	0	0.27
June 29 - July 26, 2000		28	187,760	6,706	212.8	0	0.33
July 27 - Aug 23, 2000	9/21/2000	28	183,790	6,564	204.7	0	0.31
Aug 24 - Sep 27, 2000		35	229,820	6,566	194.9	0	0.37
Sep 28 - Oct 26, 2000	10/6/2000	29	175,300	6,325	138.5	0	0.20
Oct 27 - Nov 22, 2000	11/17/2000	27	169,590	6,014	213.0	202.7	0.01
Nov 23 - Dec 20, 2000		28	141,930	5,046	159.7	0	0.19
Dec 21, 2000 - Jan 24, 2001	1/19/2001	35	207,970	6,498	213.4	0	0.37
Jan 25 - Feb 28, 2001	2/19/2001	35	215,600	6,151	178.3	0	0.32
Mar 1 - Mar 28, 2001		28	176,650	6,314	159.4	0	0.23
Mar 29 - Apr 25, 2001	4/10/2001	28	155,570	5,504	181.5	0	0.24
Apr 26 - May 30, 2001	5/30/2001	35	192,810	5,382	164.4	0	0.26
May 31 - June 27, 2001		28	136,610	5,013	202	0	0.23
June 28 - July 25, 2001	7/2/2001 and 7/16/2001	28	173,810	6,439	226.9	0	0.33
July 26 - Aug 22, 2001	8/14/2001	28	187,720	6,697	237.4	0	0.37
Aug 23 - Sep 26, 2001	9/19/2001	35	232,980	6,668	217.4	0	0.42
Sep 27, 2001 - Oct 24, 2001		28	186,960	6,672	225.4	0	0.35
Oct 25, 2001 - Nov 28, 2001	10/29/2001	35	214,470	6,125	223.8	0	0.40
Nov 29, 2001 - Dec 19, 2001	12/11/2001	21	117,130	5,580	176.6	0	0.17
Dec 20, 2001 - Jan 16, 2002		28	163,130	5,549	210.7	0	0.29
Jan 17, 2002 - Feb 25, 2002	2/19/2002	40	215,500	5,210	159.1	0	0.29
Feb 26, 2002 - Mar 20, 2002		23	136,160	4,643	238.4	0	0.27
Mar 21, 2002 - Apr 15, 2002		26	94,470	4,544	140.5	0	0.11
Apr 16, 2002 - May 22, 2002	4/24/2002	37	175,070	5,315	202.7	0	0.30
May 23, 2002 - June 19, 2002	6/4/2002	28	201,600	7,156	207.4	0	0.35
June 20, 2002 - July 10, 2002		21	255,090	9,769	202	0	0.43
July 11, 2002 - Aug 21, 2002	7/29/2002	42	193,600	6,518	141.8	0	0.23
Aug 22, 2002 - Sep 18, 2002		27	143,530	4,870	201.2	0	0.24
Sep 19, 2002 - Oct 17, 2002	10/1/2002	28	175,390	5,770	203.8	0	0.30
Oct 18, 2002 - Nov 20, 2002		33	250,780	6,920	201	0	0.42
Nov 21, 2002 - Dec 18, 2002	11/25/2002	27	184,290	7,009	137.2	0	0.21

**Table 1**

**SCGWR System Performance Summary  
501 Ellis Street, Mountain View, California**

Discharge Period	Primary Adsorber Replaced	Discharge (days)	Total Discharge (gallons)	Average Rate (gpd)	Influent VOCs (µg/L)	Effluent VOCs (µg/L)	VOCs Removed (lbs)
Dec 19, 2002 - Jan 22, 2003		35	220,900	6,330	189.3	0	0.35
Jan 23, 2003 - Feb 19, 2003	2/10/2003	28	166,230	6,183	226.7	0	0.31
Feb 20, 2003 - Mar 19, 2003		28	179,360	6,090	166.3	0	0.25
Mar 20, 2003 - Apr 28, 2003	4/1/2003	39	207,300	5,504	146.7	0	0.25
Apr 29, 2003 - May 19, 2003	5/19/2003	21	131,770	6,315	172.7	0	0.19
May 20, 2003 - June 30, 2003		41	227,380	5,732	160	0	0.30
July 1, 2003 - Aug 5, 2003	7/8/2003	36	230,950	6,186	186	0	0.36
Aug 6, 2003 - Sep 3, 2003		28	160,410	5,960	143.4	0	0.19
Sep 4, 2003 - Sep 30, 2003	9/9/2003	26	166,270	6,162	195.7	0	0.27
Oct 1, 2003 - Nov 5, 2003		35	238,150	6,608	186	0	0.37
Nov 6, 2003 - Dec 5, 2003	11/18/2003	29	186,150	6,225	200.4	0	0.31
Dec 6, 2003 - Dec 31, 2003		25	164,280	6,315	201.4	0	0.28
Jan 1, 2004 - Jan 28, 2004	1/12/2004	27	168,040	6,235	199.1	0	0.28
Jan 29, 2004 - Feb 27, 2004		29	183,810	6,169	167.1	0	0.26
Feb 28, 2004 - Mar 29, 2004	3/8/2004	30	191,270	6,587	168.7	0	0.27
Mar. 30, 2004 - Apr. 22, 2004		23	149,410	6,546	173.8	0	0.22
Apr. 23, 2004 - May 19, 2004	4/19/2004	26	174,000	6,500	168.6	0	0.24
May 20, 2004 - June 21, 2004	6/1/2004	32	201,810	6,361	156.3	0	0.26
June 22, 2004 - July 21, 2004		30	171,870	5,729	144.8	0	0.21
July 22, 2004 - Aug 17, 2004	8/2/2004	27	145,690	5,396	167.5	0	0.20
Aug 18, 2004 - Sep 22, 2004	9/20/2004	36	162,960	4,527	173.3	0	0.24
Sep 23, 2004 - Oct 20, 2004		28	145,290	5,189	131.9	0	0.16
Oct 21, 2004 - Nov 15, 2004	11/3/2004	26	182,140	7,005	152.9	0	0.23
Nov 16, 2004 - Dec 22, 2004	12/13/2004	37	257,700	6,965	150.5	0	0.32
Dec 23, 2004 - Jan 19, 2005		28	205,800	7,350	144.9	0	0.25
Jan 20, 2005 - Feb 15, 2005	1/24/2005	27	185,870	6,884	147.9	0	0.23
Feb 16, 2005 - Mar 28, 2005	3/14/2005	41	283,820	6,922	149.1	0	0.35
Mar 29, 2005 - Apr 20, 2005	4/14/2005	23	153,380	6,669	150.6	0	0.19
Apr 21, 2005 - May 25, 2005	5/19/2005	35	255,110	7,289	144.2	0	0.31
May 26, 2005 - June 27, 2005		33	239,120	7,246	149.1	0	0.30
June 28, 2005 - July 25 2005		28	184,260	6,581	153.7	0	0.24
July 26, 2005 - Aug 15, 2005		21	152,620	7,268	139.2	0	0.18
Aug 16, 2005 - Oct 3, 2005	8/17/2005 9/15/2005	49	378,200	7,718	163.5	0	0.52
Oct 4, 2005 - Oct 24, 2005	10/18/2005	21	160,050	7,621	149.8	0	0.20
Oct 25, 2005 - Nov 21, 2005		28	208,170	7,435	162.7	0	0.28
Nov 22, 2005 - Dec 30, 2005		39	302,470	7,756	158.5	0	0.40
Dec 31, 2005 - Jan 30, 2006	1/5/2006	31	237,010	7,645	143.1	0	0.28
Jan 31, 2006 - Feb 27, 2006	2/6/2006	28	205,260	7,331	134.3	0	0.23
Feb 28, 2006 - Apr 3, 2006	3/13/2006	35	246,150	7,033	153.9	0	0.32
Apr 4, 2006 - Apr 24, 2006		21	150,040	7,145	145.6	0	0.18
Apr 25, 2006 - May 30, 2006		36	252,130	7,004	142.8	0	0.30
May 31, 2006 - June 30, 2006	6/5/2006	31	205,290	6,622	156	0	0.27
July 1, 2006 - Aug 7, 2006	7/12/2006	37	247,740	6,696	129.4	0	0.27
Aug 8, 2006 - Sep 5, 2006	8/31/2006	28	183,410	6,550	128.6	0	0.20
Sep 6, 2006 - Oct 2, 2006		26	182,180	7,007	158.6	0	0.24
Oct 3, 2006 - Nov 6, 2006		34	232,190	6,829	145.7	0	0.28
Nov 7, 2006 - Dec 4, 2006	11/9/2006	27	179,870	6,662	170.9	0	0.26
Dec 5, 2006 - Jan 2, 2007	12/14/2006	28	181,650	6,488	174.5	0	0.26
Jan 3, 2007 - Feb 1, 2007	2/1/2007	29	193,140	6,660	146	0	0.24
Feb 2, 2007 - Mar 5, 2007		31	200,650	6,473	135.2	0	0.23
Mar 6, 2007 - Apr 2, 2007		27	176,910	6,552	134.9	0	0.20
Apr 2, 2007 - May 7, 2007	4/24/2007	35	235,030	6,715	148	0	0.29
May 7, 2007 - June 4, 2007	5/23/2007	28	200,670	7,167	145.8	0	0.24
June 4, 2007 - June 29, 2007		25	180,590	7,224	134.5	0	0.20
June 29, 2007 - July 30, 2007	7/5/2007	32	230,300	7,197	127.6	0	0.25
July 30, 2007 - Sept 4, 2007		36	281,730	7,826	138	0	0.32
Sept 4, 2007 - Oct 1, 2007	9/13/2007	27	184,930	6,849	164.8	0	0.25
Oct 2, 2007 - Oct 29, 2007	10/9/2007	28	220,880	7,889	127.4	0	0.23
Oct 30, 2007 - Nov 26, 2007	11/19/2007	28	221,870	7,924	115.5	0	0.21
Nov 27, 2007 - Dec 31, 2007		35	282,300	8,066	145.8	0	0.34

**Table 1**

**SCGWR System Performance Summary  
501 Ellis Street, Mountain View, California**

Discharge Period	Primary Adsorber Replaced	Discharge (days)	Total Discharge (gallons)	Average Rate (gpd)	Influent VOCs (µg/L)	Effluent VOCs (µg/L)	VOCs Removed (lbs)
Jan 1, 2008 - Jan 28, 2008	1/22/2008	28	204,940	7,319	156.9	0	0.27
Jan 29, 2008 - Feb 25, 2008	2/19/2008	28	214,970	7,678	141.8	0	0.25
Feb 26, 2008 - Mar 31, 2008		35	270,880	7,739	137.3	0	0.31
Apr 1, 2008 - Apr 28, 2008	4/3/2008	27	215,770	7,991	144.9	0	0.26
Apr 29, 2008 - May 27, 2008		28	233,230	8,330	148.9	0	0.29
May 28, 2008 - June 30, 2008	6/9/2008	33	215,260	6,523	135.8	0	0.24
July 1, 2008 - July 28, 2008		27	213,290	7,900	145.5	0	0.26
July 29, 2008 - Sep 2, 2008		35	271,770	7,765	157.2	0	0.36
Sep 3, 2008 - Sep 29, 2008		26	206,440	7,940	147.5	0	0.25
Sep 30, 2008 - Nov 3, 2008	10/9/2008	34	255,440	7,513	145.6	0	0.31
Nov 4, 2008 - Dec 1, 2008	11/17/2008	27	201,980	7,481	160.9	0	0.27
Dec 2, 2008 - Dec 29, 2008		27	199,220	7,379	146.5	0	0.24
Dec 30, 2008 - Feb 2, 2009	1/5/2009	35	262,400	7,497	144.5	0	0.32
Feb 3, 2009 - March 2, 2009	2/17/2009	28	208,760	7,456	132	0	0.23
March 3, 2009 - April 6, 2009		35	261,780	7,479	123.5	0	0.27
Apr 7, 2009 - May 4, 2009	4/8/2009	28	202,690	7,239	133.5	0	0.23
May 5, 2009 - Jun 1, 2009		28	172,870	6,174	133.4	0	0.19
Jun 2, 2009 - Jun 29, 2009		28	150,880	5,389	--*	98.6*	0.12
Jun 30, 2009 - Oct 5, 2009		98	538,960	5,500	--	114.2	0.51
Oct 6, 2009 - Dec 31, 2009		87	483,970	5,563	--	119.6	0.48
Jan 1, 2010 - March 17, 2010		76	412,870	5,433	--	119.0	0.41
March 18, 2010 - June 30, 2010		105	577,330	5,498	--	110.6	0.53
July 1, 2010 - Sep 14, 2010		76	412,240	5,424	--	129.3	0.44
Sep 14, 2010 - Dec 30, 2010		108	537,210	4,974	--	126.3	0.57
Dec 31, 2010 - Mar 14, 2011		73	367,480	5,034	--	124.3	0.38
Mar 15, 2011 - Jun 13, 2011		91	493,950	5,428	--	119.7	0.49
Jun 14, 2011 - Sep 12, 2011		91	531,530	5,841	--	106.7	0.47
Sep 13, 2011 - Dec 12, 2011		91	521,590	5,732	--	117.5	0.51
Dec 13, 2011 - Mar 14, 2012		92	515,530	5,604	--	104.7	0.45
Mar 15, 2012 - Jun 18, 2012		95	515,360	5,425	--	111.1	0.48
Jun 19, 2012 - Sep 10, 2012		83	466,110	5,616	--	123.2	0.48
Sep 11, 2012 - Dec 17, 2012		97	564,160	5,816	--	128.8	0.61
Dec 17, 2012 - Mar 13, 2013		86	493,330	5,736	--	130.8	0.54
Mar 13, 2013 - Jun 17, 2013		96	570,110	5,939	--	106.5	0.51
Jun 17, 2013 - Sep 27, 2013		102	639,190	6,267	--	108.4	0.58
Sep 27, 2013 - Dec 31, 2013		95	626,700	6,597	--	114.0	0.60
Jan 1, 2014 - Mar 26, 2014		85	555,620	6,537	--	111.5	0.52
Mar 27, 2014 - Jun 23, 2014		89	566,410	6,364	--	103.9	0.49
Jun 24, 2014 - Sep 30, 2014		99	616,450	6,227	--	104.0	0.53
Oct 1, 2014 - Dec 31, 2014		92	530,290	5,764	--	96.5	0.43
<b>TOTALS</b>		<b>6,240</b>	<b>39,695,060</b>	<b>6,536</b>	<b>--</b>	<b>--</b>	<b>48.99</b>

Notes:

\*Beginning 13 May 2009, extracted groundwater is discharged without pre-treatment to the sanitary sewer under City of Mountain View Wastewater Discharge Permit Number 925. At this time, collection of influent samples was discontinued. Quarterly effluent samples are collected as required by the City of Mountain View Wastewater Discharge Permit. VOC recovery is estimated quarterly based on effluent concentration and total discharge.

**Table 2**  
**Summary of Extraction Well and Monitoring Well**  
**Construction Details**  
**501 Ellis Street, Mountain View, California**

Well ID	Date Installed	Reference Elevation <sup>(1)</sup> Top of PVC (feet)	Well Diameter <sup>(2)</sup> (inches)	Screen Slot Size <sup>(2)</sup> (inches)	Depth of Screened Interval (feet)	Aquifer Zone
<i>Extraction Wells</i>						
NEC27AE	May-97	43.73	6	0.02	12.7-27.7	A
NEC1AE <sup>(3)</sup>	May-97	43.90	6	0.02	12.8-27.8	A
NEC28AE	Apr-02	42.70	6	0.02	9-29	A
<i>Monitoring Wells</i>						
NEC-1A	Sep-82	44.47	2	0.01	5-25	A
NEC-7A	Oct-83	43.80	2	0.02	6-26.5	A
NEC-8A	Oct-83	42.29	2	0.02	5-25	A
NEC-9A	Oct-83	43.14	2	0.02	5-30	A
NEC-10A	Aug-84	39.43	2	0.02	10-30	A
NEC-11A	Aug-84	45.97	2	0.02	10-30	A
NEC-3A	Oct-85	43.76	4	0.02	24.95-28.72	A
NEC-12A	Oct-85	44.24	4	0.02	18.90-28.32	A
NEC-21A	Dec-88	44.06	4	0.02	26-28	A
NEC-20A	Jan-89	46.62	4	0.02	26-28	A
NEC-22A	May-89	43.17	4	0.02	25-27	A
NEC-23A	May-89	43.77	4	0.02	26-28	A
NEC-24A	Dec-91	44.50	4	0.02	15.8-25.8	A
NEC-25A	Mar-96	42.30	4	0.02	17.19-27.19	A
NEC-26A	Mar-96	43.65	4	0.02	28.24-33.24	A
NEC-PZ-1A	Apr-99	42.47	2	0.02	11-16	A
NEC-PZ-2A	Apr-99	43.02	2	0.02	9-14	A
NEC-PZ-3A	Apr-99	43.16	2	0.02	8-13	A

Notes:

- <sup>(1)</sup> Reference elevations updated in March 2015 with most recent GPS survey data from Locus.
- <sup>(2)</sup> Well diameters and screen slot sizes for wells constructed in the 1980's obtained from the table "Summary of NEC Monitoring Well Construction"
- <sup>(3)</sup> Ceased groundwater extraction from well NEC-1AE on 13 May 2009. Extraction will be resumed if sufficient capture with the remaining two extraction wells cannot be maintained.

**Table 3**  
**Groundwater Levels - March 2014**  
**501 Ellis Street, Mountain View, California**

<b>Well Number</b>	<b>Reference Elevation (top of PVC) (feet)</b>	<b>Depth to Water (top of PVC) (feet)</b>	<b>Groundwater Elevation (feet)</b>	<b>Aquifer Zone</b>
NEC1A	44.47	9.38	35.09	A
NEC1AE	43.90	9.52	34.38	A
NEC3A	43.76	8.54	35.22	A
NEC7A	43.80	10.96	32.84	A
NEC8A	42.29	10.39	31.90	A
NEC9A	43.14	8.81	34.33	A
NEC10A	39.43	7.42	32.01	A
NEC11A	45.97	10.53	35.44	A
NEC12A	44.24	10.09	34.15	A
NEC20A	46.62	9.75	36.87	A
NEC21A	44.06	9.01	35.05	A
NEC22A	43.17	9.55	33.62	A
NEC23A	43.77	10.04	33.73	A
NEC24A	44.50	10.61	33.89	A
NEC25A	42.30	9.12	33.18	A
NEC26A	43.65	9.40	34.25	A
NEC27AE	43.73	18.05	25.68	A
NEC28AE	42.27	12.41	29.86	A
NEC-PZ-1A	42.47	10.52	31.95	A
NEC-PZ-2A	43.02	10.69	32.33	A
NEC-PZ-3A	43.16	10.05	33.11	A
29A <sup>1</sup>	46.08	12.20	33.88	A
32A <sup>1</sup>	45.06	12.05	33.01	A
119A <sup>1</sup>	45.95	12.70	33.25	A
153A <sup>1</sup>	45.72	11.91	33.81	A
158A <sup>1</sup>	48.09	11.20	36.89	A

<sup>1</sup> Regional Groundwater Remediation Program (RGRP) monitoring wells.

**Table 4**  
**Groundwater Levels - September 2014**  
**501 Ellis Street, Mountain View, California**

<b>Well Number</b>	<b>Reference Elevation (top of PVC) (feet)</b>	<b>Depth to Water (top of PVC) (feet)</b>	<b>Groundwater Elevation (feet)</b>	<b>Aquifer Zone</b>
NEC1A	44.47	10.54	33.93	A
NEC1AE <sup>2</sup>	43.90	NA	NA	A
NEC3A	43.76	9.75	34.01	A
NEC7A	43.80	12.09	31.71	A
NEC8A	42.29	11.56	30.73	A
NEC9A	43.14	DRY	DRY	A
NEC10A	39.43	8.80	30.63	A
NEC11A	45.97	11.68	34.29	A
NEC12A	44.24	11.65	32.59	A
NEC20A	46.62	10.89	35.73	A
NEC21A <sup>2</sup>	44.06	NA	NA	A
NEC22A	43.17	10.82	32.35	A
NEC23A	43.77	11.15	32.62	A
NEC24A	44.50	11.70	32.80	A
NEC25A	42.30	10.42	31.88	A
NEC26A	43.65	10.55	33.10	A
NEC27AE	43.73	18.78	24.95	A
NEC28AE	42.27	13.96	28.31	A
NEC-PZ-1A	42.47	11.51	30.96	A
NEC-PZ-2A	43.02	11.91	31.11	A
NEC-PZ-3A	43.16	11.42	31.74	A
29A <sup>1</sup>	46.08	12.99	33.09	A
32A <sup>1</sup>	45.06	12.93	32.13	A
119A <sup>1</sup>	45.95	13.62	32.33	A
153A <sup>1,2</sup>	45.72	NA	NA	A
158A <sup>1</sup>	48.09	12.25	35.84	A

<sup>1</sup> Regional Groundwater Remediation Program (RGRP) monitoring wells.

<sup>2</sup> No access to well due to tenant improvement construction activities.

**Table 5**  
**Analytical Results - October 2014 Sampling Event**  
**501 Ellis Street, Mountain View, California**

WELL ID	NEC1A	NEC7A	NEC8A	NEC9A	NEC10A	NEC11A	NEC12A	NEC20A	NEC21A	NEC22A	NEC23A	NEC23A (dup)	NEC24A	NEC25A	NEC26A	NEC27AE	NEC28AE	NECPZ-1A	NECPZ-2A	NECPZ-3A
DATE OF SAMPLE	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14	10/24/14
UNITS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L								
Bromodichloromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon Tetrachloride	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<b>1.0</b>	< 0.5	< 0.5
Chloromethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	<b>1.0</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	<b>0.6</b>	< 0.5	< 0.5	<b>0.5</b>	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	<b>0.7</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	< 0.5	<b>0.8</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<b>1.5</b>	<b>1.9</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	<b>36</b>	<b>11</b>	<b>9.3</b>	<b>31</b>	<b>6.7</b>	<b>2.5</b>	<b>7.5</b>	< 0.5	<b>3.5</b>	<b>20</b>	<b>29</b>	<b>33</b>	<b>44</b>	<b>4.6</b>	<b>3.8</b>	<b>7.7</b>	<b>44</b>	<b>3.3</b>	<b>8.9</b>	<b>9.9</b>
trans-1,2-Dichloroethene	<b>6.1</b>	< 0.5	<b>1.6</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	<b>0.7</b>	<b>3.0</b>	<b>2.1</b>	<b>0.8</b>	<b>1.3</b>	<b>19</b>	< 0.5	<b>1.0</b>	<b>1.9</b>
1,2-Dichloropropane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Freon 113	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Methylene Chloride	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 40	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
1,1,2,2-Tetrachloroethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	<b>1.1</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<b>0.8</b>
1,1,1-Trichloroethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	<b>55</b>	<b>79</b>	<b>100</b>	<b>2.2</b>	<b>20</b>	<b>21</b>	<b>1.6</b>	<b>0.6</b>	<b>3.0</b>	<b>17</b>	<b>91</b>	<b>85</b>	<b>38</b>	<b>34</b>	<b>91</b>	<b>89</b>	<b>70</b>	<b>60</b>	<b>83</b>	<b>47</b>
Trichlorofluoromethane	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dilution Factor (DF)	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1

Notes:  
µg/L = micrograms per liter  
"<" indicates not detected above the reported detection limit  
Samples analyzed by EPA Method 8260 (8010 Analyte list) by Curtis & Tompkins, Ltd.

**Table 6**  
**Analytical Results - 2014 NEC1AE Quarterly Sampling**  
**501 Ellis Street, Mountain View, California**

WELL ID	NEC1AE	NEC1AE	NEC1AE	NEC1AE
DATE OF SAMPLE	03/26/14	06/23/14	09/30/14	12/18/14
UNITS	µg/L	µg/L	µg/L	µg/L
Bromodichloromethane	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	< 1.0	< 1.0	< 1.0	< 1.0
Carbon Tetrachloride	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	<b>0.7</b>	<b>0.6</b>	<b>0.6</b>	<b>1.0</b>
1,3-Dichlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	<b>0.8</b>	< 0.5	< 0.5	<b>0.6</b>
cis-1,2-Dichloroethene	<b>46</b>	<b>45</b>	<b>48</b>	<b>54</b>
trans-1,2-Dichloroethene	<b>9.5</b>	<b>11</b>	<b>12</b>	<b>16</b>
1,2-Dichloropropane	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5
Freon 113	< 2.0	< 2.0	< 2.0	< 2.0
Methylene Chloride	< 20	< 20	< 20	< 20
1,1,1,2-Tetrachloroethane	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	<b>0.8</b>	<b>0.6</b>	< 0.5	<b>0.9</b>
1,1,1-Trichloroethane	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	<b>69</b>	<b>61</b>	<b>64</b>	<b>96</b>
Trichlorofluoromethane	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	< 0.5	< 0.5	< 0.5	< 0.5

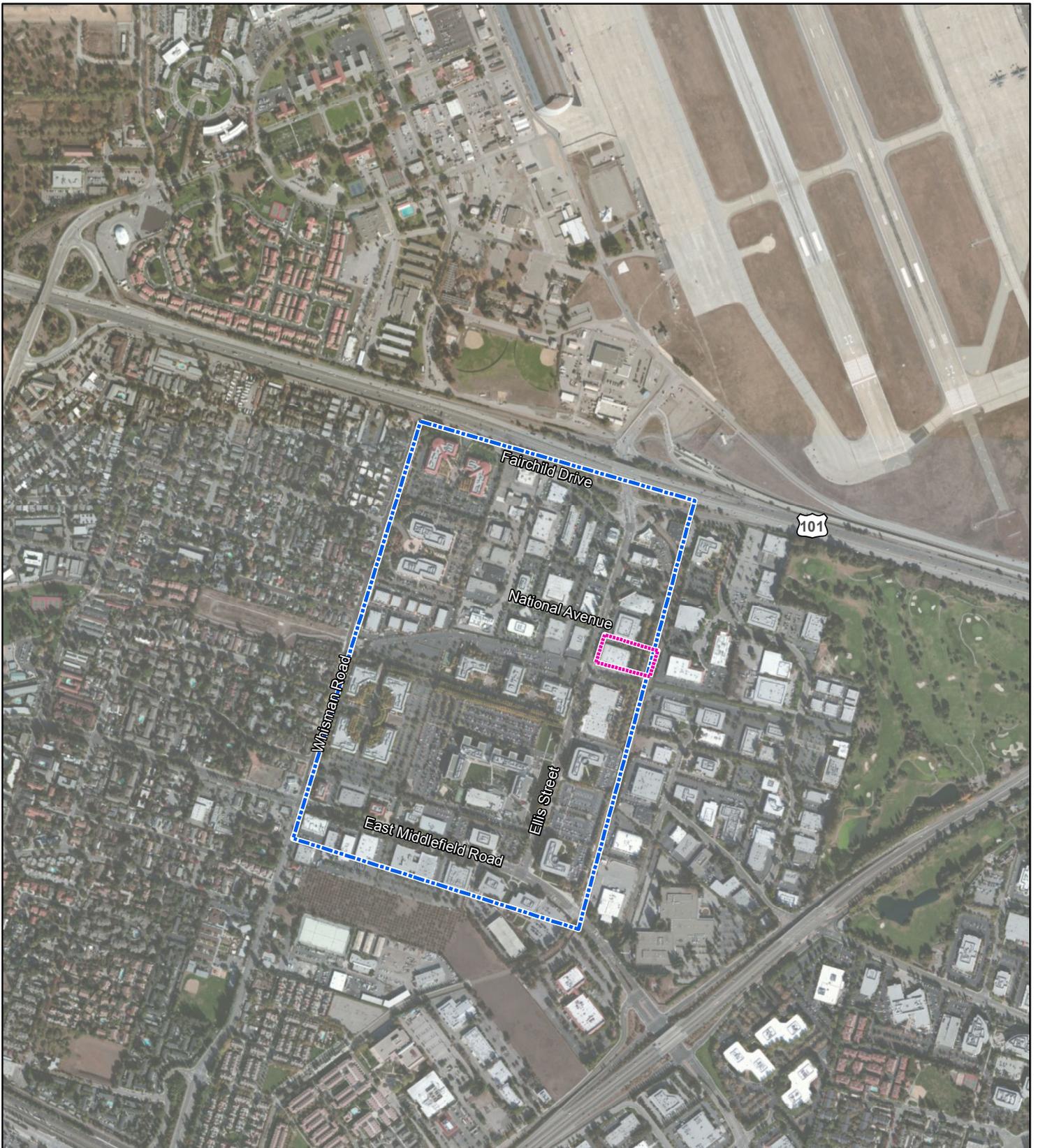
Notes:

µg/L = micrograms per liter

"&lt;" indicates not detected above the reported detection limit

Samples analyzed by EPA Method 8260 (8010 Analyte list) by Curtis &amp; Tompkins, Ltd.

# FIGURES



**Legend**

-  501 Ellis Street
-  MEW Study Area

Note:  
 Boundaries are approximate.  
 Aerial Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,  
 CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP,  
 swisstopo, and the GIS User Community



**Site Location Map**

501 Ellis Street  
 Mountain View, California

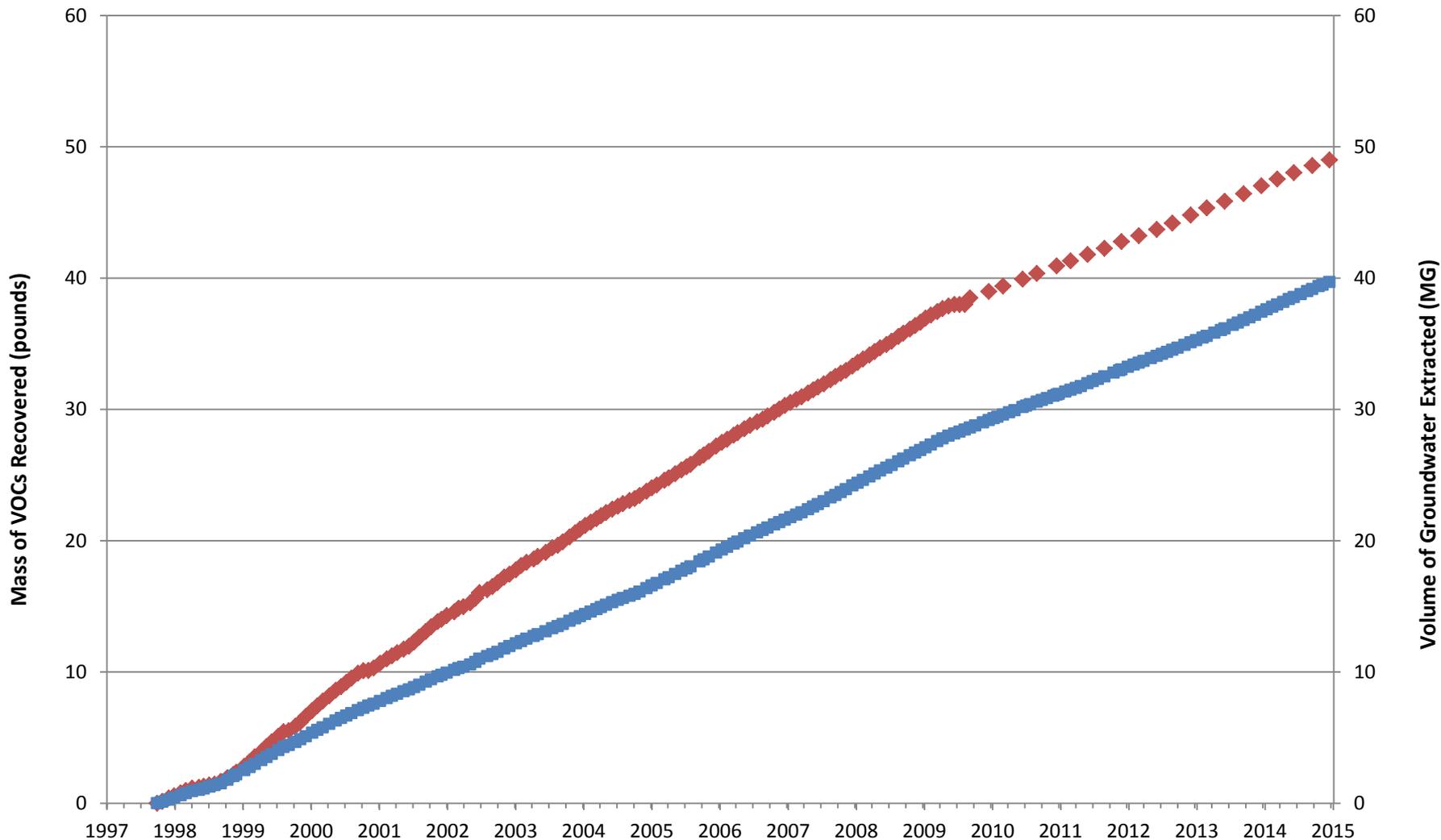
**Geosyntec**  
 consultants

**Figure**

**1**

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**Legend**  
 ◆ VOC Mass Removed  
 ■ Volume of Groundwater Extracted

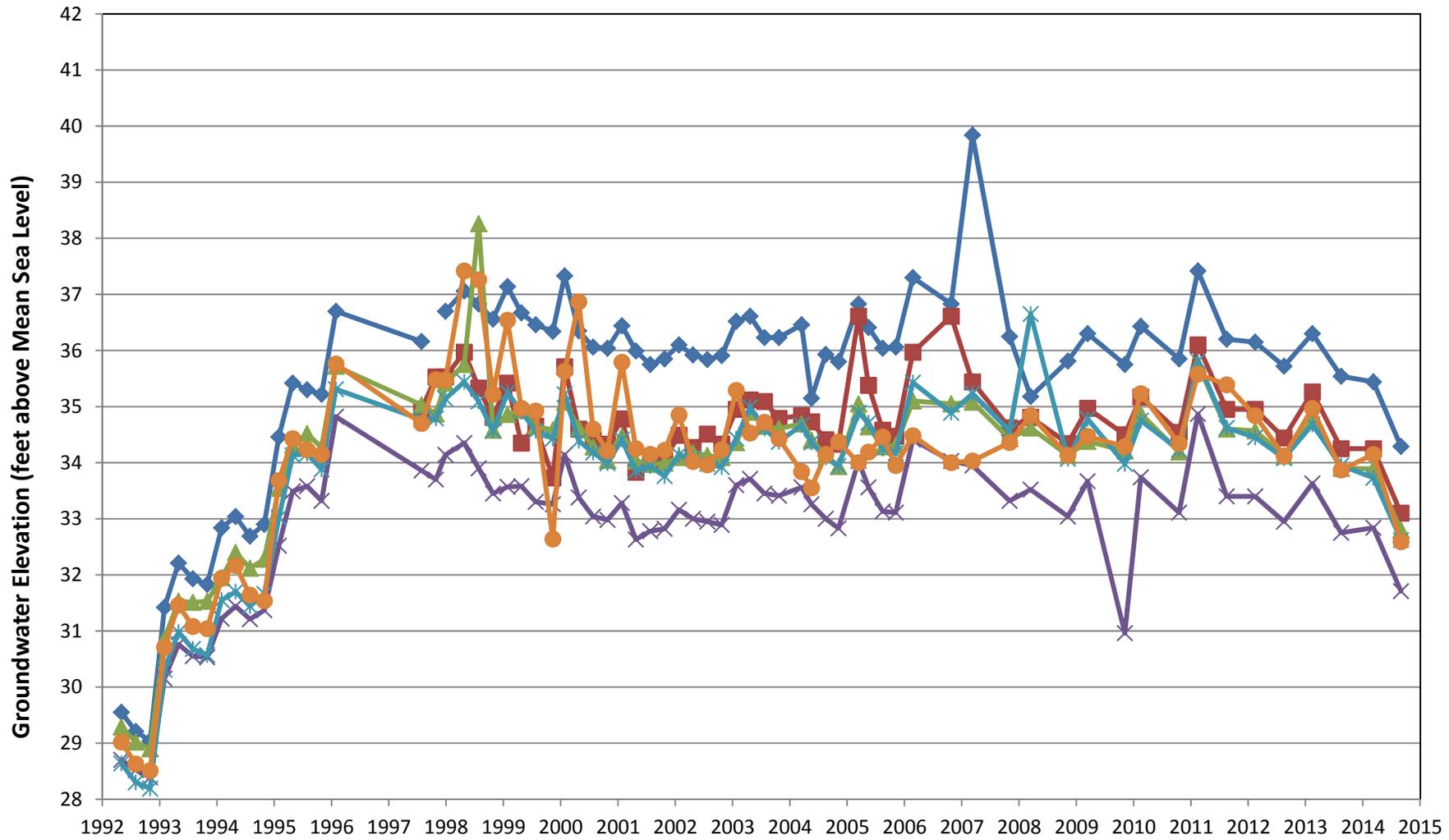
VOC = Volatile Organic Compounds  
 MG = Million Gallons

**Figure 2**  
**Groundwater Extracted and Mass of VOCs Removed**

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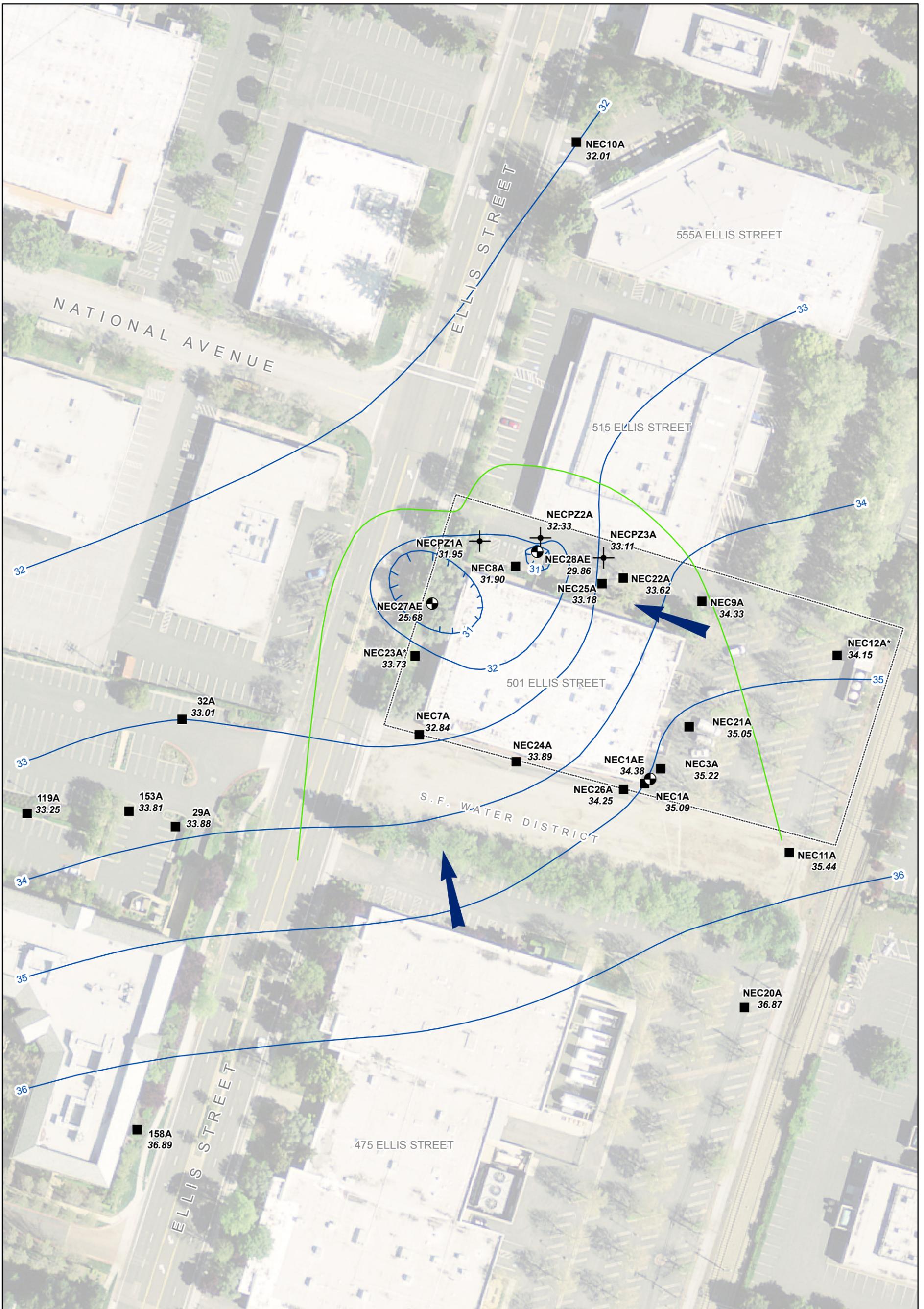




- Legend**
- ✕ NEC-7A      ◆ NEC-11A
  - NEC-12A    ✧ NEC-23A
  - ▲ NEC-24A    ■ NEC-26A

**Figure 3**  
**Groundwater Elevations in Selected Monitoring Wells**

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**Legend**

- Estimated Capture Zone
- Groundwater Elevation Contour (ft MSL)
- Extraction Well
- Monitoring Well
- Piezometer
- 501 Ellis Street Boundary
- Groundwater Flow Direction

Notes:  
 \* Groundwater Measurement Not Used in Contouring.  
 MSL - Mean Sea level

Extraction Rates (gpm)  
 NEC1AE - 0.00  
 NEC27AE - 1.86  
 NEC28AE - 1.95



**Groundwater Elevation Contour Map and Capture Zone First Quarter 2014**

501 Ellis Street  
 Mountain View, California

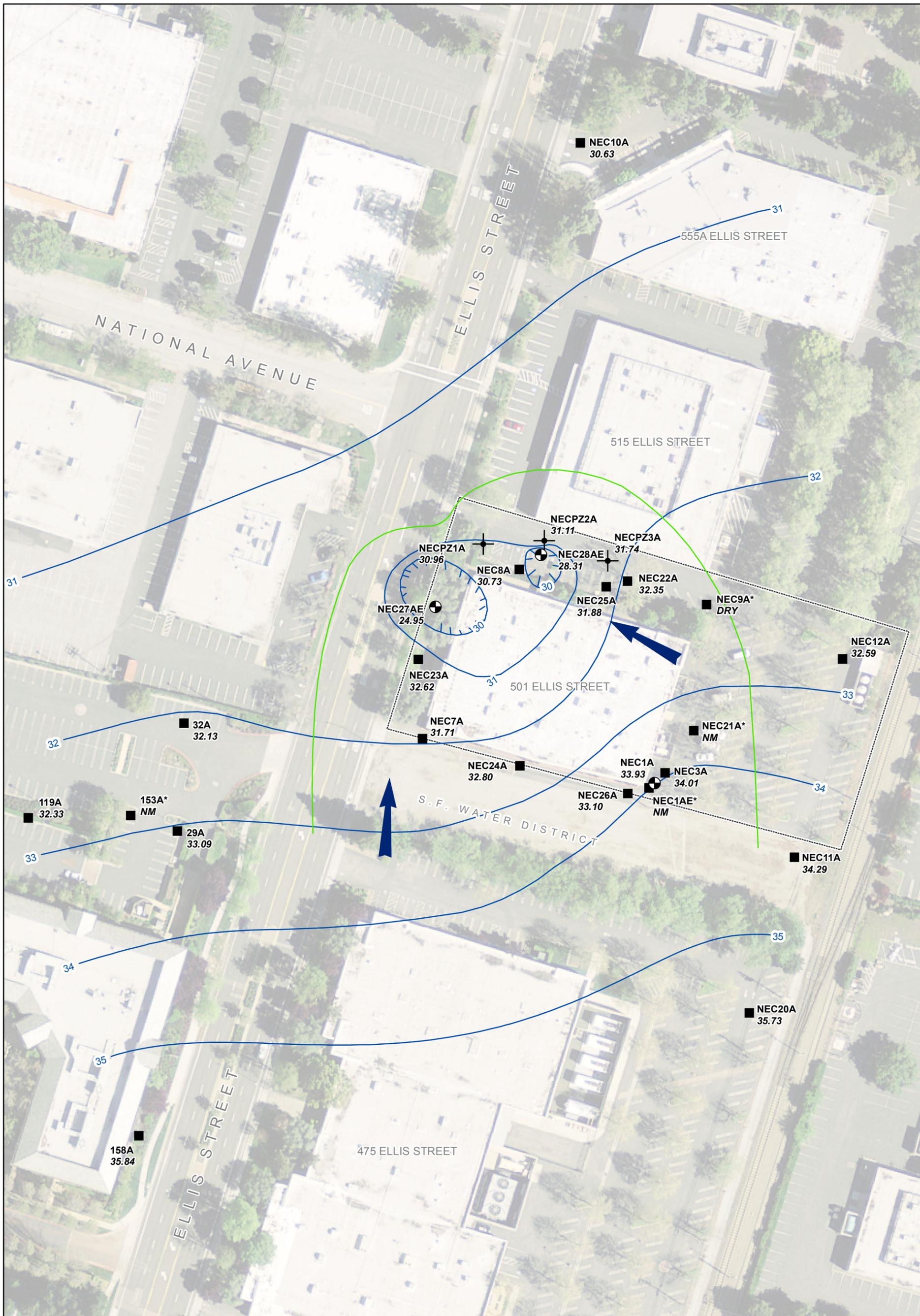
**Geosyntec**  
 consultants

**Figure**

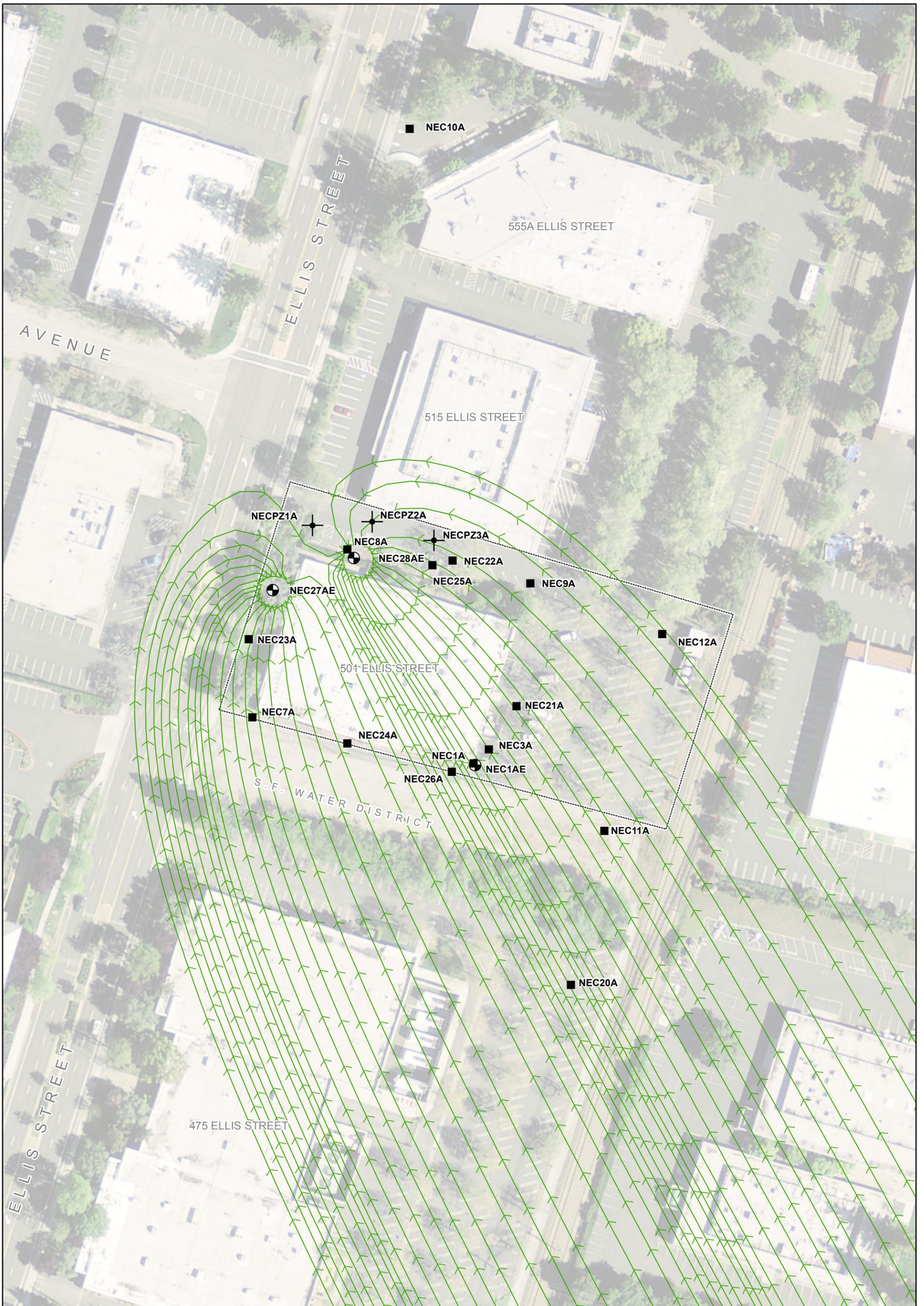
**4**

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<b>Legend</b> Estimated Capture Zone Groundwater Elevation Contour (ft MSL) Extraction Well Monitoring Well Piezometer 501 Ellis Street Boundary Groundwater Flow Direction	Extraction Rates (gpm) NEC1AE - 0.00 NEC27AE - 1.64 NEC28AE - 1.89	 N	<b>Groundwater Elevation Contour Map and Capture Zone</b> <b>Third Quarter 2014</b> 501 Ellis Street Mountain View, California	
			Notes: * Groundwater Measurement Not Used in Contouring. NM - Not Measured MSL - Mean Sea Level	 0 80 Feet
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- Legend**
- Particle Pathline Indicating Simulated Capture Zone
  - Extraction Well
  - Monitoring Well
  - Piezometer
  - 501 Ellis Street Boundary

**Model Parameters:**

Transmissivity: 91.3 ft <sup>2</sup> /day	Extraction Rates (gpm)
Hydraulic Gradient 0.008 ft/ft, N28W	NEC1AE - 0.00
Recharge 1 in/yr	NEC27AE - 1.86
	NEC28AE - 1.95



**Simulated A Aquifer Capture Zone  
First Quarter 2014**

501 Ellis Street  
Mountain View, California

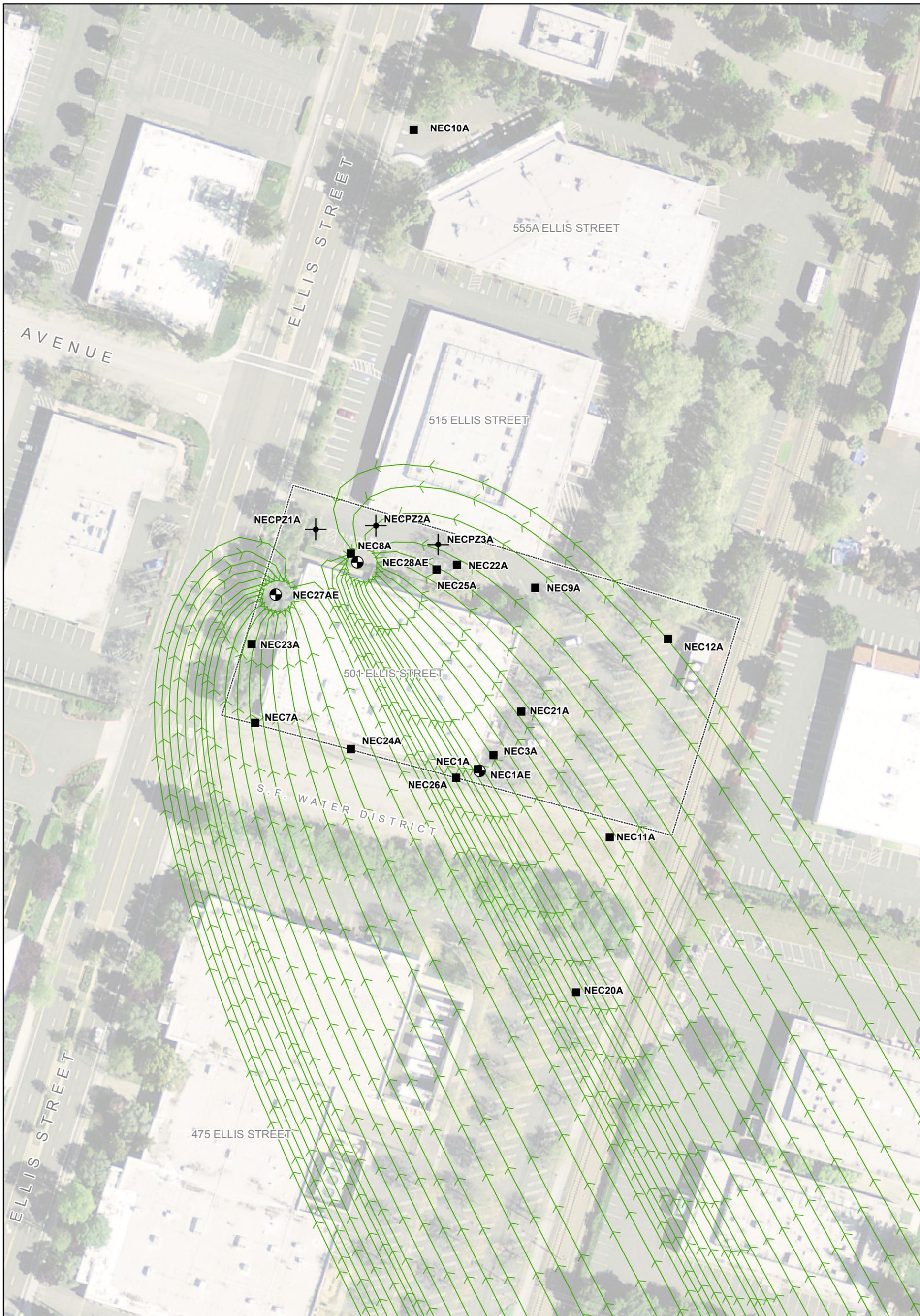
**Geosyntec**  
consultants

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**Figure**

**6**



- Legend**
- Particle Pathline Indicating Simulated Capture Zone
  - Extraction Well
  - Monitoring Well
  - Piezometer
  - 501 Ellis Street Boundary

**Model Parameters:**

Transmissivity: 91.3 ft <sup>2</sup> /day	Extraction Rates (gpm)
Hydraulic Gradient 0.008 ft/ft, N28W	NEC1AE - 0.00
Recharge 1 in/yr	NEC27AE - 1.77
	NEC28AE - 1.91

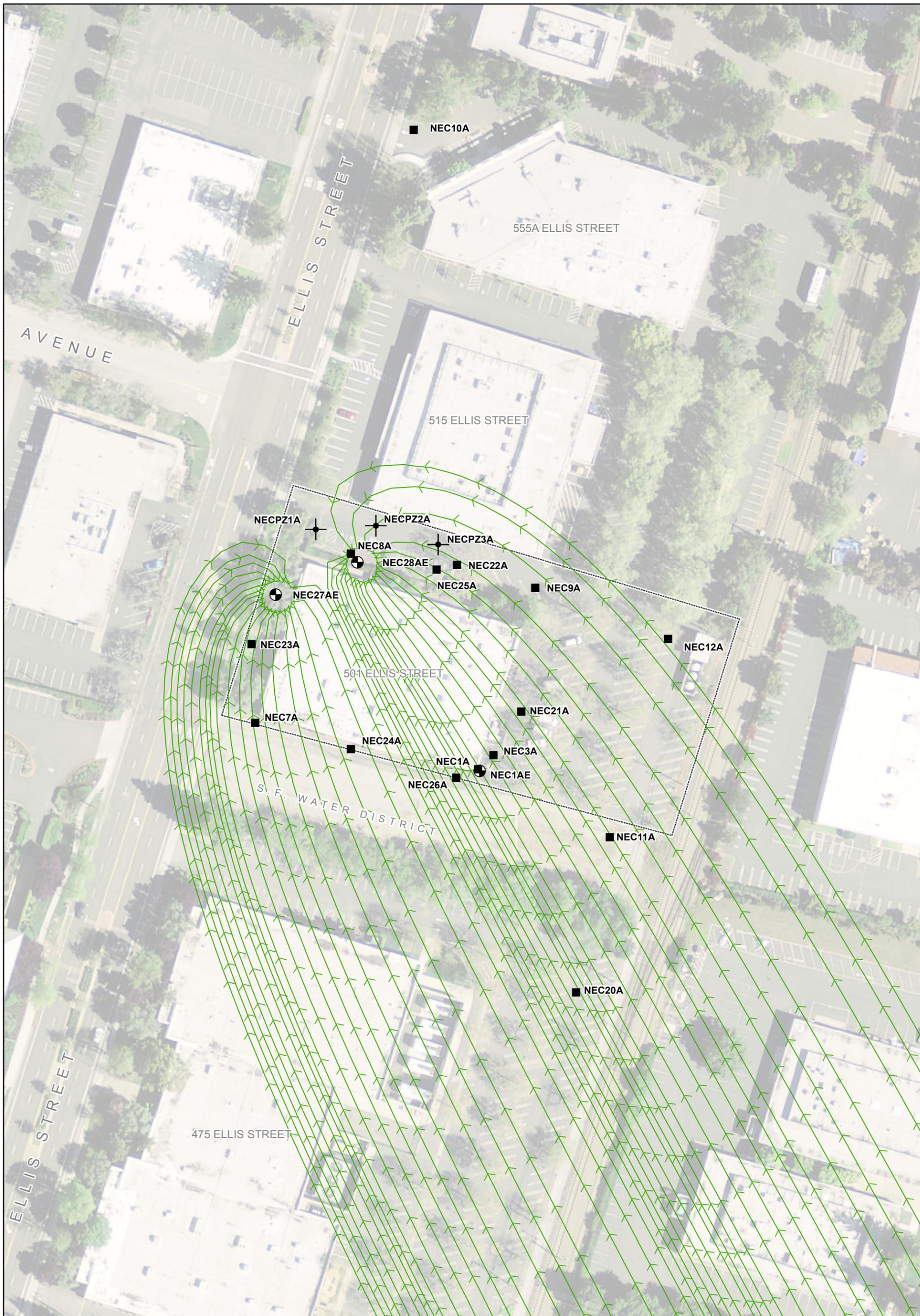
**Simulated A Aquifer Capture Zone  
Second Quarter 2014**

501 Ellis Street  
Mountain View, California

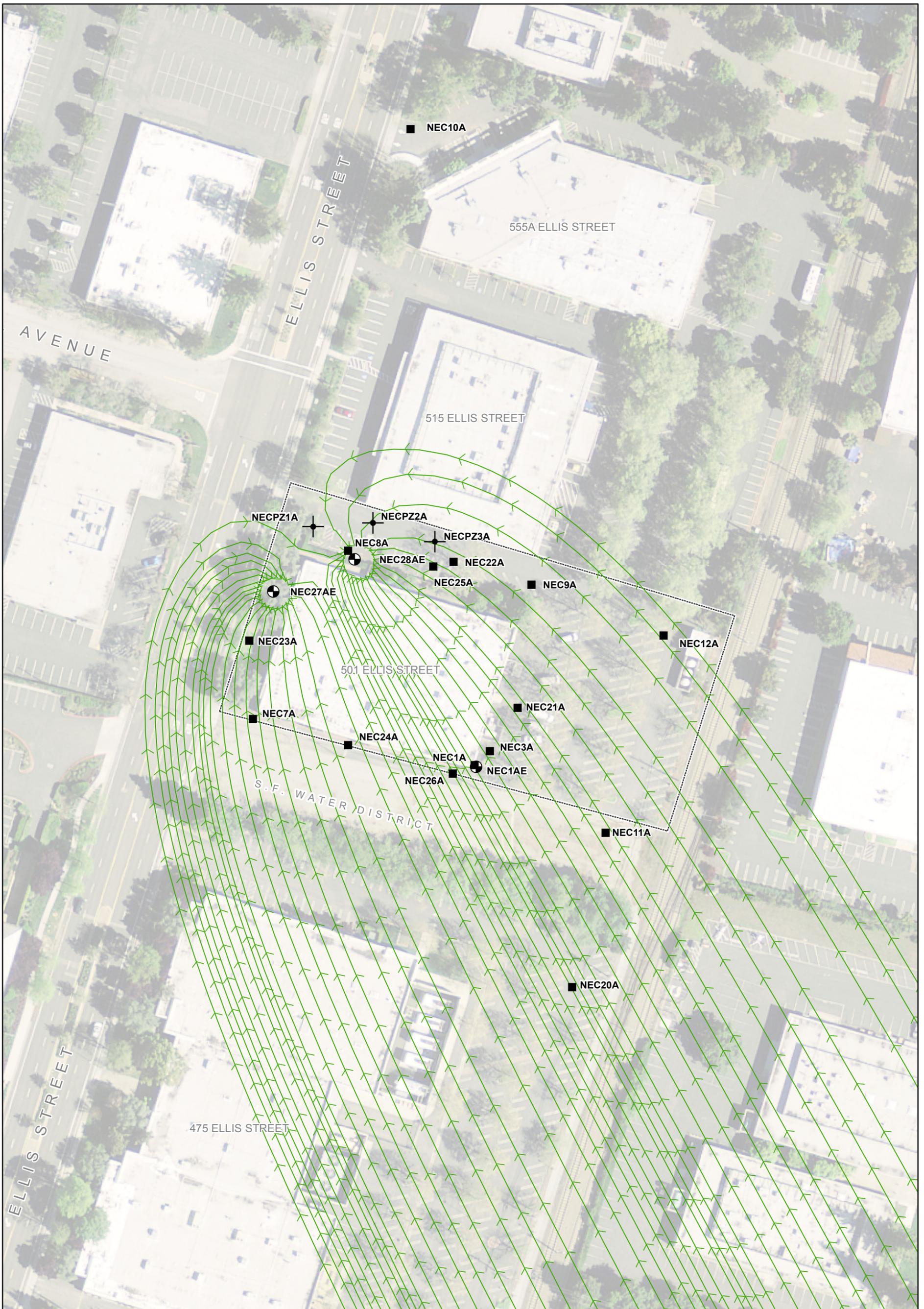
**Geosyntec**  
consultants

**Figure**  
**7**

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<b>Legend</b> Particle Pathline Indicating Simulated Capture Zone Extraction Well Monitoring Well Piezometer 501 Ellis Street Boundary	<b>Model Parameters:</b> Transmissivity: 91.3 ft <sup>2</sup> /day Hydraulic Gradient: 0.008 ft/ft, N28W Recharge: 1 in/yr	<b>Extraction Rates (gpm)</b> NEC1AE - 0.00 NEC27AE - 1.64 NEC28AE - 1.89	<b>Simulated A Aquifer Capture Zone Third Quarter 2014</b> 501 Ellis Street Mountain View, California	<b>Figure</b> 8
	0  80 Feet		<b>Geosyntec</b> consultants	



- Legend**
- Particle Pathline Indicating Simulated Capture Zone
  - Extraction Well
  - Monitoring Well
  - Piezometer
  - 501 Ellis Street Boundary

**Model Parameters:**

Transmissivity: 91.3 ft <sup>2</sup> /day	Extraction Rates (gpm)
Hydraulic Gradient 0.008 ft/ft, N28W	NEC1AE - 0.00
Recharge 1 in/yr	NEC27AE - 1.70
	NEC28AE - 2.14



**Simulated A Aquifer Capture Zone  
Fourth Quarter 2014**

501 Ellis Street  
Mountain View, California

**Geosyntec**  
consultants

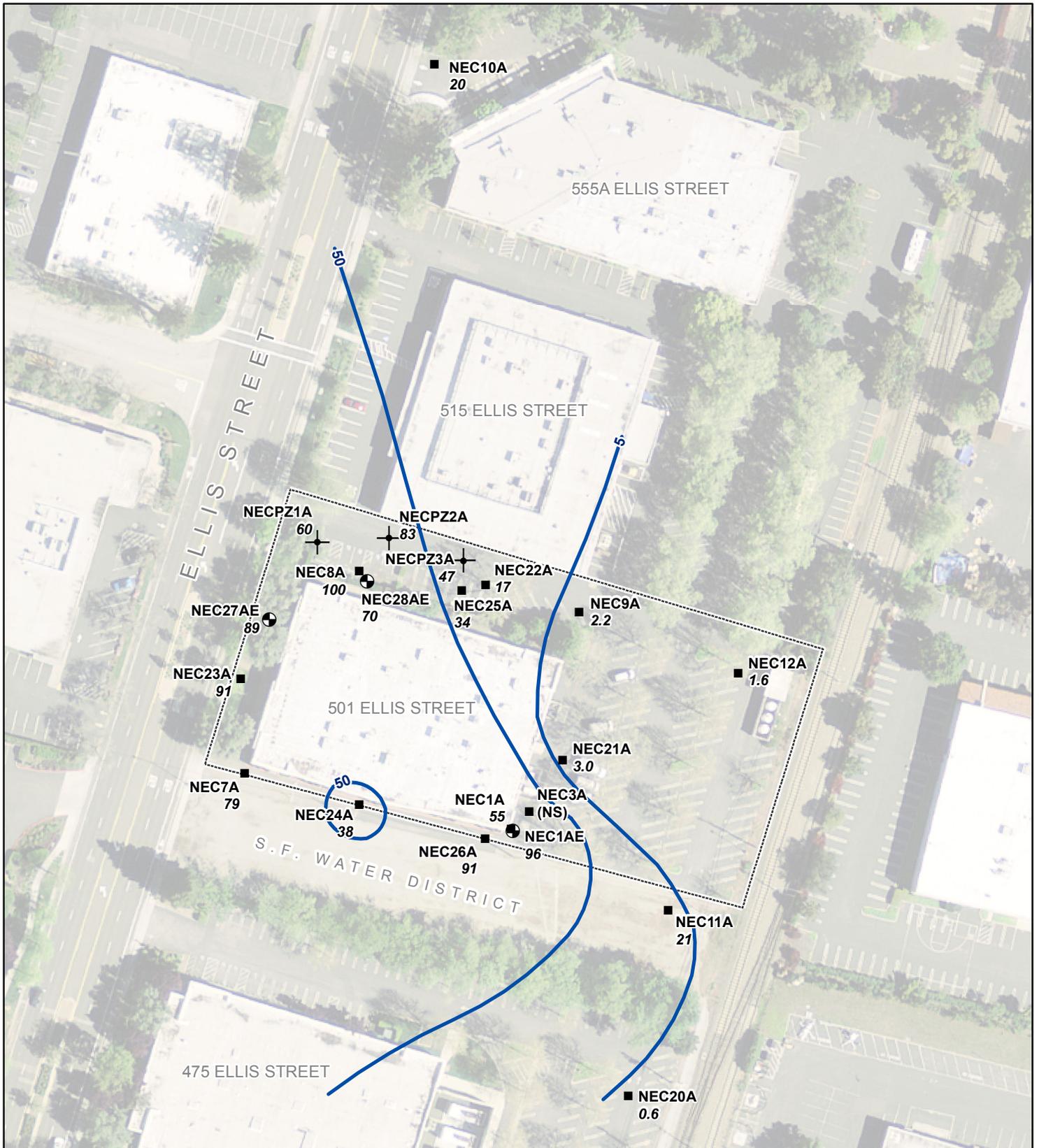
**Figure**

**9**

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Note:  
Extraction from well NEC-1AE discontinued on 13 May 2009  
as part of SGGWR system optimization.



**Legend**

- Extraction Well
- Monitoring Well
- Piezometer
- Estimated TCE Concentration Contour in ug/L
- 501 Ellis Street Boundary

Notes: ug/L - Micrograms per Liter; TCE - Trichloroethene  
 NS - Not Sampled; NEC1AE sampled on 18 December 2014



**TCE Concentration Contour Map  
 October 2014**

501 Ellis Street  
 Mountain View, California

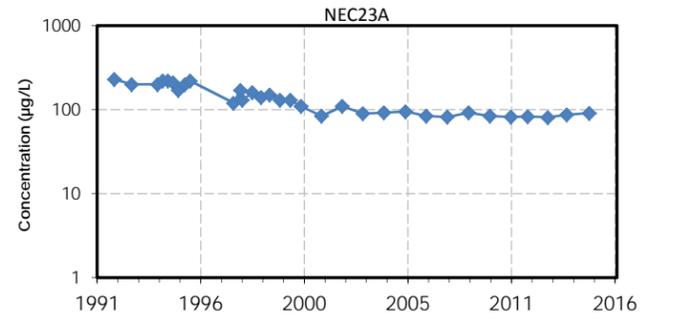
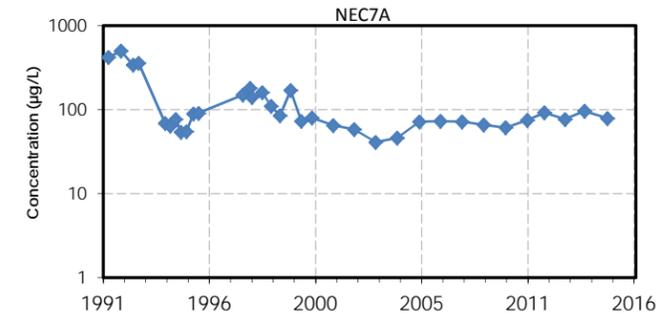
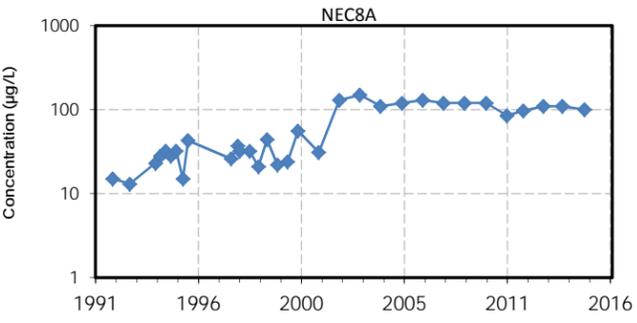
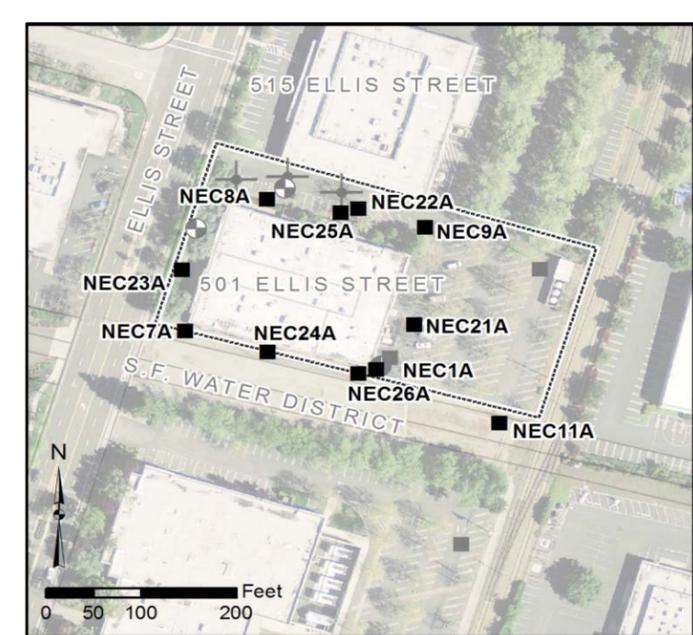
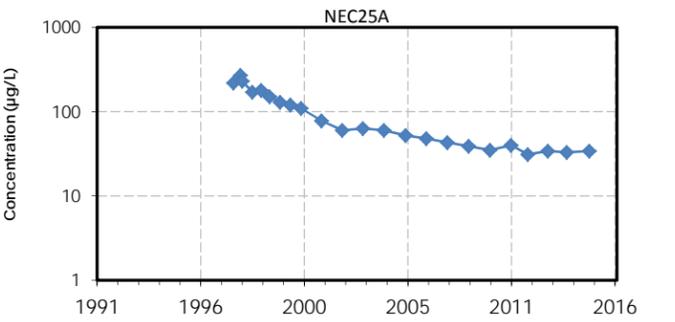
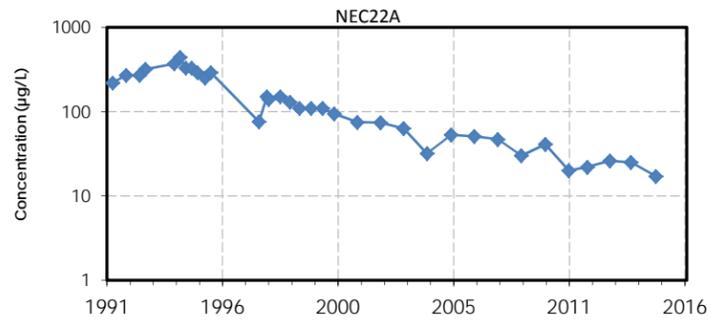
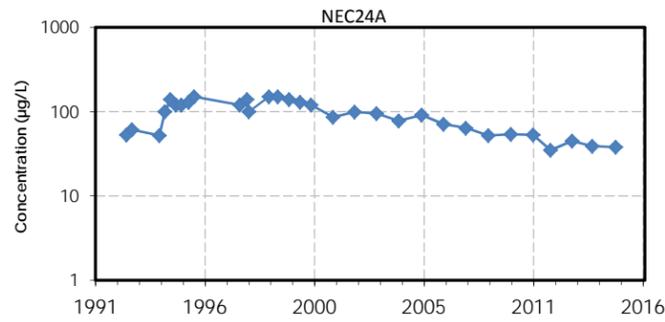
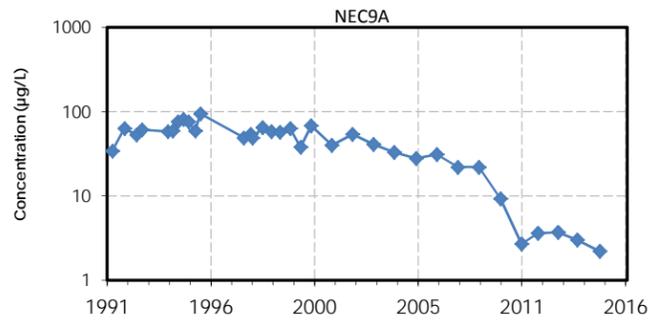
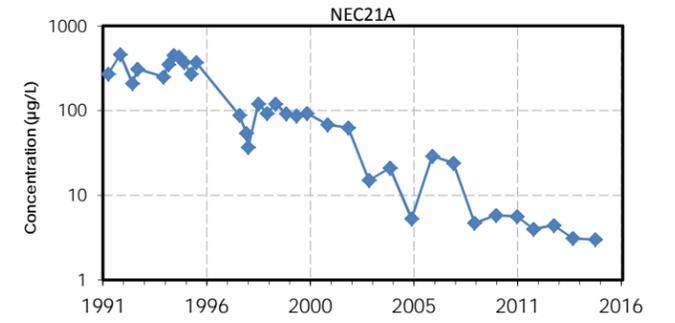
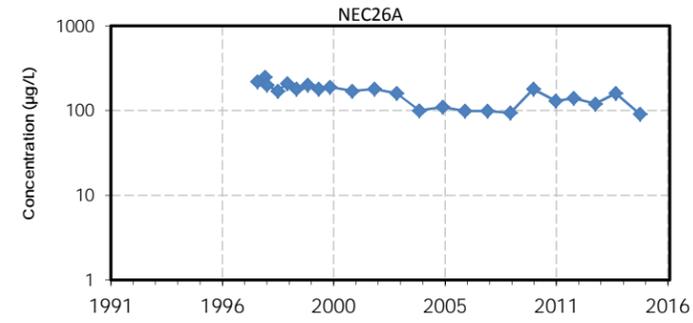
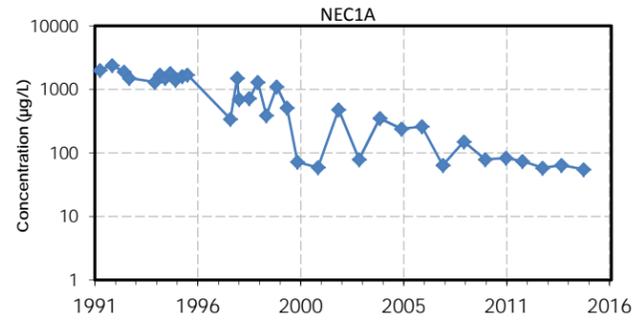
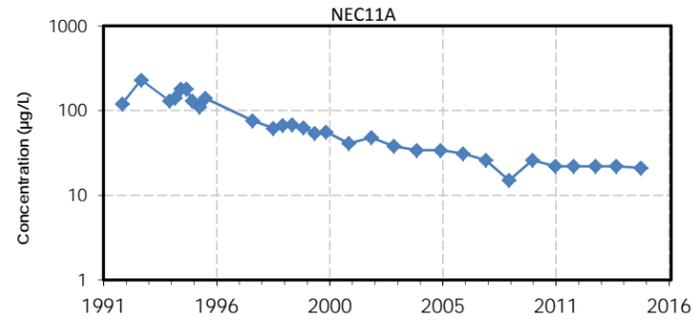
**Geosyntec**  
 consultants

**Figure**

**10**

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**Legend**

- Monitoring Well
- ⊕ Extraction Well
- ⊕ Piezometer
- ◆ TCE Concentration in µg/L

⬡ 501 Ellis Street Boundary

Notes:  
TCE - Trichloroethene  
µg/L - Microgram per Liter  
Time series plots for wells shown in gray  
not included in figure

**TCE Concentrations in Groundwater**

501 Ellis Street  
Mountain View, California



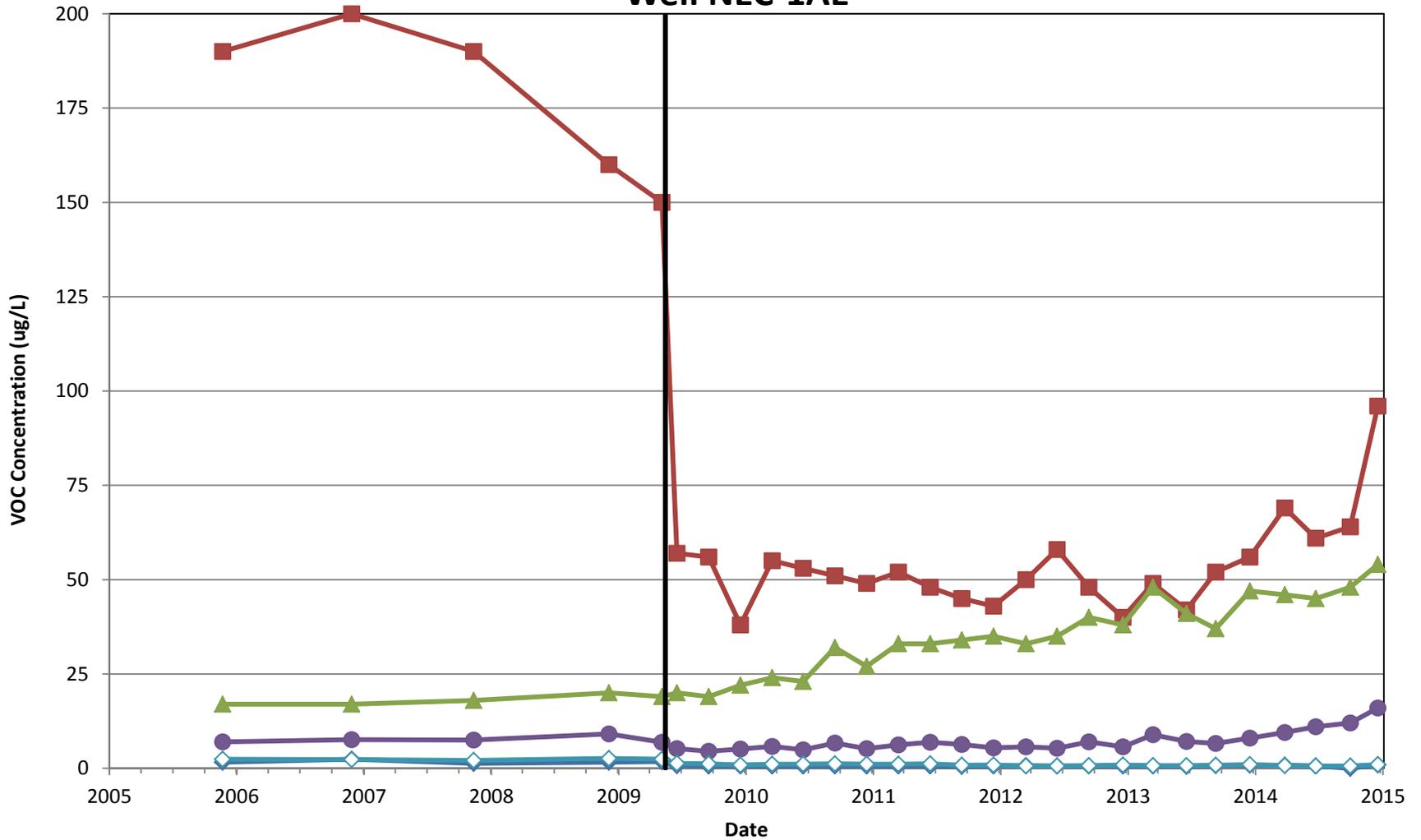
Project WR0434A

April 2015

Figure

11

# Well NEC-1AE



**Legend**

- ◆ Tetrachloroethene
- Trichloroethene
- ▲ cis-1,2-Dichloroethene
- trans-1,2-Dichloroethene
- ◇ 1,2-Dichlorobenzene
- Extraction at NEC-1AE Discontinued

Notes:  
 VOC = Volatile Organic Compound  
 µg/L = micrograms per liter

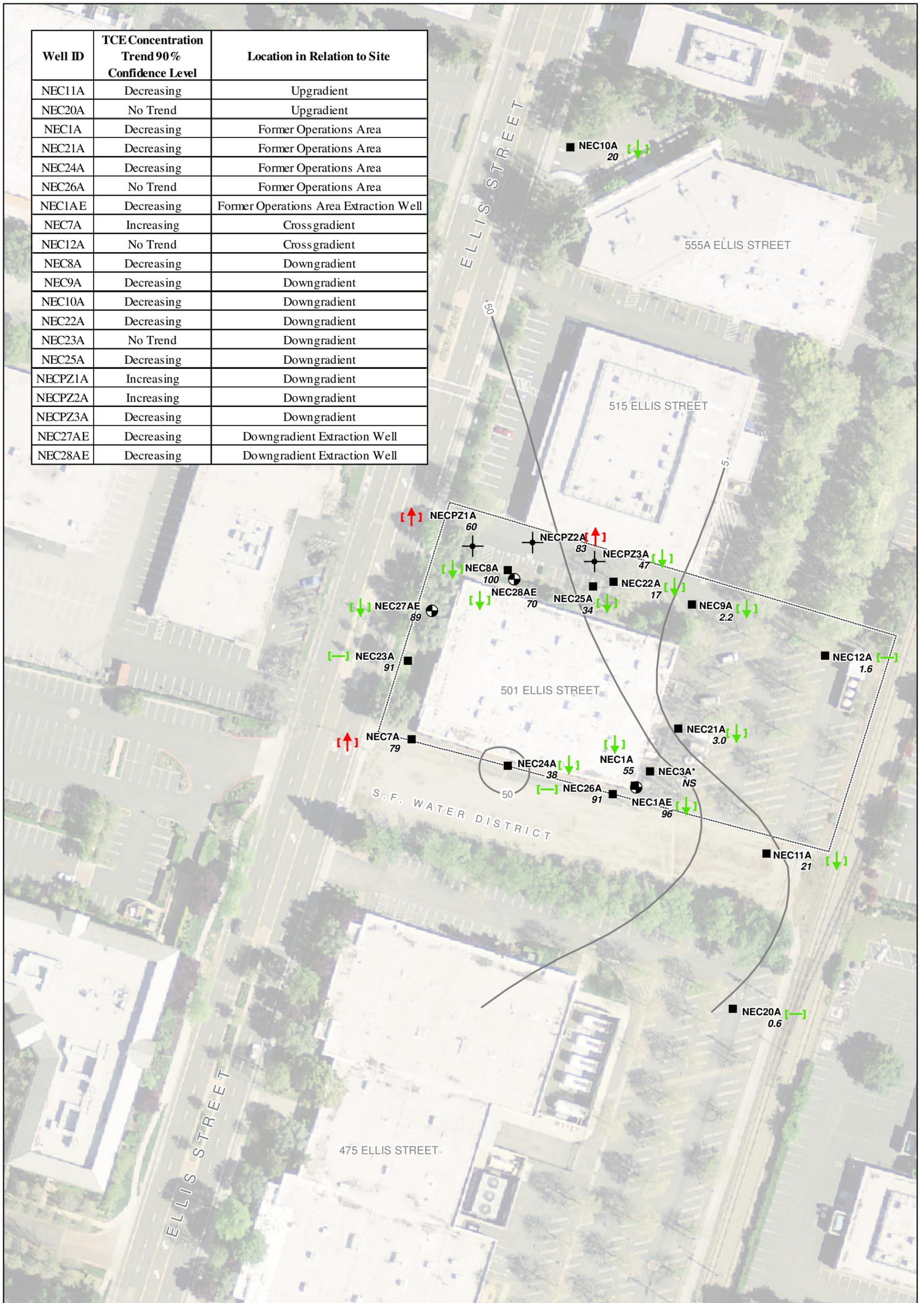
**Figure 12**  
**VOC Concentrations in Well NEC-1AE**

Project WR0434A

April 2015

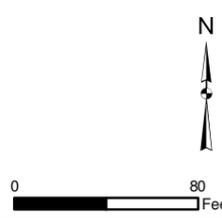


Well ID	TCE Concentration Trend 90% Confidence Level	Location in Relation to Site
NEC11A	Decreasing	Upgradient
NEC20A	No Trend	Upgradient
NEC1A	Decreasing	Former Operations Area
NEC21A	Decreasing	Former Operations Area
NEC24A	Decreasing	Former Operations Area
NEC26A	No Trend	Former Operations Area
NEC1AE	Decreasing	Former Operations Area Extraction Well
NEC7A	Increasing	Cross gradient
NEC12A	No Trend	Cross gradient
NEC8A	Decreasing	Downgradient
NEC9A	Decreasing	Downgradient
NEC10A	Decreasing	Downgradient
NEC22A	Decreasing	Downgradient
NEC23A	No Trend	Downgradient
NEC25A	Decreasing	Downgradient
NECPZ1A	Increasing	Downgradient
NECPZ2A	Increasing	Downgradient
NECPZ3A	Decreasing	Downgradient
NEC27AE	Decreasing	Downgradient Extraction Well
NEC28AE	Decreasing	Downgradient Extraction Well



- Legend**
- TCE Concentration Contour (µg/L)
  - Extraction Well
  - Monitoring Well
  - ⊕ Piezometer
  - ↘ Decreasing TCE Concentration Trend
  - ↔ No Observed TCE Concentration Trend
  - ↗ Increasing TCE Concentration Trend
  - 501 Ellis Street Boundary

Notes:  
TCE - Trichloroethene  
µg/L = micrograms per liter



<b>TCE Concentration Trend Analysis</b>	
501 Ellis Street Mountain View, California	
<b>Geosyntec</b> consultants	
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<b>Figure 13</b>	

# APPENDICES

## APPENDIX A

### 2014 Annual Report Remedy Performance Checklist

## 2014 Annual Report Remedy Performance Checklist

I. GENERAL SITE INFORMATION			
Facility Name: 501 Ellis Street			
Facility Address, City, State: 501 Ellis Street, Mountain View, CA			
Checklist completion date: 11 February 2015		EPA Site ID: CAD980883268 (CERCLIS database)	
Site Lead: <input type="checkbox"/> Fund <input type="checkbox"/> PRP <input type="checkbox"/> State <input type="checkbox"/> State Enforcement <input type="checkbox"/> Federal Facility <input checked="" type="checkbox"/> Other, specify: U.S. EPA Region 9			
Site Remedy Components (Include Other Reference Documents for More Information, as appropriate): (See Section 4.2.5 “Final, Second Five-Year Report for MEW Superfund Study Area, Mountain View, California.” U.S. EPA Region 9. September 2009.) <b>Soil Remedy.</b> Excavation and aeration. About 210 cubic yards of soil were excavated and aerated. 55 cubic yards were reused as backfill on site; the remaining 155 cubic yards were disposed offsite. <b>Groundwater Remedy.</b> Source control groundwater extraction system consisting of two A zone groundwater extraction wells, and discharge to City of Mountain View sanitary sewer under City of Mountain View Wastewater Discharge Permit ID Number 925.			
II. CONTACTS			
List important personnel associated with the Site: Name, title, phone number, e-mail address:			
	<b>Name/Title</b>	<b>Phone</b>	<b>E-mail</b>
<b>PRP / Facility Representative</b>	John Jeter, Esq. Senior Corporate Counsel Renesas Electronics America, Inc.	408.588.6185	<a href="mailto:john.jeter@renesas.com">john.jeter@renesas.com</a>
<b>PRP Contractor/ Consultant</b>	Eric Suchomel, Ph.D., P.E. Geosyntec Consultants	510.836.3034	<a href="mailto:esuchomel@geosyntec.com">esuchomel@geosyntec.com</a>
<b>O&amp;M Contractor</b>	Wes Hawthorne Locus Technologies, Inc.	650.960.1640	<a href="mailto:hawthornej@locustec.com">hawthornej@locustec.com</a>
<b>Other</b>	N/A	N/A	N/A

## 2014 Annual Report Remedy Performance Checklist

### III. O&M COSTS (OPTIONAL)

What is your annual O&M cost total for the reporting year? \_\_\_\_\_  
 Breakout your annual O&M cost total into the following categories (use either dollars or %):

- Analytical (e.g., lab costs): \_\_\_\_\_
- Labor (e.g., site maintenance, sampling): \_\_\_\_\_
- Materials (e.g., treatment chemicals): \_\_\_\_\_
- Oversight (e.g., project management): \_\_\_\_\_
- Utilities (e.g., electric, gas, phone, water): \_\_\_\_\_
- Reporting (e.g., NPDES, progress): \_\_\_\_\_
- Other (e.g., capital improvements): \_\_\_\_\_

Describe unanticipated/unusually high or low O&M costs (go to section [fill in] to recommend optimization methods):

### IV. ON-SITE DOCUMENTS AND RECORDS (Check all that apply)

- O&M Manual   
  O&M Maintenance Logs   
  O&M As-built drawings   
  O&M reports  
 Daily access/Security logs  
 Site-Specific Health & Safety Plan   
  Contingency/Emergency Response Plan  
 O&M/OSHA Training Records   
  Settlement Monument Records  
 Gas Generation Records   
  Groundwater monitoring records   
  Leachate extraction records  
 Discharge Compliance Records  
 Air discharge permit   
 Effluent discharge permit   
 Waste disposal, POTW permit

Are these documents currently readily available?  Yes     No    If no, where are records kept?

### V. INSTITUTIONAL CONTROLS (as applicable)

List institutional controls called for (and from what enforcement document): Not applicable

Status of their implementation:

Where are the ICs documented and/or reported?

ICs are being properly implemented and enforced?  Yes     No, elaborate below

ICs are adequate for site protection?  Yes     No, elaborate below

Additional remarks regarding ICs:

## 2014 Annual Report Remedy Performance Checklist

### VI. SIGNIFICANT SITE EVENTS

Check all Significant Site events Since the Last Checklist that Affects or May Affect Remedy Performance

- Community Issues
- Vandalism
- Maintenance Issues
- Other:

Please elaborate on Significant Site Events:

### VII. REDEVELOPMENT

Is redevelopment on property planned?  Yes  No

If yes, what is planned? Please describe below.

Is redevelopment plan complete  Yes, date: Fall 2014;  No ?  Not Applicable

Redevelopment proposal in progress?  Yes, elaborate below

No; If no, is a proposal anticipated?  Yes  No

Is the redevelopment proposal compatible with remedy performance?  Yes  No

Elaborate on redevelopment proposal and how it affects remedy performance: Tenant improvement work was completed by property owner in Fall 2014. Work included trenching inside and outside of building for utility placement. All remedy components were protected during renovation activities and no disruptions to operation were noted or are expected in the future.

## 2014 Annual Report Remedy Performance Checklist

<b>VIII. GROUNDWATER REMEDY (reference isoconcentration, capture zone maps, trend analysis, and other documentation to support analysis)</b>	
<p><u>Groundwater Quality Data</u></p> <p>List the types of data that are available:</p> <p>2014 Annual Progress Report submitted April 2015. Data includes groundwater levels, groundwater elevation contours and estimated capture zone analyses, groundwater sampling results (lab reports and summary tables) and TCE isoconcentration contour maps (annual only), concentration versus time graphs for all monitoring wells, and Mann-Kendall concentration trend analyses for TCE in all wells.</p> <p><input type="checkbox"/> Contaminant trend(s) tracked during O&amp;M (i.e., temporal analysis of groundwater contaminant trends).  <input checked="" type="checkbox"/> Groundwater data tracked with software for temporal analyses.  <input type="checkbox"/> Reviewed MNA parameters to ensure health of substrate (e.g., DO, pH, temperature), if appropriate?</p>	<p>What is the source report?</p>
<p><u>Groundwater Pump &amp; Treat Extraction Well and Treatment System Data</u></p> <p>List the types of data that are available:</p> <p>2014 Annual Progress Report submitted April 2015. Data includes extraction system operating parameters (e.g., flow rates and volumes) operations and maintenance records, and effluent monitoring results per City of Mountain View reporting requirements. In addition, the progress report documents site-related meetings, reports submitted, investigations performed, and historical and current groundwater elevation and sampling results.</p> <p><input checked="" type="checkbox"/> The system is functioning adequately.  <input type="checkbox"/> The system has been shut down for significant periods of time in the past year. Please elaborate below.</p>	<p>What is the source report?</p>
<p><u>Discharge Data</u></p> <p>List the types of data that are available:</p> <p>Semi-annual Periodic Reports of Continued Compliance (PRCC) submitted to the City of Mountain View in January and July 2014. Data includes results of self-monitoring analysis (flow rates, volumes, effluent chemistry, etc.) conducted during the second half of 2013 and the first half of 2014. Data for the second half of 2014 was submitted in January of 2015.</p> <p><input checked="" type="checkbox"/> The system is in compliance with discharge permits.</p>	<p>What is the source report?</p>
<p><u>Slurry Wall Data</u>    NA</p> <p>List the types of data that are available:</p> <p>Is slurry wall operating as designed?   <input type="checkbox"/> Yes   <input type="checkbox"/> No            If not, what is being done to correct the situation?</p>	<p>What is the source report?</p>
<p><u>Elaborate on technical data and/or other comments</u></p>	

## 2014 Annual Report Remedy Performance Checklist

<b>IX. AIR MONITORING/VAPOR INTRUSION PATHWAY EVALUATION (Include in Annual Progress Report and reference document)</b>
<p>In 2012, a vapor pathway investigation was conducted, including indoor air, outdoor air and sub-slab vapor sampling. Prior to, and following indoor construction (tenant improvement) activities in Fall 2014, indoor and outdoor air sampling was conducted by a consultant for the 501 Ellis Street tenant.</p>
<p><b>Recommendations/Next Steps:</b>            Additional vapor sampling will be completed following EPA approval of <i>Revised Site-Wide Vapor Intrusion Sampling and Analysis Work Plan for Response Action Tiering</i> for the purpose of placing the building into a response action tier.</p>
<p><b>Schedule:</b></p>
<b>X. REMEDY PERFORMANCE ASSESSMENT</b>
<b>A. Groundwater Remedies</b>
<p>What are the remedial goals for groundwater? <input checked="" type="checkbox"/> Plume containment (prevent plume migration); <input checked="" type="checkbox"/> Plume restoration (attain ROD-specific cleanup levels in aquifer); <input type="checkbox"/> Other goals, please explain:            See Source Control discussion, Section C., below.</p> <p>Have you done a trend analysis? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No; If Yes, what does it show?            (Is it inconclusive due to inadequate data? Are the concentrations increasing or decreasing?) Explain and provide source document reference.            Figure 12 of the 2014 Annual Report indicates decreasing TCE concentrations in most NEC monitoring wells. In five of these wells with decreasing TCE concentrations, <i>cis</i>-1,2-DCE concentrations are increasing, which may be indicative of TCE natural attenuation.</p>
<p>If plume containment is a remedial goal, check all that apply:  <input checked="" type="checkbox"/> Plume migration is under control (explain basis below)  <input type="checkbox"/> Plume migration is not under control (explain basis below)  <input type="checkbox"/> Insufficient data to determine plume stability (explain below)            (Include attachments that substantiate your answers, e.g., reference plume, trend analysis, and capture zone maps in source document)</p>
<p>Elaborate on basis for determining that plume containment goal is being met or not being met:            Capture zone analysis indicates plume is contained (Figures 4 through 9 in the 2014 Annual Report).</p>
<p>If plume restoration is a cleanup objective, check all that apply:  <input checked="" type="checkbox"/> Progress is being made toward reaching cleanup levels (explain basis below)  <input type="checkbox"/> Progress is not being made toward reaching cleanup levels (explain basis below)  <input type="checkbox"/> Insufficient data to determine progress toward restoration goal (explain below)</p>
<p>Elaborate on basis for determining progress or lack of progress toward restoration goal:            TCE concentrations within the plume are decreasing (Figure 10 in the 2014 Annual Report)</p>
<b>B. Vertical Migration</b>
<p>Have you done an assessment of vertical gradients? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No; If Yes, what does it show? (Is it inconclusive due to inadequate data? Are the concentrations increasing or decreasing? Explain and provide source document reference)            Vertical gradients were assessed in 1995. The vertical gradients were assessed between the A and B1 units, B1 and B2 units, and B2 and B3 units. Gradients in 16 of 17 well pairs were upward. Gradient in the deeper B2-B3 well</p>

## 2014 Annual Report Remedy Performance Checklist

pair was downward.
<b>C. Source Control Remedies</b>
<p>What are the remedial goals for source control?</p> <p>Containment by pumping.</p> <p>Elaborate on basis for determining progress or lack of progress toward these goals:</p> <p>On-site capture is achieved through two extraction wells and TCE concentration trends are generally decreasing.</p>
<b>XI. PROJECTIONS</b>
<p><u>Administrative Issues</u></p> <p>Dates of next monitoring and sampling events for next annual reporting period: 2015 Annual Monitoring will be scheduled by the MEW parties in September/October.</p>
<b>A. Groundwater Remedies - Projections for the upcoming year and long-term</b> (Check all that apply)
<p><u>Remedy Projections for the upcoming year (2015)</u></p> <p><input checked="" type="checkbox"/> No significant changes projected.</p> <p><input type="checkbox"/> Groundwater remedy will be converted to monitored natural attenuation. Target date:</p> <p><input type="checkbox"/> Groundwater Pump &amp; Treat will be shut down. Target date:</p> <p><input type="checkbox"/> Groundwater cleanup standards to be modified. Target date:</p> <p><input type="checkbox"/> PRP will request remedy modification. Target date of request:</p> <p><input type="checkbox"/> Change in the number of monitoring wells. <input type="checkbox"/> Increasing or <input type="checkbox"/> decreasing? Target date:</p> <p><input type="checkbox"/> Change in the number and/or types of analytes being analyzed. <input type="checkbox"/> Increasing or <input type="checkbox"/> decreasing? Target date:</p> <p><input type="checkbox"/> Change in groundwater extraction system. Expansion or minimization (i.e., number of extraction wells and/or pumping rate)? Target date:</p> <p><input type="checkbox"/> Modification on groundwater treatment? Elaborate below. Target date:</p> <p><input type="checkbox"/> Change in discharge location. Target date:</p> <p><input type="checkbox"/> Other modification(s) anticipated: _____ Elaborate below. Target date:</p>
Elaborate on Remedy Projections:
<p><u>Remedy Projections for the long-term</u> (Check all that apply)</p> <p><input checked="" type="checkbox"/> No significant changes projected.</p> <p><input type="checkbox"/> Groundwater remedy will be converted to monitored natural attenuation. Target date:</p> <p><input type="checkbox"/> Groundwater Pump &amp; Treat will be shut down. Target date:</p> <p><input type="checkbox"/> Groundwater cleanup standards to be modified. Target date:</p> <p><input type="checkbox"/> PRP will request remedy modification. Target date of request:</p> <p><input type="checkbox"/> Change in the number of monitoring wells. <input type="checkbox"/> Increasing or <input type="checkbox"/> decreasing? Target date:</p> <p><input type="checkbox"/> Change in the number and/or types of analytes being analyzed. <input type="checkbox"/> Increasing or <input type="checkbox"/> decreasing? Target date:</p> <p><input type="checkbox"/> Change in groundwater extraction system. Expansion or minimization (i.e., number of extraction wells and/or pumping rate)? Target date:</p> <p><input type="checkbox"/> Modification on groundwater treatment? Elaborate below. Target date:</p> <p><input type="checkbox"/> Change in discharge location. Target date:</p> <p><input type="checkbox"/> Other modification(s) anticipated: _____ Elaborate below. Target date:</p>
Elaborate on Remedy Projections:
<p>Projected long-term remedy projections are the same as the projections for 2014.</p>

## 2014 Annual Report Remedy Performance Checklist

<b>B. Projections – Slurry Walls</b> (Check all that apply) – N/A
<u>Remedy Projections for the upcoming year</u> <input type="checkbox"/> No significant changes projected. <input type="checkbox"/> PRP will request remedy modification. Target date of request: <input type="checkbox"/> Change in the number of monitoring wells. <input type="checkbox"/> Increasing or <input type="checkbox"/> decreasing? Target date: <input type="checkbox"/> Other modification(s) anticipated: _____ Elaborate below. Target date:
Elaborate on Remedy Projections:
<u>Remedy Projections for the long-term</u> <input type="checkbox"/> No significant changes projected. <input type="checkbox"/> PRP will request remedy modification. Target date of request: <input type="checkbox"/> Change in the number of monitoring wells. <input type="checkbox"/> Increasing or <input type="checkbox"/> decreasing? Target date: <input type="checkbox"/> Other modification(s) anticipated: _____ Elaborate below. Target date:
Elaborate on Remedy Projections:
<b>C. Projections – Other Remedial Options Being Reviewed to Enhance Cleanup</b> Progress implementing recommendations from last report or Five-Year Review Has optimization study been implemented or scheduled? <input checked="" type="checkbox"/> Yes; <input type="checkbox"/> No; If Yes, please elaborate. Modifications to the SCGWR system to allow discharge to the City of Mountain View sanitary sewer were completed in May 2009 and discharge to the sanitary sewer was started. Extraction well NEC-01AE was shut down, and the target flow rates at extraction wells NEC-27AE and NEC-28AE were set to nominal values of 2.0 gpm.
<b>XII. ADMINISTRATIVE ISSUES</b> <b>Check all that apply:</b> <input type="checkbox"/> Explanation of Significant Differences in progress <input type="checkbox"/> ROD Amendment in progress <input type="checkbox"/> Site in operational and functional ("shake down") period; <input type="checkbox"/> Notice of Intent to Delete in progress <input type="checkbox"/> Partial site deletion in progress <input type="checkbox"/> TI Waivers <input type="checkbox"/> Other administrative issues: Date of Next EPA Five-Year Review: <b><u>September 30, 2019</u></b>

## 2014 Annual Report Remedy Performance Checklist

### XII. RECOMMENDATIONS

## APPENDIX B

### Capture Zone Calculations

**APPENDIX B - CALCULATIONS FOR CAPTURE ZONE ANALYSIS**

The 2014 capture zone analysis was conducted using two methodologies: the Javandel and Tsang (1987)<sup>1</sup> methodology and a site-specific numerical model. Both methodologies require the same input parameters to estimate the capture zones of the groundwater extraction wells. The input parameters used in the numerical model were evaluated during the fourth quarter of 2004 and reflect the current understanding of the Site conditions. Other than average quarterly pumping rates by extraction wells, input parameters were unchanged in 2014.

Pumping Rate

The average quarterly pumping rates during 2014 for the two operating extraction wells at 501 Ellis Street are summarized below:

Quarter	Well	Avg Monthly Flow (gpm)			Avg Quarterly Flow Q (gpm)	Avg Quarterly Flow Q (ft <sup>3</sup> /day)
1	27AE	1.89	1.86	1.83	1.86	358
	28AE	1.96	1.95	1.94	1.95	375
2	27AE	1.79	1.40	2.13	1.77	341
	28AE	1.71	2.27	1.76	1.91	368
3	27AE	1.67	1.66	1.60	1.64	316
	28AE	1.85	1.91	1.90	1.89	363
4	27AE	1.72	1.58	1.79	1.70	327
	28AE	2.61	1.75	2.05	2.14	411

Hydraulic Gradient

The hydraulic gradient, *i*, was calculated using the November 2004 regional potentiometric surface in the vicinity of the Site from Weiss Associates (2004)<sup>2</sup>.

$$i = \frac{5 \text{ ft}}{625 \text{ ft}} = 0.008 \frac{\text{ft}}{\text{ft}}$$

<sup>1</sup> Javandel and Tsang (1987). Groundwater, Vol. 25, No. 5. pp. 616-625.

<sup>2</sup> Weiss Associates, 2004. *Draft A/A1 Aquifer (South) Groundwater Elevations and Estimated Capture Zones*. 18 November.

Aquifer Thickness

A uniform aquifer thickness, B, was assumed to be **20 feet**. The interlayered heterogeneities of the A aquifer, observed in the stratigraphy of the pumping wells, are treated as a single unit extending from 10 to 30 feet below ground surface.

Transmissivity

Transmissivity (T) was measured by Bechtel (1996)<sup>3</sup> in monitoring wells NEC-12A, NEC-25A, and NEC-22A.

Well	T (ft <sup>2</sup> /day)	Average T in each well
NEC-12A	6.5	6.5
NEC-22A	35 21	28
NEC-25A	188 291	239.5
	<b>Average T</b>	<b>91.3 ft<sup>2</sup>/day</b>

Hydraulic Conductivity

The hydraulic conductivity, K, is calculated from the transmissivity, T, and aquifer thickness as follows:

$$K = \frac{T}{B} = \frac{91.3 \text{ ft}^2 / \text{day}}{20 \text{ ft}} = \boxed{4.6 \text{ ft/day}}$$

The input parameters for the Javandel and Tsang methodology, as well as the numerical model are summarized as follows:

Quarter	Parameter	Well NEC-27AE	Well NEC-28AE
1	Q (ft <sup>3</sup> /day)	358	375
2	Q (ft <sup>3</sup> /day)	341	368
3	Q (ft <sup>3</sup> /day)	316	363
4	Q (ft <sup>3</sup> /day)	327	411
All	B (ft)	20	20
All	K (ft/day)	4.6	4.6
All	i (ft/ft)	0.008	0.008

<sup>3</sup> Bechtel, 1996. *Source Control Groundwater Remediation Final Design, 501 Ellis Street, Mountain View*. 26 August.

**Javandel and Tsang Methodology**

From Javandel and Tsang, the stagnation point for each extraction well was calculated using Equation 1

$$X_s = \frac{Q}{2\pi BKi} \tag{1}$$

where:  $X_s$  = distance to stagnation point (ft)  
 $Q$  = pumping rate (ft<sup>3</sup>/day)  
 $B$  = saturated aquifer thickness (ft)  
 $K$  = hydraulic conductivity (ft/day)  
 $i$  = hydraulic gradient (ft/ft)

Using Equation 1 and the above input parameters, the distance to stagnation points for the two wells, in feet, are:

Quarter	NEC-27AE	NEC-28AE
1	77.5	81.2
2	73.9	79.7
3	68.5	78.6
4	70.7	89.0

First and third quarter capture zones calculated using the Javandel and Tsang methodology are shown on Figures 4 and 5 of the 2014 Annual Progress Report, respectively.

**Numerical Simulation of Capture Zone**

Capture zones at the Site were also estimated for each quarter using a steady-state numerical stimulation of groundwater flow beneath the Site, incorporating particle tracking. The numerical model consisted of a 2,500 ft wide, by 2,500 ft long model domain, with 20 ft by 20 ft grid blocks. Based on an A aquifer thickness of 20 ft and a bulk hydraulic conductivity of 4.6 ft/day, the numerical simulation of the groundwater potentiometric surface shows essentially complete capture of A aquifer groundwater beneath the Site. The results are presented on Figures 6 through 9.

## APPENDIX C

### Laboratory Analytical Reports



**Curtis & Tompkins, Ltd.**  
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 254995  
ANALYTICAL REPORT**

Locus Technologies  
299 Fairchild Dr.  
Mountain View, CA 94043

Project : 98007-99-2200  
Location : NEC  
Level : II

Sample ID  
247NEC-01AE

Lab ID  
254995-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: \_\_\_\_\_

Isabelle Choy  
Project Manager  
isabelle.choy@ctberk.com

Date: 04/01/2014

CA ELAP# 2896, NELAP# 4044-001

**CASE NARRATIVE**

Laboratory number: 254995  
Client: Locus Technologies  
Project: 98007-99-2200  
Location: NEC  
Request Date: 03/26/14  
Samples Received: 03/26/14

This data package contains sample and QC results for one water sample, requested for the above referenced project on 03/26/14. The sample was received cold and intact.

**Volatile Organics by GC/MS (EPA 8260B):**

No analytical problems were encountered.



# CHAIN-OF-CUSTODY RECORD

SERIAL NO. 15165

254995

(See Reverse for Instructions)

PROJECT NAME: NEE SAMPLERS: \_\_\_\_\_ (PRINT)  
 PROJECT NUMBER: 98007-99-2100 REORDER: See copy (SIGN)  
 RECORDER: \_\_\_\_\_ (SIGN)

NO.	DATE	TIME	SAMPLE ID	AVERAGE			pH	Field / Container Temp.	Field Filtered (check)	ANALYSIS REQUESTED	NUMBER OF CONTAINERS AND PRESERVATION	Sample Description (enter code)	Sample container (enter code)	Sample Description Codes	SAMPLE CONTAINER DESCRIPTION CODES	SAMPLE DESCRIPTION CODES	TAT CODES
				TEMP °C	COND microbios/cm												
1	3/26/14	1300	247 NEC-01AE						X	EPA 810/8	Unpreserved	AA	AA	40-ml VOA Vial	Ground Water	Standard	
2											HCL			Surface Water	Oil		
3														Leachate	Waste		
4														Rinseate	Blank/Spike		
5														Plastic 500-ml	Other		
6														Plastic Liter	Other		
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

LABORATORY USE ONLY

LAB PROJECT NO. \_\_\_\_\_

Method Requested: \_\_\_\_\_

Sample Store at 4°C (Check) \_\_\_\_\_

No VOA Headspace (Check) \_\_\_\_\_

Maximum Holding Time for Method Requested: \_\_\_\_\_

TAT Requested (enter code): \_\_\_\_\_

Relinquished By: (Signature) [Signature] Date 3/26/14 Time 1415

Relinquished By: (Signature) [Signature] Date 3/26/14 Time 1700

Relinquished By: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Received for lab By: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Container Sealed with Custody Seal: Yes  No

Method of Shipment: \_\_\_\_\_ Description of Transport Container: \_\_\_\_\_

Other Chains-of-Custody Transported with this Chain (by Serial No.): \_\_\_\_\_

Send Lab Results to (Name): Nancy Jean LePore (Check Office Below) Verbal Requested: Yes  No

MOUNTAIN VIEW • 299 FAIRCHILD DRIVE • MTN VIEW, CA 94043 • TEL (650) 960-1640 • FAX (650) 960-0739  
 WALNUT CREEK • 1701 N. CALIFORNIA BLVD • WALNUT CREEK, CA 94596 • TEL (925) 906-8100 • FAX (925) 906-8101  
 SACRAMENTO • 1100 MELODY LANE • ROSEVILLE, CA 95678 • TEL (916) 677-1751 • FAX (916) 677-1760  
 OTHER \_\_\_\_\_ TEL \_\_\_\_\_ FAX \_\_\_\_\_

COOLER RECEIPT CHECKLIST



Login # 254495 Date Received 3/26/14 Number of coolers 1
Client Lotus Project MLC

Date Opened 3/26/14 By (print) mh (sign) [signature]
Date Logged in 3 By (print) t (sign) [signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 3.2

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Volatile Organics			
Lab #:	254995	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	247NEC-01AE	Batch#:	209427
Lab ID:	254995-001	Sampled:	03/26/14
Matrix:	Water	Received:	03/26/14
Units:	ug/L	Analyzed:	03/27/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	0.8	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	9.5	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	46	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	69	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	0.8	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	0.7	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	111	77-136
1,2-Dichloroethane-d4	95	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	88	80-120

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Volatile Organics			
Lab #:	254995	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	209427
Units:	ug/L	Analyzed:	03/27/14
Diln Fac:	1.000		

Type: BS Lab ID: QC733632

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	13.18	105	65-134
Trichloroethene	12.50	12.23	98	80-120
Chlorobenzene	12.50	13.87	111	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	105	77-136
1,2-Dichloroethane-d4	93	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	84	80-120

Type: BSD Lab ID: QC733633

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	14.40	115	65-134	9	20
Trichloroethene	12.50	12.14	97	80-120	1	20
Chlorobenzene	12.50	13.84	111	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	107	77-136
1,2-Dichloroethane-d4	94	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	84	80-120

RPD= Relative Percent Difference

**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	254995	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC733634	Batch#:	209427
Matrix:	Water	Analyzed:	03/27/14
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	121	77-136
1,2-Dichloroethane-d4	93	75-139
Toluene-d8	101	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected

RL= Reporting Limit



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 258394**  
**ANALYTICAL REPORT**

Locus Technologies  
299 Fairchild Dr.  
Mountain View, CA 94043

Project : 98007-99-2200  
Location : NEC  
Level : II

Sample ID  
248NEC-01AE

Lab ID  
258394-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: \_\_\_\_\_

Isabelle Choy  
Project Manager  
isabelle.choy@ctberk.com

Date: 07/01/2014

CA ELAP# 2896, NELAP# 4044-001

**CASE NARRATIVE**

Laboratory number: 258394  
Client: Locus Technologies  
Project: 98007-99-2200  
Location: NEC  
Request Date: 06/24/14  
Samples Received: 06/24/14

This data package contains sample and QC results for one water sample, requested for the above referenced project on 06/24/14. The sample was received cold and intact.

**Volatile Organics by GC/MS (EPA 8260B):**  
No analytical problems were encountered.



# CHAIN-OF-CUSTODY RECORD

(See Reverse for Instructions)

SERIAL NO. 15167

258394

PROJECT NAME: WV NEC SAMPLERS: \_\_\_\_\_ (PRINT) \_\_\_\_\_ (SIGN)

PROJECT NUMBER: 98007-99-220 RECORDER: \_\_\_\_\_ (SIGN)

ANALYTICAL LAB: CAT

NO.	DATE	TIME	SAMPLE ID	AVERAGE		pH	Field / Container Temp.	Field Filtered (check)	NUMBER OF CONTAINERS AND PRESERVATION	Sample Description (enter code)	Sample container (enter code)	Unpreserved	HNO <sub>3</sub>	HCL	ANALYSIS REQUESTED	TAT Requested (enter code)	Maximum Holding Time for Method Requested	Sample Store at 4°C (Check)	No VOA Headspace (Check)	LABORATORY USE ONLY	LAB PROJECT NO.	TAT CODES		
				TEMP °C	COND microturbidim																			
1	6/23/14	1330	248/NEC-01AE							AA														
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								

Container Sealed with Custody Seal: Yes  No

Method of Shipment: \_\_\_\_\_ Description of Transport Container: \_\_\_\_\_

Other Chains-of-Custody Transported with this Chain (by Serial No.): \_\_\_\_\_

Relinquished By: (Signature) [Signature] Date: 6/24/14 Time: 1325

Relinquished By: (Signature) [Signature] Date: 6/24/14 Time: 1720

Relinquished By: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Dispatched By: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received for lab By: (Signature) [Signature] Date: 6/24/14 Time: 1325

Send Lab Results to (Name): Nancy Jeanne LeSere (Check Office Below) Verbal Requested: Yes  No

MOUNTAIN VIEW • 299 FAIRCHILD DRIVE • MTN VIEW, CA 94043 • TEL (650) 960-1640 • FAX (650) 960-0739

WALNUT CREEK • 1701 N. CALIFORNIA BLVD • WALNUT CREEK, CA 94596 • TEL (925) 906-8100 • FAX (925) 906-8101

SACRAMENTO • 1100 MELODY LANE • ROSEVILLE, CA 95678 • TEL (916) 677-1751 • FAX (916) 677-1760

OTHER \_\_\_\_\_ TEL \_\_\_\_\_ FAX \_\_\_\_\_

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 258394 Date Received 6/24/14 Number of coolers 1
Client LoCus Project 92007-99-2200

Date Opened 6/24 By (print) MT (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 3.3

Samples received on ice & cold without a temperature blank; temp taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Detections Summary for 258394

Client : Locus Technologies  
 Project : 98007-99-2200  
 Location : NEC

Client Sample ID : 248NEC-01AE                      Laboratory Sample ID :                      258394-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	11		0.5	0.1	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	45		0.5	0.1	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	61		0.5	0.1	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Tetrachloroethene	0.6		0.5	0.1	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
1,2-Dichlorobenzene	0.6		0.5	0.1	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Volatile Organics			
Lab #:	258394	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	248NEC-01AE	Batch#:	212610
Lab ID:	258394-001	Sampled:	06/23/14
Matrix:	Water	Received:	06/24/14
Units:	ug/L	Analyzed:	06/25/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	11	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	45	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	61	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	0.6	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	0.6	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	113	75-139
Toluene-d8	102	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	258394	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC746522	Batch#:	212610
Matrix:	Water	Analyzed:	06/25/14
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	117	75-139
Toluene-d8	104	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit





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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 261318  
ANALYTICAL REPORT

Locus Technologies  
299 Fairchild Dr.  
Mountain View, CA 94043

Project : 98007-99-2200  
Location : NEC  
Level : II

Sample ID  
249NEC-01AE

Lab ID  
261318-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: \_\_\_\_\_

Tracy Babjar  
Project Manager  
tracy.babjar@ctberk.com  
(510) 204-2226

Date: 10/07/2014

CA ELAP# 2896, NELAP# 4044-001

**CASE NARRATIVE**

Laboratory number: 261318  
Client: Locus Technologies  
Project: 98007-99-2200  
Location: NEC  
Request Date: 09/30/14  
Samples Received: 09/30/14

This data package contains sample and QC results for one water sample, requested for the above referenced project on 09/30/14. The sample was received cold and intact.

**Volatile Organics by GC/MS (EPA 8260B):**  
No analytical problems were encountered.



# CHAIN-OF-CUSTODY RECORD

SERIAL NO. 15173

201318

(See Reverse for Instructions)

PROJECT NAME

NEC

SAMPLERS

98007-99-2200

(PRINT)

PROJECT NUMBER

(SIGN)

RECORDER

(SIGN)

ANALYTICAL LAB

C&T

NO.	DATE	TIME	SAMPLE ID	AVERAGE			Field / Container Temp.
				TEMP °C	COND microhos/cm	pH	
1	9-30-14	12:55	249 NEC-01AE				
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

SAMPLE CONTAINER DESCRIPTION CODES

A. 40-ml VOA Vial  
 B. Glass Litter  
 C. Plastic 500-ml  
 D. Plastic Litter

SAMPLE DESCRIPTION CODES

1. Standard  
 2. 48 Hour  
 3. 24 Hour  
 4. Other

LABORATORY USE ONLY

LAB PROJECT NO.

ANALYSIS REQUESTED

Field Filtered (check)

Field / Container Temp.

NUMBER OF CONTAINERS AND PRESERVATION

Unpreserved

HNO<sub>3</sub>

HCL

Sample Description (enter code)

Sample container (enter code)

Sample Description (enter code)

Field Filtered (check)

RELINQUISHED BY: (Signature)

Date

Time

Received By: (Signature)

Date

Time

RELINQUISHED BY: (Signature)

Date

Time

Received By: (Signature)

Date

Time

RELINQUISHED BY: (Signature)

Date

Time

Received for lab By: (Signature)

Date

Time

Send Lab Results to (Name): Nancy Jeanne Leferre (Check Office Below)

Verbal Requested: Yes  No

Other Chains-of-Custody Transported with this Chain (by Serial No.)

Container Sealed with Custody Seal: Yes  No

Method of Shipment

Notes / MISCELLANEOUS

5-80C 9/30/14

9-30-14 14/15

9/30/14 14/15

9/30/14 1720

9/30/14 14/15

WALNUT ON ICE 10/6/14

**COOLER RECEIPT CHECKLIST**



Login # 201318 Date Received 9/30/14 Number of coolers 1  
 Client LOCUS Project 95007-99-2200

Date Opened 9/30 By (print) [Signature] (sign) [Signature]  
 Date Logged in 4 By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) \_\_\_\_\_ YES ~~NO~~  
 Shipping info \_\_\_\_\_
- 2A. Were custody seals present? ....  YES (circle) on cooler on samples  ~~NO~~  
 How many \_\_\_\_\_ Name \_\_\_\_\_ Date \_\_\_\_\_
- 2B. Were custody seals intact upon arrival? \_\_\_\_\_ YES NO ~~N/A~~
3. Were custody papers dry and intact when received? \_\_\_\_\_ ~~YES~~ NO
4. Were custody papers filled out properly (ink, signed, etc)? \_\_\_\_\_ ~~YES~~ NO
5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO
6. Indicate the packing in cooler: (if other, describe) \_\_\_\_\_  
 Bubble Wrap     Foam blocks     Bags     None  
 Cloth material     Cardboard     Styrofoam     Paper towels
7. Temperature documentation: \* Notify PM if temperature exceeds 6°C  
 Type of ice used:  Wet     Blue/Gel     None    Temp(°C) 5.8°  
 Samples Received on ice & cold without a temperature blank; temp. taken with IR gun  
 Samples received on ice directly from the field. Cooling process had begun
8. Were Method 5035 sampling containers present? \_\_\_\_\_ YES ~~NO~~  
 If YES, what time were they transferred to freezer? \_\_\_\_\_
9. Did all bottles arrive unbroken/unopened? \_\_\_\_\_ ~~YES~~ NO
10. Are there any missing / extra samples? \_\_\_\_\_ YES ~~NO~~
11. Are samples in the appropriate containers for indicated tests? \_\_\_\_\_ ~~YES~~ NO
12. Are sample labels present, in good condition and complete? \_\_\_\_\_ YES NO
13. Do the sample labels agree with custody papers? \_\_\_\_\_ YES NO
14. Was sufficient amount of sample sent for tests requested? \_\_\_\_\_ YES NO
15. Are the samples appropriately preserved? \_\_\_\_\_ ~~YES~~ NO ~~N/A~~
16. Did you check preservatives for all bottles for each sample? \_\_\_\_\_ YES NO ~~N/A~~
17. Did you document your preservative check? \_\_\_\_\_ YES NO ~~N/A~~
18. Did you change the hold time in LIMS for unpreserved VOAs? \_\_\_\_\_ YES NO ~~N/A~~
19. Did you change the hold time in LIMS for preserved terracores? \_\_\_\_\_ YES NO ~~N/A~~
20. Are bubbles > 6mm absent in VOA samples? \_\_\_\_\_ ~~YES~~ NO ~~N/A~~
21. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES ~~NO~~  
 If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

COMMENTS

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## Detections Summary for 261318

Results for any subcontracted analyses are not included in this summary.

Client : Locus Technologies  
 Project : 98007-99-2200  
 Location : NEC

Client Sample ID : 249NEC-01AE

Laboratory Sample ID :

261318-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	12		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	48		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	64		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
1,2-Dichlorobenzene	0.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Volatile Organics			
Lab #:	261318	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	249NEC-01AE	Batch#:	215959
Lab ID:	261318-001	Sampled:	09/30/14
Matrix:	Water	Received:	09/30/14
Units:	ug/L	Analyzed:	10/01/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	12	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	48	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	64	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	0.6	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	77-136
1,2-Dichloroethane-d4	102	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected  
 RL= Reporting Limit



**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	261318	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC759835	Batch#:	215959
Matrix:	Water	Analyzed:	10/01/14
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	101	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected

RL= Reporting Limit



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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 262070
ANALYTICAL REPORT

Locus Technologies
299 Fairchild Dr.
Mountain View, CA 94043

Project : 98007-99-2200
Location : NEC
Level : II

Table with 2 columns: Sample ID and Lab ID. Lists various sample identifiers like NEC-PZ-1A through NEC9A, TRIPBLANK, DUPLICATE, and FIELDBLANK with their corresponding Lab IDs.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: [Handwritten Signature]
Isabelle Choy
Project Manager
isabelle.choy@ctberk.com

Date: 11/11/2014

**CASE NARRATIVE**

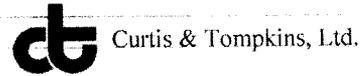
Laboratory number: 262070  
Client: Locus Technologies  
Project: 98007-99-2200  
Location: NEC  
Request Date: 10/28/14  
Samples Received: 10/28/14

This data package contains sample and QC results for twenty two water samples, requested for the above referenced project on 10/28/14. The samples were received cold and intact.

**Volatile Organics by GC/MS (EPA 8260B):**  
No analytical problems were encountered.



COOLER RECEIPT CHECKLIST



Login # 262070 Date Received 10/28/14 Number of coolers 1
Client LeCV3 Project

Date Opened 10/28 By (print) SL (sign) [Signature]
Date Logged in 10/28 By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)
Bubble Wrap Foam blocks Bags None
Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 5.7° 10/28/14 @ 21:13

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun SL

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

### Detections Summary for 262070

Results for any subcontracted analyses are not included in this summary.

Client : Locus Technologies  
 Project : 98007-99-2200  
 Location : NEC

Client Sample ID : NEC-PZ-1A                      Laboratory Sample ID :                      262070-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
cis-1,2-Dichloroethene	3.3		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Chloroform	1.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	60		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC-PZ-2A                      Laboratory Sample ID :                      262070-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	1.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	8.9		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	83		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC-PZ-3A                      Laboratory Sample ID :                      262070-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	1.9		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	9.9		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	47		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Tetrachloroethene	0.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC10A                      Laboratory Sample ID :                      262070-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
cis-1,2-Dichloroethene	6.7		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	20		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC11A                      Laboratory Sample ID :                      262070-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
cis-1,2-Dichloroethene	2.5		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	21		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC12A                      Laboratory Sample ID :                      262070-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
cis-1,2-Dichloroethene	7.5		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	1.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC1A

Laboratory Sample ID :

262070-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	6.1		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	36		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	55		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Tetrachloroethene	1.1		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
1,2-Dichlorobenzene	1.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC20A

Laboratory Sample ID :

262070-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Trichloroethene	0.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC21A

Laboratory Sample ID :

262070-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
cis-1,2-Dichloroethene	3.5		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	3.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC22A

Laboratory Sample ID :

262070-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
cis-1,2-Dichloroethene	20		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	17		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC23A

Laboratory Sample ID :

262070-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
1,1-Dichloroethene	1.5		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	29		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B
Trichloroethene	91		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC24A

Laboratory Sample ID :

262070-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	3.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	44		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	38		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC25A

Laboratory Sample ID :

262070-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	2.1		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	4.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	34		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
1,2-Dichlorobenzene	0.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC26A

Laboratory Sample ID :

262070-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	0.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	3.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	91		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC27AE

Laboratory Sample ID :

262070-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	1.3		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	7.7		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	89		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC28AE

Laboratory Sample ID :

262070-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	19		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	44		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	70		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
1,2-Dichlorobenzene	0.5		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC7A

Laboratory Sample ID :

262070-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
1,1-Dichloroethene	0.8		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	11		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	79		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC8A

Laboratory Sample ID :

262070-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
trans-1,2-Dichloroethene	1.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	9.3		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	100		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B

Client Sample ID : NEC9A

Laboratory Sample ID :

262070-019

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
cis-1,2-Dichloroethene	31		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	2.2		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Client Sample ID : TRIPBLANK

Laboratory Sample ID :

262070-020

No Detections

Client Sample ID : DUPLICATE

Laboratory Sample ID :

262070-021

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
1,1-Dichloroethene	1.9		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
trans-1,2-Dichloroethene	0.7		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
1,1-Dichloroethane	0.7		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	33		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	85		1.0	ug/L	As Recd	2.000	EPA 8260B	EPA 5030B

Client Sample ID : FIELDBLANK

Laboratory Sample ID :

262070-022

No Detections

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC-PZ-1A	Batch#:	217047
Lab ID:	262070-001	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/03/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	3.3	0.5
Chloroform	1.0	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	60	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	112	77-136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC-PZ-2A	Batch#:	217047
Lab ID:	262070-002	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/03/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	1.0	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	8.9	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	83	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	112	77-136
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC-PZ-3A	Batch#:	217047
Lab ID:	262070-003	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/03/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	1.9	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	9.9	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	47	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	0.8	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	111	77-136
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC10A	Batch#:	217047
Lab ID:	262070-004	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/03/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	6.7	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	20	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	111	77-136
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC11A	Batch#:	217047
Lab ID:	262070-005	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/03/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	2.5	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	21	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	113	77-136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC12A	Batch#:	217096
Lab ID:	262070-006	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	7.5	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	1.6	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	115	77-136
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC1A	Batch#:	217096
Lab ID:	262070-007	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	6.1	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	36	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	55	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	1.1	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	1.0	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	109	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC20A	Batch#:	217096
Lab ID:	262070-008	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	0.6	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	118	77-136
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC21A	Batch#:	217096
Lab ID:	262070-009	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	3.5	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	3.0	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	117	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC22A	Batch#:	217096
Lab ID:	262070-010	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	20	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	17	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	113	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC23A	Batch#:	217096
Lab ID:	262070-011	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	2.000		

Analyte	Result	RL
Chloromethane	ND	2.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	2.0
Chloroethane	ND	2.0
Trichlorofluoromethane	ND	2.0
Freon 113	ND	4.0
1,1-Dichloroethene	1.5	1.0
Methylene Chloride	ND	40
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	29	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	91	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	112	77-136
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC24A	Batch#:	217096
Lab ID:	262070-012	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	3.0	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	44	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	38	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	108	77-136
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC25A	Batch#:	217096
Lab ID:	262070-013	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	2.1	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	4.6	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	34	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	0.6	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	115	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC26A	Batch#:	217096
Lab ID:	262070-014	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	0.8	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	3.8	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	91	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	116	77-136
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC27AE	Batch#:	217096
Lab ID:	262070-015	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	1.3	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	7.7	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	89	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	114	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC28AE	Batch#:	217096
Lab ID:	262070-016	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	19	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	44	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	70	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	0.5	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	108	77-136
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC7A	Batch#:	217096
Lab ID:	262070-017	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	0.8	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	11	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	79	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	112	77-136
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC8A	Units:	ug/L
Lab ID:	262070-018	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chloromethane	ND	1.0	1.000	217096	11/04/14
Vinyl Chloride	ND	0.5	1.000	217096	11/04/14
Bromomethane	ND	1.0	1.000	217096	11/04/14
Chloroethane	ND	1.0	1.000	217096	11/04/14
Trichlorofluoromethane	ND	1.0	1.000	217096	11/04/14
Freon 113	ND	2.0	1.000	217096	11/04/14
1,1-Dichloroethene	ND	0.5	1.000	217096	11/04/14
Methylene Chloride	ND	20	1.000	217096	11/04/14
trans-1,2-Dichloroethene	1.6	0.5	1.000	217096	11/04/14
1,1-Dichloroethane	ND	0.5	1.000	217096	11/04/14
cis-1,2-Dichloroethene	9.3	0.5	1.000	217096	11/04/14
Chloroform	ND	0.5	1.000	217096	11/04/14
1,1,1-Trichloroethane	ND	0.5	1.000	217096	11/04/14
Carbon Tetrachloride	ND	0.5	1.000	217096	11/04/14
1,2-Dichloroethane	ND	0.5	1.000	217096	11/04/14
Trichloroethene	100	1.0	2.000	217137	11/05/14
1,2-Dichloropropane	ND	0.5	1.000	217096	11/04/14
Bromodichloromethane	ND	0.5	1.000	217096	11/04/14
cis-1,3-Dichloropropene	ND	0.5	1.000	217096	11/04/14
trans-1,3-Dichloropropene	ND	0.5	1.000	217096	11/04/14
1,1,2-Trichloroethane	ND	0.5	1.000	217096	11/04/14
Tetrachloroethene	ND	0.5	1.000	217096	11/04/14
Dibromochloromethane	ND	0.5	1.000	217096	11/04/14
Chlorobenzene	ND	0.5	1.000	217096	11/04/14
Bromoform	ND	0.5	1.000	217096	11/04/14
1,1,2,2-Tetrachloroethane	ND	0.5	1.000	217096	11/04/14
1,3-Dichlorobenzene	ND	0.5	1.000	217096	11/04/14
1,4-Dichlorobenzene	ND	0.5	1.000	217096	11/04/14
1,2-Dichlorobenzene	ND	0.5	1.000	217096	11/04/14

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	113	77-136	1.000	217096	11/04/14
1,2-Dichloroethane-d4	108	75-139	1.000	217096	11/04/14
Toluene-d8	98	80-120	1.000	217096	11/04/14
Bromofluorobenzene	92	80-120	1.000	217096	11/04/14

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC9A	Batch#:	217096
Lab ID:	262070-019	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	31	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	2.2	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	106	77-136
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	TRIPBLANK	Batch#:	217096
Lab ID:	262070-020	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	118	77-136
1,2-Dichloroethane-d4	109	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	DUPLICATE	Units:	ug/L
Lab ID:	262070-021	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chloromethane	ND	1.0	1.000	217137	11/05/14
Vinyl Chloride	ND	0.5	1.000	217137	11/05/14
Bromomethane	ND	1.0	1.000	217137	11/05/14
Chloroethane	ND	1.0	1.000	217137	11/05/14
Trichlorofluoromethane	ND	1.0	1.000	217137	11/05/14
Freon 113	ND	2.0	1.000	217137	11/05/14
1,1-Dichloroethene	1.9	0.5	1.000	217137	11/05/14
Methylene Chloride	ND	20	1.000	217137	11/05/14
trans-1,2-Dichloroethene	0.7	0.5	1.000	217137	11/05/14
1,1-Dichloroethane	0.7	0.5	1.000	217137	11/05/14
cis-1,2-Dichloroethene	33	0.5	1.000	217137	11/05/14
Chloroform	ND	0.5	1.000	217137	11/05/14
1,1,1-Trichloroethane	ND	0.5	1.000	217137	11/05/14
Carbon Tetrachloride	ND	0.5	1.000	217137	11/05/14
1,2-Dichloroethane	ND	0.5	1.000	217137	11/05/14
Trichloroethene	85	1.0	2.000	217189	11/07/14
1,2-Dichloropropane	ND	0.5	1.000	217137	11/05/14
Bromodichloromethane	ND	0.5	1.000	217137	11/05/14
cis-1,3-Dichloropropene	ND	0.5	1.000	217137	11/05/14
trans-1,3-Dichloropropene	ND	0.5	1.000	217137	11/05/14
1,1,2-Trichloroethane	ND	0.5	1.000	217137	11/05/14
Tetrachloroethene	ND	0.5	1.000	217137	11/05/14
Dibromochloromethane	ND	0.5	1.000	217137	11/05/14
Chlorobenzene	ND	0.5	1.000	217137	11/05/14
Bromoform	ND	0.5	1.000	217137	11/05/14
1,1,2,2-Tetrachloroethane	ND	0.5	1.000	217137	11/05/14
1,3-Dichlorobenzene	ND	0.5	1.000	217137	11/05/14
1,4-Dichlorobenzene	ND	0.5	1.000	217137	11/05/14
1,2-Dichlorobenzene	ND	0.5	1.000	217137	11/05/14

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	108	77-136	1.000	217137	11/05/14
1,2-Dichloroethane-d4	108	75-139	1.000	217137	11/05/14
Toluene-d8	100	80-120	1.000	217137	11/05/14
Bromofluorobenzene	90	80-120	1.000	217137	11/05/14

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	FIELDBLANK	Batch#:	217137
Lab ID:	262070-022	Sampled:	10/25/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/05/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	119	77-136
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	217047
Units:	ug/L	Analyzed:	11/03/14
Diln Fac:	1.000		

Type: BS Lab ID: QC764102

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	16.37	131	65-134
Trichloroethene	12.50	13.20	106	80-120
Chlorobenzene	12.50	13.91	111	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	77-136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

Type: BSD Lab ID: QC764103

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	15.50	124	65-134	6	20
Trichloroethene	12.50	13.07	105	80-120	1	20
Chlorobenzene	12.50	13.63	109	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	77-136
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	90	80-120

RPD= Relative Percent Difference

**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC764104	Batch#:	217047
Matrix:	Water	Analyzed:	11/03/14
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	116	77-136
1,2-Dichloroethane-d4	107	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected

RL= Reporting Limit



**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC764289	Batch#:	217096
Matrix:	Water	Analyzed:	11/04/14
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	117	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	NEC20A	Batch#:	217096
MSS Lab ID:	262070-008	Sampled:	10/24/14
Matrix:	Water	Received:	10/28/14
Units:	ug/L	Analyzed:	11/04/14
Diln Fac:	1.000		

Type: MS Lab ID: QC764325

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1117	12.50	15.48	124	69-129
Trichloroethene	0.6290	12.50	12.92	98	70-127
Chlorobenzene	<0.1000	12.50	13.47	108	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	89	80-120

Type: MSD Lab ID: QC764326

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	15.54	124	69-129	0	26
Trichloroethene	12.50	12.31	93	70-127	5	21
Chlorobenzene	12.50	13.34	107	80-120	1	22

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	96	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference

## Batch QC Report

Volatile Organics			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	217137
Units:	ug/L	Analyzed:	11/05/14
Diln Fac:	1.000		

Type: BS Lab ID: QC764456

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	15.53	124	65-134
Trichloroethene	12.50	12.48	100	80-120
Chlorobenzene	12.50	13.27	106	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	77-136
1,2-Dichloroethane-d4	105	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	90	80-120

Type: BSD Lab ID: QC764457

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	15.69	126	65-134	1	20
Trichloroethene	12.50	12.24	98	80-120	2	20
Chlorobenzene	12.50	13.06	104	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-136
1,2-Dichloroethane-d4	106	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	90	80-120

RPD= Relative Percent Difference

**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC764458	Batch#:	217137
Matrix:	Water	Analyzed:	11/05/14
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	116	77-136
1,2-Dichloroethane-d4	108	75-139
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	262070	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC764672	Batch#:	217189
Matrix:	Water	Analyzed:	11/06/14
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	98	77-136
1,2-Dichloroethane-d4	99	75-139
Toluene-d8	105	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected

RL= Reporting Limit





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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 263442**  
**ANALYTICAL REPORT**

Locus Technologies  
299 Fairchild Dr.  
Mountain View, CA 94043

Project : 98007-99-2200  
Location : NEC  
Level : II

Sample ID  
251NEC-01AE

Lab ID  
263442-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: \_\_\_\_\_

Isabelle Choy  
Project Manager  
isabelle.choy@ctberk.com

Date: 12/29/2014

CA ELAP# 2896, NELAP# 4044-001

**CASE NARRATIVE**

Laboratory number: 263442  
Client: Locus Technologies  
Project: 98007-99-2200  
Location: NEC  
Request Date: 12/18/14  
Samples Received: 12/18/14

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/18/14. The sample was received cold and intact.

**Volatile Organics by GC/MS (EPA 8260B):**  
No analytical problems were encountered.



# CHAIN-OF-CUSTODY RECORD

SERIAL NO. 15080

203442

PROJECT NAME NFC SAMPLERS \_\_\_\_\_ (PRINT)  
 PROJECT NUMBER 98007-99-2200 (SIGN)  
 RECORDER Ale P (SIGN)

SAMPLE CONTAINER DESCRIPTION CODES  
 A. 40-ml VOA Vial  
 B. Glass Litter  
 C. Plastic 500-ml  
 D. Plastic Litter

SAMPLE DESCRIPTION CODES  
 A. Ground Water  
 B. Surface Water  
 C. Leachate  
 D. Rinseate  
 E. Soil/Sediment  
 F. Oil  
 G. Waste  
 H. Blank/Spike  
 I. Other \_\_\_\_\_

TAT CODES  
 1. Standard  
 2. 48 Hour  
 3. 24 Hour  
 4. Other \_\_\_\_\_

NO.	DATE	TIME	SAMPLE ID	AVERAGE			Field / Container Temp.
				TEMP °C	COND microhos/cm	pH	
1	12-18-14	12:35	251NEC-01AE				
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

ANALYTICAL LAB \_\_\_\_\_

LABORATORY USE ONLY

LAB PROJECT NO. \_\_\_\_\_

NOTES \_\_\_\_\_

ASSIGNED BOTTLE NUMBERS \_\_\_\_\_

SAMPLE CONDITION UPON RECEIPT \_\_\_\_\_

Field Filled (check)  XEPA 810ms

Field Filtered (check) \_\_\_\_\_

NUMBER OF CONTAINERS AND PRESERVATION  
 Unpreserved HNO<sub>3</sub> \_\_\_\_\_ HCL \_\_\_\_\_

Sample Description (enter code) AA

Sample container (enter code) AA

Sample Description (enter code) \_\_\_\_\_

Sample Description (enter code) \_\_\_\_\_

TAT Requested (enter code) \_\_\_\_\_

Maximum Holding Time for Method Requested \_\_\_\_\_

Sample Store at 4°C (Check) \_\_\_\_\_

No VOA Headspace (Check) \_\_\_\_\_

ANALYSIS REQUESTED \_\_\_\_\_

RECEIVED BY: (Signature) [Signature] Date 12/18/14 Time 1400

RECEIVED BY: (Signature) [Signature] Date 12/18/14 Time 1930

RECEIVED BY: (Signature) [Signature] Date \_\_\_\_\_ Time \_\_\_\_\_

RECEIVED FOR LAB BY: (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Container Sealed with Custody Seal: Yes  No

Method of Shipment \_\_\_\_\_ Description of Transport Container \_\_\_\_\_

Other Chains-of-Custody Transported with this Chain (by Serial No.) \_\_\_\_\_

Dispatched By: (Signature) [Signature] Date 12-18-14 Time 1400

Send Lab Results to (Name): Nancy Jeanne LeSere (Check Office Below) Verbal Requested: Yes  No

MOUNTAIN VIEW • 299 FAIRCHILD DRIVE • MTN VIEW, CA 94043 • TEL (650) 960-1640 • FAX (650) 960-0739

WALNUT CREEK • 1701 N. CALIFORNIA BLVD • WALNUT CREEK, CA 94596 • TEL (925) 906-8100 • FAX (925) 906-8101

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OTHER \_\_\_\_\_ TEL \_\_\_\_\_ FAX \_\_\_\_\_

WHITE: Laboratory Copy YELLOW: Project Copy PINK: Database Copy

REV. 602 mba et on 10 cold 21

COOLER RECEIPT CHECKLIST



Login # 203442 Date Received 12/18/14 Number of coolers 3
Client LOCUS Project

Date Opened 12/13 By (print) MC (sign)
Date Logged in 12/18 By (print) (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Cloth material, Foam blocks, Cardboard, Bags, Styrofoam, None, Paper towels

7. Temperature documentation: \* Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 2.6/0.5/1.6

Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Detections Summary for 263442

Results for any subcontracted analyses are not included in this summary.

Client : Locus Technologies  
 Project : 98007-99-2200  
 Location : NEC

Client Sample ID : 251NEC-01AE

Laboratory Sample ID :

263442-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
1,1-Dichloroethene	0.6		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
trans-1,2-Dichloroethene	16		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
cis-1,2-Dichloroethene	54		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Trichloroethene	96		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
Tetrachloroethene	0.9		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B
1,2-Dichlorobenzene	1.0		0.5	ug/L	As Recd	1.000	EPA 8260B	EPA 5030B

Volatile Organics			
Lab #:	263442	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	251NEC-01AE	Batch#:	218886
Lab ID:	263442-001	Sampled:	12/18/14
Matrix:	Water	Received:	12/18/14
Units:	ug/L	Analyzed:	12/28/14
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	0.6	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	16	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	54	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	96	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	0.9	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	1.0	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-136
1,2-Dichloroethane-d4	91	75-139
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected  
 RL= Reporting Limit



**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	263442	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC771257	Batch#:	218886
Matrix:	Water	Analyzed:	12/27/14
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	98	77-136
1,2-Dichloroethane-d4	89	75-139
Toluene-d8	100	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

Volatile Organics			
Lab #:	263442	Location:	NEC
Client:	Locus Technologies	Prep:	EPA 5030B
Project#:	98007-99-2200	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	218886
MSS Lab ID:	263492-003	Sampled:	12/19/14
Matrix:	Water	Received:	12/19/14
Units:	ug/L	Analyzed:	12/28/14
Diln Fac:	1.000		

Type: MS Lab ID: QC771261

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1000	25.00	25.03	100	69-129
Trichloroethene	10.64	25.00	35.25	98	70-127
Chlorobenzene	<0.1136	25.00	24.64	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	77-136
1,2-Dichloroethane-d4	87	75-139
Toluene-d8	93	80-120
Bromofluorobenzene	91	80-120

Type: MSD Lab ID: QC771262

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	25.28	101	69-129	1	26
Trichloroethene	25.00	35.70	100	70-127	1	21
Chlorobenzene	25.00	25.07	100	80-120	2	22

Surrogate	%REC	Limits
Dibromofluoromethane	97	77-136
1,2-Dichloroethane-d4	85	75-139
Toluene-d8	97	80-120
Bromofluorobenzene	92	80-120

RPD= Relative Percent Difference

## APPENDIX D

### Annual Quality Assurance Report

**Table D-1**  
**Comparison of Analytical Laboratory Quality Control Results**  
**2014 Annual Progress Report**  
**501 Ellis Street, Mountain View, California**

<b>Method</b>	<b>Date Analyzed</b>	<b>Laboratory Batch Number</b>	<b>Analyte</b>	<b>Accuracy Spike % REC <sup>(1)</sup></b>	<b>Accuracy Duplicate % REC <sup>(1)</sup></b>	<b>Precision RPD <sup>(2)</sup></b>
EPA 8260B Batch Spike	3/27/2014	209427	1,1-Dichloroethene	105	115	9
			Trichloroethene	98	97	1
			Chlorobenzene	111	111	0
EPA 8260B Batch Spike	6/25/2014	212610	1,1-Dichloroethene	104	93	11
			Trichloroethene	101	96	5
			Chlorobenzene	106	103	3
EPA 8260B Batch Spike	10/1/2014	215959	1,1-Dichloroethene	109	112	2
			Trichloroethene	102	109	7
			Chlorobenzene	103	103	0
EPA 8260B Batch Spike	11/3/2014	217047	1,1-Dichloroethene	131	124	6
			Trichloroethene	106	105	1
			Chlorobenzene	111	109	2
EPA 8260B Batch Spike	11/4/2014	217096	1,1-Dichloroethene	123	120	2
			Trichloroethene	98	98	1
			Chlorobenzene	107	105	2
EPA 8260B Matrix Spike	11/4/2014	217096	1,1-Dichloroethene	124	124	0
			Trichloroethene	98	93	5
			Chlorobenzene	108	107	1
EPA 8260B Batch Spike	11/5/2014	217137	1,1-Dichloroethene	124	126	1
			Trichloroethene	100	98	2
			Chlorobenzene	106	104	2
EPA 8260B Batch Spike	11/6/2014	217189	1,1-Dichloroethene	81	77	4
			Trichloroethene	87	85	3
			Chlorobenzene	104	102	2
EPA 8260B Matrix Spike	12/28/2014	218886	1,1-Dichloroethene	100	101	1
			Trichloroethene	98	100	1
			Chlorobenzene	99	100	2
<b>Project Average</b>				<b>105</b>	<b>104</b>	<b>2.8</b>
<b>Project Goals</b>				<b>40-150</b>	<b>40-150</b>	<b>&lt;35</b>

Notes:

(1) % REC = Percent recovery

(2) RPD = Relative percent difference between the batch spike and batch spike duplicate.

**Table D-2**  
**Summary of Blank Sample Results**  
**2014 Annual Progress Report**  
**501 Ellis Street, Mountain View, California**

Blank Type	Date Sampled	Method	Laboratory Batch Number	Blank ID	Contaminant	Concentration	Reporting Limit (µg/L)
Trip	10/24/2014	EPA 8260B	217096	262070-020	--	ND	0.5 - 20
Field	10/24/2014	EPA 8260B	217096	262070-022	--	ND	0.5 - 20
Lab Blank	3/27/2014	EPA 8260B	209427	QC733634	--	ND	0.5 - 20
	6/25/2014	EPA 8260B	212610	QC746522	--	ND	0.5 - 20
	10/1/2014	EPA 8260B	215959	QC759835	--	ND	0.5 - 20
	11/3/2014	EPA 8260B	217047	QC764194	--	ND	0.5 - 20
	11/4/2014	EPA 8260B	217096	QC764289	--	ND	0.5 - 20
	11/5/2014	EPA 8260B	217137	QC764458	--	ND	0.5 - 20
	11/6/2014	EPA 8260B	217189	QC764672	--	ND	0.5 - 20
	12/27/2014	EPA 8260B	218886	QC771257	--	ND	0.5 - 20

Note: An equipment blank was not collected in 2014 and the subcontractor has been instructed to include one during future sampling events.

**Table D-3**  
**Duplicate Quality Control Results**  
**2014 Annual Progress Report**  
**501 Ellis Street, Mountain View, California**

**Groundwater Monitoring Wells**

Sample Date	Contaminant	NEC23A <sup>(1)</sup> (262070-011) (µg/L)	DUPLICATE <sup>(2)</sup> (262070-021) (µg/L)	RPD <sup>(3)</sup> %
10/25/2014	<i>cis</i> -1,2-Dichloroethene	29	33	12.9
	<i>trans</i> -1,2-Dichloroethene <sup>(4)</sup>	<1.0	0.7	33.3
	1,1-dichloroethane <sup>(4)</sup>	<1.0	1.9	116.7
	1,1-dichloroethene	1.5	0.7	72.7
	Trichloroethene	91	85	6.8
<b>Project Average<sup>(4)</sup></b>		--	--	<b>48.5</b>
<b>Project Goals</b>		--	--	<b>&lt;35</b>

Notes:

(1) The primary sample was diluted by a factor of 2, increasing the reporting limits accordingly.

(2) The duplicate sample was not diluted (dilution factor = 1).

(3) RPD = relative percent difference =  $|X_1 - X_2| / X_3 \times 100$

where:

$X_1$  = concentration of the sample

$X_2$  = concentration of the duplicate

$X_3$  = average of  $X_1$  and  $X_2$

(4) RPD for these two compounds was calculated assuming a detected value of 0.5x reporting limit (i.e. 0.5 µg/L).

(5) Project average RPD excluding the two compounds not detected in the primary sample is below project goals (RPD = 30.8%)

# APPENDIX E

## VOC Concentration Mann-Kendall Trend Analysis

**Table E-1**  
**Mann Kendall Statistical Test Summary Table**  
**501 Ellis Street, Mountain View, CA**

Well	2014 VOC Data			Trend through 2014 (90% CL)		
	TCE	cDCE	VC	TCE	cDCE	VC
NEC-1A	55	36	< 0.5	Decreasing	Increasing	<RL
NEC-1AE	96	54	< 0.5	Decreasing	Increasing	<RL
NEC-7A	79	11	< 0.5	Increasing	No Trend	<RL
NEC-8A	100	9.3	<0.5	Decreasing	No Trend	<RL
NEC-9A	2.2	31	< 0.5	Decreasing	Decreasing	<RL
NEC-10A	20	6.7	< 0.5	Decreasing	No Trend	<RL
NEC-11A	21	2.5	< 0.5	Decreasing	Increasing	<RL
NEC-12A	1.6	7.5	< 0.5	No Trend	No Trend	Decreasing
NEC-20A	0.6	<0.5	< 0.5	No Trend	No Trend	<RL
NEC-21A	3	3.5	< 0.5	Decreasing	Decreasing	<RL
NEC-22A	17	20	< 0.5	Decreasing	Decreasing	<RL
NEC-23A	91	29	<1.0	No Trend	No Trend	<RL
NEC-24A	38	44	< 0.5	Decreasing	Increasing	<RL
NEC-25A	34	4.6	< 0.5	Decreasing	Decreasing	<RL
NEC-26A	91	3.8	<0.5	No Trend	Increasing	<RL
NEC-27AE	89	7.7	<0.5	Decreasing	Decreasing	<RL
NEC-28AE	70	44	< 0.5	Decreasing	Increasing	<RL
NEC-PZ-1A	60	3.3	< 0.5	Increasing	No Trend	<RL
NEC-PZ-2A	83	8.9	< 0.5	Increasing	Increasing	<RL
NEC-PZ-3A	47	9.9	< 0.5	Decreasing	No Trend	<RL

Notes: VOC = volatile organic compound  
CL = confidence limit  
TCE = trichloroethene  
cDCE = cis-1,2-dichloroethene  
VC = vinyl chloride  
<RL = concentrations below reporting limits

**VOC Concentration Trend Analysis**  
**501 Ellis Street, Mountain View, California**

Geosyntec Consultants

State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program				Mann-Kendall Statistical Test Form 4400-215 (2/2001)			
<p><b>Notice:</b> This form is the DNR supplied spreadsheet referenced in Appendices A of Comm 46 and NR 746, Wis. Adm. Code. It is provided to consultants as an optional tool for groundwater contaminant trend analysis to support site closure requests under s. Comm 46.07, Comm 46.08, NR 746.07, NR 746.08, Wis. Adm. Code. Use this form or a manual method when seeking case closure under those rules. Earlier versions of this form should not be used.</p> <p><b>Instructions:</b> Do not change formulas or other information in cells with a blue background, only cells with a yellow background are used for data entry. To use the spreadsheet, provide at least four rounds and not more than ten rounds of data that is not seasonally affected. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" or "DATE ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at both 80 percent and 90 percent confidence levels. If a declining trend is present at 80 percent but not at 90 percent, a site is still eligible for closure under Comm 46 and NR 746 provided that other conditions in those rules are met. If an increasing or decreasing trend is not present, an additional coefficient of variation test is used to test for stability, as proposed by Wiedemeier et al, 1999. For additional information, refer to the Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.</p>							
Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC1A</b>	
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	28-Nov-05	240	5.5				
2	28-Nov-06	260	6.2				
3	29-Nov-07	64	9.9				
4	4-Dec-08	150	8.9				
5	18-Dec-09	79	14				
6	21-Dec-10	83	23				
7	11-Oct-11	74	28				
8	9-Oct-12	58	37				
9	15-Oct-13	64	41				
10	24-Oct-14	55	36				
Mann Kendall Statistic (S) =		-30.0	39.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		112.70	20.95	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		77.369	13.792	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.687	0.658	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By =		<b>KJK</b>	Date =	<b>10-Feb-15</b>	Checked By =	<b>FM</b>	

**VOC Concentration Trend Analysis**  
**501 Ellis Street, Mountain View, California**

Geosyntec Consultants

State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program				Mann-Kendall Statistical Test Form 4400-215 (2/2001)			
<p><b>Notice:</b> This form is the DNR supplied spreadsheet referenced in Appendices A of Comm 46 and NR 746, Wis. Adm. Code. It is provided to consultants as an optional tool for groundwater contaminant trend analysis to support site closure requests under s. Comm 46.07, Comm 46.08, NR 746.07, NR 746.08, Wis. Adm. Code. Use this form or a manual method when seeking case closure under those rules. Earlier versions of this form should not be used.</p> <p><b>Instructions:</b> Do not change formulas or other information in cells with a blue background, only cells with a yellow background are used for data entry. To use the spreadsheet, provide at least four rounds and not more than ten rounds of data that is not seasonally affected. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause "DATA ERR" or "DATE ERR" to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at both 80 percent and 90 percent confidence levels. If a declining trend is present at 80 percent but not at 90 percent, a site is still eligible for closure under Comm 46 and NR 746 provided that other conditions in those rules are met. If an increasing or decreasing trend is not present, an additional coefficient of variation test is used to test for stability, as proposed by Wiedemeier et al, 1999. For additional information, refer to the Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.</p>							
Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC1AE</b>	
Compound ->		TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	220	17				
2	27-Nov-06	200	17				
3	12-Nov-07	190	18				
4	4-Dec-08	160	20				
5	16-Dec-09	38	22				
6	13-Dec-10	49	27				
7	12-Dec-11	43	35				
8	17-Dec-12	40	38				
9	16-Dec-13	56	47				
10	18-Dec-14	96	54				
Mann Kendall Statistic (S) =		-21.0	44.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		109.20	29.50	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		74.907	13.360	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.686	0.453	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By = <b>JC</b>		Date = <b>9-Feb-15</b>		Checked By = <b>KJK</b>			

**VOC Concentration Trend Analysis**  
**501 Ellis Street, Mountain View, California**

Geosyntec Consultants

State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program				Mann-Kendall Statistical Test Form 4400-215 (2/2001)			
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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC7A</b>	
	Compound ->	TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	72	13				
2	21-Nov-06	73	12				
3	27-Nov-07	72	11				
4	2-Dec-08	66	10				
5	21-Dec-09	61	10				
6	21-Dec-10	75	14				
7	11-Oct-11	92	15				
8	9-Oct-12	77	15				
9	15-Oct-13	96	17				
10	24-Oct-14	79	11				
Mann Kendall Statistic (S) =		22.0	12.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		76.30	12.80	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		10.709	2.394	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.140	0.187	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>INCREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>INCREASING</b>	No Trend	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By = <b>JC</b>			Date = <b>9-Feb-15</b>		Checked By = <b>KJK</b>		

**VOC Concentration Trend Analysis**  
**501 Ellis Street, Mountain View, California**

Geosyntec Consultants

State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program				Mann-Kendall Statistical Test Form 4400-215 (2/2001)			
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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC8A</b>	
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	120	9.5				
2	21-Nov-06	130	9.2				
3	27-Nov-07	120	10				
4	2-Dec-08	120	11				
5	21-Dec-09	120	9.9				
6	20-Dec-10	85	6.9				
7	11-Oct-11	97	10				
8	9-Oct-12	110	11				
9	15-Oct-13	110	12				
10	24-Oct-14	100	9.3				
Mann Kendall Statistic (S) =		-22.0	11.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		111.20	9.88	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		13.661	1.369	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.123	0.139	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	No Trend	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By = <b>JC</b>			Date = <b>9-Feb-15</b>	Checked By = <b>FM</b>			

**VOC Concentration Trend Analysis**  
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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC9A</b>	
Compound ->		TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	28	62				
2	21-Nov-06	31	64				
3	27-Nov-07	22	52				
4	2-Dec-08	15	55				
5	21-Dec-09	9.3	54				
6	21-Dec-10	2.7	45				
7	11-Oct-11	3.6	39				
8	9-Oct-12	3.7	43				
9	15-Oct-13	3	40				
10	25-Oct-14	2.2	31				
Mann Kendall Statistic (S) =		-35.0	-35.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		12.05	48.50	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		11.236	10.638	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.932	0.219	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By = <b>JC</b>			Date = <b>9-Feb-15</b>		Checked By = <b>FM</b>		

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC10A</b>	
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	29	7.1				
2	21-Nov-06	27	6.2				
3	27-Nov-07	27	6.2				
4	2-Dec-08	28	8.2				
5	18-Dec-09	25	8.9				
6	21-Dec-10	23	8.6				
7	11-Oct-11	22	5.1				
8	9-Oct-12	19	7.1				
9	15-Oct-13	20	9.2				
10	24-Oct-14	20	6.7				
Mann Kendall Statistic (S) =		-35.0	7.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		24.00	7.33	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		3.682	1.348	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.153	0.184	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	No Trend	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	No Trend	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	<b>CV ≤ 1 STABLE</b>	n<4	n<4	n<4	n<4
Data Entry By = <b>JC</b>			Date = <b>9-Feb-15</b>	Checked By = <b>KJK</b>			

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC11A</b>	
Compound ->		TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	4-Nov-04	34	2.7				
2	22-Nov-05	31	2.4				
3	27-Nov-06	26	2.4				
4	28-Nov-07	27	2.5				
5	3-Dec-08	26	2.8				
6	22-Dec-10	22	2.8				
7	11-Oct-11	22	2.8				
8	9-Oct-12	22	3.5				
9	15-Oct-13	22	3.7				
10	24-Oct-14	21	2.5				
Mann Kendall Statistic (S) =		-36.0	22.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		25.30	2.81	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		4.398	0.448	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.174	0.160	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By = <b>JC</b>			Date = <b>9-Feb-15</b>	Checked By = <b>KJK</b>			

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC12A</b>	
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	VC Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	4-Nov-04	5.3	3	5.8			
2	22-Nov-05	13	5.2	11			
3	27-Nov-06	12	5.4	14			
4	28-Nov-07	0.8	2.7	0.5			
5	3-Dec-08	34.36	5.2	11			
6	22-Dec-10	0.6	2	0.5			
7	11-Oct-11	1.2	2.5	0.5			
8	15-Oct-12	1.2	4.9	0.5			
9	14-Oct-13	1.6	9.1	0.5			
10	24-Oct-14	1.6	7.5	0.5			
Mann Kendall Statistic (S) =		-7.0	8.0	-19.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	10	0	0	0
Average =		7.17	4.75	4.48	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		10.631	2.291	5.502	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		1.484	0.482	1.228	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		No Trend	No Trend	<b>DECREASING</b>	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		No Trend	No Trend	<b>DECREASING</b>	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		<b>CV &gt; 1 NON-STABLE</b>	<b>CV ≤ 1 STABLE</b>	NA	n<4	n<4	n<4
Data Entry By =		KJK	Date =	10-Feb-15	Checked By =	FM	

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC20A</b>	
Compound ->		TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	4-Nov-04	0.5	0.5				
2	22-Nov-05	0.8	0.5				
3	27-Nov-06	0.8	0.5				
4	28-Nov-07	1.2	0.6				
5	3-Dec-08	0.6	0.5				
6	22-Dec-10	1.6	0.7				
7	11-Oct-11	1.3	0.5				
8	15-Oct-12	1.1	0.5				
9	14-Oct-13	0.5	0.5				
10	24-Oct-14	0.6	0.5				
Mann Kendall Statistic (S) =		2.0	-1.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		0.90	0.53	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		0.380	0.067	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.422	0.127	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		No Trend	No Trend	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		No Trend	No Trend	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		<b>CV ≤ 1 STABLE</b>	<b>CV ≤ 1 STABLE</b>	n<4 n<4	n<4 n<4	n<4 n<4	n<4 n<4
Data Entry By = <b>KJK</b>			Date = <b>10-Feb-15</b>		Checked By = <b>FM</b>		

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State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program				Mann-Kendall Statistical Test Form 4400-215 (2/2001)			
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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC21A</b>	
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	35	59				
2	27-Nov-06	29	50				
3	28-Nov-07	24	43				
4	3-Dec-08	4.7	21				
5	22-Dec-09	5.8	29				
6	22-Dec-10	5.6	18				
7	11-Oct-11	4	15				
8	15-Oct-12	4.4	13				
9	14-Oct-13	3.1	6.1				
10	24-Oct-14	3	3.5				
Mann Kendall Statistic (S) =		-39.0	-43.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		11.86	25.76	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		12.367	18.984	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		1.043	0.737	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By =		<b>KJK</b>	Date =	<b>10-Feb-15</b>	Checked By =	<b>FM</b>	

**VOC Concentration Trend Analysis**  
**501 Ellis Street, Mountain View, California**

Geosyntec Consultants

State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program				Mann-Kendall Statistical Test Form 4400-215 (2/2001)			
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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC22A</b>	
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	110	46				
2	27-Nov-06	94	40				
3	28-Nov-07	75	39				
4	3-Dec-08	74	39				
5	22-Dec-09	41	48				
6	22-Dec-10	63	42				
7	11-Oct-11	22	24				
8	15-Oct-12	26	28				
9	14-Oct-13	25	28				
10	24-Oct-14	17	20				
Mann Kendall Statistic (S) =		-39.0	-25.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		54.70	35.40	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		33.066	9.652	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.604	0.273	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By =		<b>KJK</b>	Date =	<b>10-Feb-15</b>	Checked By =	<b>FM</b>	

**VOC Concentration Trend Analysis**  
**501 Ellis Street, Mountain View, California**

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC23A</b>	
Compound ->		TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	95	32				
2	27-Nov-06	84	36				
3	28-Nov-07	82	34				
4	3-Dec-08	92	27				
5	22-Dec-09	84	34				
6	22-Dec-10	82	24				
7	11-Oct-11	83	30				
8	15-Oct-12	81	28				
9	14-Oct-13	87	37				
10	24-Oct-14	91	29				
Mann Kendall Statistic (S) =		-7.0	-6.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		86.10	31.10	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		4.909	4.202	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.057	0.135	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		No Trend	No Trend	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		No Trend	No Trend	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		<b>CV ≤ 1 STABLE</b>	<b>CV ≤ 1 STABLE</b>	n<4	n<4	n<4	n<4
Data Entry By = <b>KJK</b>		Date = <b>10-Feb-15</b>		Checked By =			

**VOC Concentration Trend Analysis**  
**501 Ellis Street, Mountain View, California**

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC24A</b>	
Compound ->		TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	4-Nov-04	78	22				
2	22-Nov-05	91	35				
3	27-Nov-06	71	36				
4	28-Nov-07	64	29				
5	3-Dec-08	52	35				
6	22-Dec-10	53	35				
7	11-Oct-11	35	38				
8	15-Oct-12	45	49				
9	14-Oct-13	39	51				
10	24-Oct-14	38	44				
Mann Kendall Statistic (S) =		-35.0	30.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		56.60	37.40	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		18.840	8.758	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.333	0.234	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By =		<b>KJK</b>	Date =	<b>10-Feb-15</b>	Checked By =	<b>FM</b>	

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC25A</b>	
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	23-Nov-05	52	11				
2	27-Nov-06	48	13				
3	28-Nov-07	43	13				
4	3-Dec-08	39	7.4				
5	22-Dec-09	35	9.9				
6	22-Dec-10	40	5.7				
7	11-Oct-11	31	6.2				
8	15-Oct-12	34	5.8				
9	14-Oct-13	33	8.4				
10	24-Oct-14	34	4.6				
Mann Kendall Statistic (S) =		-32.0	-26.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		38.90	8.50	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		6.935	3.083	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.178	0.363	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By =		<b>KJK</b>	Date =	<b>10-Feb-15</b>	Checked By =	<b>FM</b>	

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC26A</b>	
Compound ->		TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	110	2.8				
2	27-Nov-06	99	3.6				
3	28-Nov-07	99	3.4				
4	3-Dec-08	94	3.4				
5	22-Dec-09	180	5.6				
6	22-Dec-10	130	3				
7	11-Oct-11	140	5.6				
8	15-Oct-12	120	4.9				
9	14-Oct-13	160	7.5				
10	24-Oct-14	91	3.8				
Mann Kendall Statistic (S) =		4.0	19.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		122.30	4.36	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		30.085	1.500	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.246	0.344	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		No Trend	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		No Trend	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		<b>CV ≤ 1 STABLE</b>	NA	n<4 n<4	n<4 n<4	n<4 n<4	n<4 n<4
Data Entry By = <b>KJK</b>			Date = <b>10-Feb-15</b>	Checked By = <b>FM</b>			

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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC27AE</b>		
Compound ->		TCE	c,1,2, DCE					
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	
1	22-Nov-05	100	14					
2	27-Nov-06	120	10					
3	12-Nov-07	100	12					
4	4-Dec-08	100	12					
5	18-Dec-09	94	10					
6	22-Dec-10	88	10					
7	11-Oct-11	88	8.8					
8	9-Oct-12	96	11					
9	15-Oct-13	90	11					
10	24-Oct-14	89	7.7					
Mann Kendall Statistic (S) =		-25.0	-20.0	0.0	0.0	0.0	0.0	
Number of Rounds (n) =		10	10	0	0	0	0	
Average =		96.50	10.65	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Standard Deviation =		9.652	1.780	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Coefficient of Variation(CV)=		0.100	0.167	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4	
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4	
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>DECREASING</b>	n<4	n<4	n<4	n<4	
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4	
Data Entry By =		KJK		Date =	10-Feb-15		Checked By =	FM

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<b>State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program</b>				<b>Mann-Kendall Statistical Test Form 4400-215 (2/2001)</b>			
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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NEC28AE</b>	
Compound ->		TCE	c,1,2, DCE				
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	22-Nov-05	110	19				
2	27-Nov-06	94	23				
3	12-Nov-07	85	23				
4	4-Dec-08	95	26				
5	18-Dec-09	99	29				
6	22-Dec-10	80	23				
7	11-Oct-11	91	27				
8	9-Oct-12	72	30				
9	15-Oct-13	80	28				
10	24-Oct-14	70	44				
Mann Kendall Statistic (S) =		-28.0	32.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		87.60	27.20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		12.536	6.795	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.143	0.250	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4
Data Entry By =		KJK		Date =	10-Feb-15		Checked By =

**VOC Concentration Trend Analysis**  
**501 Ellis Street, Mountain View, California**

Geosyntec Consultants

State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program				Mann-Kendall Statistical Test Form 4400-215 (2/2001)				
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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NECPZ1A</b>		
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	
1	22-Nov-05	12	8.6					
2	21-Nov-06	20	6.7					
3	27-Nov-07	34	7.1					
4	2-Dec-08	50	7.1					
5	21-Dec-09	48	5.8					
6	22-Dec-10	51	5					
7	24-Oct-11	54	3.5					
8	9-Oct-12	64	8.1					
9	14-Oct-13	86	9.1					
10	24-Oct-14	60	3.3					
Mann Kendall Statistic (S) =		39.0	-12.0	0.0	0.0	0.0	0.0	
Number of Rounds (n) =		10	10	0	0	0	0	
Average =		47.90	6.43	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Standard Deviation =		21.522	2.012	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Coefficient of Variation(CV)=		0.449	0.313	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4	
Trend ≥ 80% Confidence Level		INCREASING	DECREASING	n<4	n<4	n<4	n<4	
Trend ≥ 90% Confidence Level		INCREASING	No Trend	n<4	n<4	n<4	n<4	
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4	
Data Entry By =		KJK		Date =	10-Feb-15		Checked By =	FM

**VOC Concentration Trend Analysis**  
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State of Wisconsin Department of Natural Resources Remediation and Redevelopment Program				Mann-Kendall Statistical Test Form 4400-215 (2/2001)				
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Site Name = <b>NEC - 501 Ellis Street</b>				BRRTS No. =		Well Number = <b>NECPZ2A</b>		
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	
1	22-Nov-05	21	6.9					
2	21-Nov-06	22	6.9					
3	27-Nov-07	20	7.5					
4	2-Dec-08	20	9.3					
5	21-Dec-09	24	12					
6	20-Dec-10	34	13					
7	24-Oct-11	31	12					
8	9-Oct-12	34	19					
9	14-Oct-13	36	18					
10	25-Oct-14	83	8.9					
Mann Kendall Statistic (S) =		33.0	27.0	0.0	0.0	0.0	0.0	
Number of Rounds (n) =		10	10	0	0	0	0	
Average =		32.50	11.35	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Standard Deviation =		18.846	4.358	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Coefficient of Variation(CV)=		0.580	0.384	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4	
Trend ≥ 80% Confidence Level		<b>INCREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4	
Trend ≥ 90% Confidence Level		<b>INCREASING</b>	<b>INCREASING</b>	n<4	n<4	n<4	n<4	
Stability Test, If No Trend Exists at 80% Confidence Level		NA	NA	n<4	n<4	n<4	n<4	
Data Entry By =		KJK		Date =	10-Feb-15		Checked By =	FM

**VOC Concentration Trend Analysis**  
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Site Name = <b>NEC - 501 Ellis Street</b>			BRRTS No. =		Well Number = <b>NECPZ3A</b>		
Event Number	Compound -> Sampling Date (most recent last)	TCE Concentration (leave blank if no data)	c,1,2, DCE Concentration (leave blank if no data)	Concentration (leave blank if no data)			
1	22-Nov-05	95	13				
2	21-Nov-06	98	12				
3	27-Nov-07	87	12				
4	2-Dec-08	77	12				
5	21-Dec-09	66	11				
6	20-Dec-10	58	11				
7	24-Oct-11	49	22				
8	9-Oct-12	52	15				
9	14-Oct-13	50	21				
10	24-Oct-14	47	9.9				
Mann Kendall Statistic (S) =		-39.0	-3.0	0.0	0.0	0.0	0.0
Number of Rounds (n) =		10	10	0	0	0	0
Average =		67.90	13.89	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Standard Deviation =		19.880	4.239	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=		0.293	0.305	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Error Check, Blank if No Errors Detected				n<4	n<4	n<4	n<4
Trend ≥ 80% Confidence Level		<b>DECREASING</b>	No Trend	n<4	n<4	n<4	n<4
Trend ≥ 90% Confidence Level		<b>DECREASING</b>	No Trend	n<4	n<4	n<4	n<4
Stability Test, If No Trend Exists at 80% Confidence Level		NA	<b>CV ≤ 1 STABLE</b>	n<4	n<4	n<4	n<4
Data Entry By = <b>KJK</b>			Date = <b>10-Feb-15</b>	Checked By = <b>FM</b>			