



A Report Prepared For:

United States Environmental Protection Agency  
Region IX  
Superfund Program SFD-7-3  
75 Hawthorne Street  
San Francisco, California 94105

Attention: Alana Lee

**2015 ANNUAL PROGRESS REPORT  
SMI HOLDING LLC  
455, 485/487 AND 501/505  
EAST MIDDLEFIELD ROAD  
MOUNTAIN VIEW, CALIFORNIA**

**APRIL 4, 2016**

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## **1.0 INTRODUCTION**

On behalf of SMI Holding LLC (SMI), PES Environmental, Inc. (PES) has prepared this 2015 annual progress report for 455, 485/487, and 501/505 East Middlefield Road in Mountain View, California. The 2015 annual report covers the reporting period between January 1 and December 31, 2015. As requested by the U.S. Environmental Protection Agency Region IX (EPA) in electronic correspondence dated May 6, 2005, the report has been organized in general accordance with the following outline:

- The remainder of Section 1 provides an introduction to the site, including a summary of the site background, hydrogeology, remedial activities, and a summary of 2015 activities and deliverables;
- Section 2 discusses the groundwater extraction and treatment (GWET) system, including a system description, summary of operation and maintenance (O&M) activities, capture zone analyses, and summary of analytical results;
- Section 3 discusses other site activities, including vapor intrusion assessment activities;
- Section 4 discusses problems encountered during the reporting period, if any;
- Section 5 provides a technical assessment on how the remedy is functioning, capture zones, and concentration trends, and discusses the EPA-requested remedial enhancements;
- Section 6 summarizes the conclusions and recommendations provided in this report;
- Section 7 discusses the status of follow-up actions identified in the last EPA Five-Year Report; and
- Section 8 discusses work planned for 2016 and future activities.

### **1.1 Site Description and Background**

On November 29, 1990, EPA issued a Section 106 Unilateral Administrative Order (106 Order) for Remedial Design and Remedial Action (RD/RA) to the following Potentially Responsible Parties (PRPs) or 106 Order Companies: Fairchild Semiconductor Corporation, Schlumberger Technology Corporation, National Semiconductor Corporation, NEC Electronics, Inc., Siltec Corporation, Sobrato Development Companies, General Instrument Corporation, Tracor X-Ray, Inc., and Union Carbide Chemicals and Plastic Company Inc. The 106 Order required the 106 Order Companies to develop and implement soil and groundwater source control remedies at their individual facilities and to perform future O&M of the Middlefield-Ellis-Whisman (MEW) Regional Groundwater Remediation Program following its construction by the Consent Decree parties.

On April 10, 1992, EPA entered into a Consent Decree with two PRPs: Raytheon and Intel (Consent Decree companies), that required the Consent Decree companies to design, construct, and operate their individual facility-specific source control soil and groundwater remediation systems and to design and construct the MEW Regional Groundwater Remediation Program.

SMI is implementing the requirements of the 106 Order issued to Sobrato Development Company for 455, 485/487, and 501/505 East Middlefield Road (the Site). Symantec, Inc. (Symantec) is the current owner of the Site. The Site is located on the upgradient or south side of the MEW area, along the south side of East Middlefield Road (EMR) between Ellis Street and the railroad (Plate 1). Two buildings, 455 EMR and 485/487 EMR, are located in the vicinity of shallow groundwater that has potentially been impacted with volatile organic compounds (VOCs), which include trichloroethylene (TCE) and cis-1,2-dichloroethylene (cis-1,2-DCE), a degradation product of TCE. Vinyl chloride, a degradation product of cis-1,2-DCE, has also been detected in groundwater at the Site.

Two potential sources of VOCs were identified on the 455 EMR site<sup>1</sup>: (1) the former waste solvent/neutralization tanks formerly located near the southeastern corner of the building; and (2) suspected releases in the vicinity of the southeastern corner of the 455 EMR site. Results of chemical analyses of soil and groundwater samples from the area south of 485/487 EMR suggested a release of TCE across the southern portion of the 485/487 EMR property; but it is not known whether these sources were due to on-Site activities and/or off-Site activities<sup>2</sup>. Soil and groundwater impacts in the A-aquifer above the clean-up levels have not been identified at 501/505 EMR.

## **1.2 Hydrogeology**

In the vicinity of the potential source areas at the 455 EMR site, groundwater impacts above the clean-up goal of 5 micrograms per liter ( $\mu\text{g/L}$ ) for TCE have only been identified in the A-aquifer. A-aquifer materials are generally present from approximately 15 feet below ground surface (bgs) to 30 or 35 feet bgs at the Site. The aquifer materials were likely deposited in alluvial environments.

The majority of the boring logs for the Site indicate the presence of a relatively thick (at least 10 feet) permeable lens or lenses at depths between approximately 15 and 30 feet bgs. The exceptions to this are limited, and include well SO-1 (gravel at 25 to 30 feet bgs) and SO-PZ3 (sand at 21 to 23.5 feet bgs and 25.5 to 32 feet bgs).

The general groundwater flow direction in the A-aquifer on the Site was to the north towards San Francisco Bay. However, subsequent to the installation of a slurry wall surrounding the downgradient Raytheon site located at 350 Ellis Street, the groundwater flow direction bifurcated to the northeast and northwest on the northern portion of 455 EMR and 485/487 EMR.

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<sup>1</sup> PES, 1993. *Source Investigation and Characterization – Addendum 1, Sobrato Property, 455 East Middlefield Road, Mountain View, California*, July 30, 1993.

<sup>2</sup> PES, 1992. *Source Investigation and Characterization, Sobrato Properties, 485/487 and 501/505 East Middlefield Road, Mountain View, California*, March 30, 1992.

In 1993, variable-rate aquifer tests were conducted on A-aquifer wells SO-1 and SO-2 to assess hydraulic properties. The hydraulic conductivity and transmissivity calculated from the tests were 58 to 66 feet per day (ft/day) and 700 to 790 square feet per day (ft<sup>2</sup>/day) for well SO-1, and 157-160 ft/day and 2,300 ft<sup>2</sup>/day for well SO-2, respectively<sup>1</sup>. These results are consistent with the reported lithology at wells SO-1 and SO-2 (both installed by Dames & Moore in 1989). The lithologic log for well SO-1 indicates only a limited depth interval of permeable material (silty fine to medium gravel at depths of 25 to 30 feet bgs). The log for well SO-2 indicates the presence of more permeable lenses (fine gravel and sandy fine to medium gravel at depths of 16.5 to 27 feet bgs and silty sand at depths of 32.5 to 34.5 feet bgs).

Step-discharge testing was also conducted on wells EW-2 and EW-3 in 2000 by SECOR International, Inc. (SECOR). The results indicated that the maximum sustainable pumping rate at EW-2 and EW-3 was greater than approximately 19 gallons per minute (gpm). The greater sustainable pumping rates at extraction wells EW-2 and EW-3 indicate the presence of relatively high permeable sediments in the vicinity of these wells. To determine the extent of these sediments, SECOR prepared geologic cross-sections (in draft form—not submitted to EPA)<sup>3</sup>. The cross-sections were drawn for the Site along an east-west alignment, and extended onto the adjoining 365 EMR site to the west. The cross-sections are consistent with the presence of permeable sediments containing sand and gravel extending from the Site to at least the extraction wells on the 365 EMR site.

### **1.3 Remedial Activities**

Each individual MEW company is responsible for investigation, cleanup and source control for soil and groundwater impacts at their individual facility-specific properties. The MEW Regional Program systems south and north of U.S. Highway 101 contain and treat impacted groundwater where a plume has mixed together with other impacted groundwater and the source of impacts has not been identified. The Navy and NASA both operate groundwater extraction treatment systems to contain and treat impacted groundwater at their areas of responsibility in addition to the regional system operating north of 101.

Remedial activities were initiated at the Site in 1995. An air sparging/soil vapor extraction (AS/SVE) pilot test was conducted at the Site between October 1995 and March 1996. In 1997, a full-scale AS/SVE system was installed. Four groundwater extraction wells in the A-aquifer were also installed. Extracted groundwater was initially treated by two 300-pound granular activated carbon (GAC) vessels in series, but is currently treated through two 1,000-pound GAC vessels in series.

The AS/SVE system operated until rising water levels forced closure of the vertical AS/SVE wells. The SVE system continued to operate with the horizontal well and extracted vapors were treated by GAC. Closure of the SVE system was obtained in 2001 following confirmatory soil sampling to verify that soil clean-up goals were achieved.

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<sup>3</sup> SECOR, 2000. *Transmittal of the Second Quarter 2000 Groundwater Capture Analysis for Siemens-Sobrato Properties at 455, 485/487, and 501/505 East Middlefield Road, Mountain View, California*, July 11, 2000.

A chemical oxidation pilot test using potassium permanganate to reduce groundwater VOC concentrations was conducted at the Site in November and December 2000, with the highest volume of potassium permanganate solution injected near the well with the highest VOC concentrations. Residual effects of this treatment were noted; the TCE concentration in the area treated most extensively (near well SO-PZ2) has been reduced from the pre-injection concentration of 2,900  $\mu\text{g/L}$ . Additional injection of potassium permanganate solution to further reduce groundwater concentrations in the source area was proposed in September 2002, but the proposed plan never received EPA approval. In January 2004, PES advised EPA that SMI no longer desired EPA's approval for additional source area chemical oxidation.

As a voluntary measure to further assess methods to facilitate Site remediation, SMI conducted an enhanced reduction dechlorination (ERD) laboratory microcosm study between January and April 2003 using a groundwater sample collected from well SO-PZ2 in December 2002. Various electron donors were tested as well as bioaugmentation. This test was discussed with EPA during a meeting on January 26, 2004. A work plan to implement ERD at the Site was submitted on March 2, 2004. Comments from EPA were received on April 8, 2004. The ERD pilot test was not implemented due to concerns of the former property owner. The property was sold in 2010. SMI has been in contact with the new property owner, as discussed further in Section 3, to obtain access for remedial enhancements.

In September 2014, EPA issued their third five-year review for the MEW Site (Five-Year Review)<sup>4</sup>. The Five-Year Review contained a summary of facility-specific optimization, pilot tests, and/or treatability studies. The current status of the facility-specific plan discussed in EPA's Five-Year Review is contained in Appendix A. The completed "2015 Annual Remedy Performance Checklist" is included as Appendix B.

#### **1.4 2015 Activities and Deliverables**

Activities and deliverables provided to EPA in 2015 included the following:

- 2014 Annual Progress Report on April 13, 2015;
- A 2014 annual and quarterly (fourth quarter 2014) NPDES report was submitted in January 2015. Quarterly NPDES reports (for 2015) were submitted in May, August, and November 2015. These reports were also submitted to the Regional Water Quality Control Board (RWQCB) and the State of California's Geotracker system;
- Participation in semi-annual water elevation monitoring events for the MEW Site that were conducted in March and September 2015; and
- Submittal of indoor air sampling report on May 8, 2015.

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<sup>4</sup> EPA, 2014. *Third Five-Year Review Report for Middlefield- Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California*. September.

Ms. Alana Lee of US EPA advised via electronic mail that an annual groundwater sampling event would not be required for 2015; the next groundwater sampling event would be required in fall 2016<sup>5</sup>.

## **2.0 GROUNDWATER EXTRACTION AND TREATMENT SYSTEM**

Four groundwater extraction wells (EW-1, EW-2, EW-3, and EW-4) went on-line in June 1997. Well EW-4 was shut-down on May 11, 2007 with EPA's prior approval and a larger pump was subsequently installed in well EW-2. The extraction wells are located in the A-aquifer. The deeper B1-aquifer has not been impacted with TCE at the Site above clean-up levels in the vicinity of the potential source areas at the 455 EMR site. Extracted groundwater was initially treated by two 300-pound GAC vessels in series, but is currently treated through two 1,000-pound GAC vessels in series. The extraction wells pump a total of approximately 20 gpm; wells EW-2 and EW-3 are capable of pumping at higher rates (see Section 1.2) and well EW-1 pumps at a low rate (less than 2 gpm).

During 2012 the following improvements were made: (1) an emergency shutdown switch, located outside the unmanned treatment compound, was installed to allow facility personnel to shut down the GWET system should they notice a problem; (2) curbing to provide secondary containment should a leak occur in the treatment compound was installed; and (3) a leak detection switch in the treatment compound to shut down the GWET system in the event of a substantial leak was installed. Due to system age, in 2013, the following improvements were made: (1) the above ground piping within the treatment compound and the extraction well vault boxes was replaced; (2) new GAC vessels, hoses, and a manifold were installed; (3) a new electrical control panel and auto-dialer were installed; and (4) leak detection switches in each of the operating extraction well vaults to shut down the GWET system in the event of water collection in a vault box were installed.

### **2.1 GWET System Monitoring and Mass Removal**

The GWET system operated in accordance with the RWQCB's 2012 NPDES VOC and Fuel General NPDES Permit<sup>6</sup> and discharge authorization obtained on August 25, 2014. The permitted discharge flow is 25 gpm.

During 2015, the GWET system monitoring was conducted as follows:

- Monthly, or more frequent, monitoring of system effluent flowrate;
- Monthly effluent sample analyses for VOCs using EPA Method 8260B;

<sup>5</sup> US EPA, 2015. *Electronic Mail from Alana Lee of US EPA to Susan Gahry of PES "RE: SMI Holding LLC, Mountain View, CA - Annual Monitoring Event this Year"*. September 8.

<sup>6</sup> RWQCB, 2012. *Regional Water Quality Control Board (RWQCB) Order No. R2-2012-0012, NPDES No. CAG912002*. February 8.

- Although not required by the permit, monthly influent and mid-point (in-between carbon vessels) sample analyses for halogenated VOCs (HVOCs) using EPA Method 8260B;
- Monthly standard observations required by the NPDES general permit for the groundwater treatment system were recorded;
- Semi-annual influent monitoring for VOCs using EPA Method 8260B (full list);
- Annual influent sample monitoring for pH;
- Annual effluent sample monitoring for pH, turbidity, fish toxicity (bioassay 96-hour percent survival with rainbow trout), electrical conductivity, and temperature; and
- Metals monitoring, which is required once every three years, for antimony, arsenic, beryllium, cadmium, hexavalent and total chromium, copper, cyanide, lead, mercury, nickel, selenium, silver, thallium, and zinc using various analytical methods to meet the permit-required detection limits (see Table 1D).

Samples were submitted to TestAmerica Laboratories, Inc. of Pleasanton, California (TAL), a California-certified laboratory, for analysis. Summaries of the laboratory analytical results for the First through Fourth Quarters of 2015 are presented on Tables 1A through 1D, respectively. Quality assurance/quality control (QA/QC) measures were implemented during the collection and chemical analysis process to ensure that the data collected are representative of actual groundwater quality conditions. The QA/QC procedures included the following: (1) holding time review; (2) method blank analysis; (3) equipment blank analysis (when applicable); (4) trip blank analysis; (5) blank spike, matrix spike, and spike duplicate analysis; (6) surrogate spike analysis; (7) detection limit review; and (8) field duplicate analysis. No QA/QC problems were identified and the data set is considered valid with no qualifiers. A QA/QC report is included as Appendix C.

During 2015, the estimated mass of total VOCs removed by the GWET system was approximately 7.2 pounds (see Table 2). Monthly flow totals and VOC concentrations from GWET system influent samples were used to calculate the mass of VOCs removed.

During 2015, the GWET system removed approximately 7,069,013 gallons of groundwater at an average extraction rate of approximately 14.4 gpm. The average monthly extraction well flow rates are shown on Table 3. The average extraction flow rates for wells EW-1, EW-2, and EW-3 were 0.9, 6.6, and 6.9 gpm, respectively. Extraction well EW-4 was not operated during 2015.

Since start up in June 1997, the GWET system has removed and treated approximately 136,686,195 gallons of groundwater (Table 2 and Plate 2), and removed approximately 90 pounds of total VOCs (Table 2 and Plate 3). In general, overall influent VOC concentrations had been decreasing, but an upward trend was noted beginning in 2013,

as shown on Plate 4. The upward trend appears to be associated with the higher TCE and cis-1,2-DCE concentrations associated with extraction well EW-2 (see Section 2.4.2).

## **2.2 System Performance/O&M Activities**

The O&M activities that occurred during 2015 included:

- On January 28, a small leak was noted near the hose connections on the manifold. On February 2, the carbon vendor modified the hoses and manifold to have a plastic, rather than a metal, connection and the system was restarted. The system was off for approximately 76 hours;
- On March 9, the system was shut-down by facility personnel who noted water squirting over the fence that surrounds the treatment system (as discussed in more detail in Section 4.0). A valve near the top of the manifold had split, resulting in the leakage that was reported to the RWQCB verbally on March 9 and via a letter on March 16. The leak occurred for approximately 10 minutes. The untreated groundwater that was released is estimated to be a volume of approximately 100 to 125 gallons. Although untreated groundwater was released to the parking lot, based on visual observations of the water stains on the pavement the water did not reach the storm drain. On March 11, the manifold was removed for off-site repair and a temporary manifold was installed by the carbon vendor. A carbon change-out was also completed on March 11. The system was off for approximately 51 hours due to the March 9 leak;
- On March 27, the pump in well EW-1 was removed and cleaned, as the well had not been pumping. The pump was caked with black material, presumably caused by iron bacteria. After cleaning, the pump was placed back in well EW-1 and noted to be pumping at the expected rate of approximately 1 gpm;
- On April 23, the temporary carbon vessel manifold was removed and the repaired manifold was installed. The system was shut down for approximately 1.5 hours;
- On June 9, a carbon change-out was completed and hose fittings were replaced. The system was shut down for approximately 6 hours;
- On September 11, a carbon change-out was completed and several of the heavy-duty hoses were replaced with lighter hoses to minimize stress on the manifold piping. The system was shut down for approximately 3 hours;
- On September 17, an electrician serviced well EW-2 as it was not pumping at the flow rate desired (the pump was periodically shutting off). Replacement of the remaining heavy-duty hoses was also completed. Well EW-2 was sounded and it was reported that the well needed to be redeveloped as the depth to the bottom was only 25 feet bgs and the well is approximately 35 feet deep;

- On October 1, 2015 the pump in well EW-2 was pulled to allow for well redevelopment; however, once the pump was pulled, the total depth of the well was determined to be 35.38 feet below ground surface (bgs). The pump in well EW-2 was reset at a depth of 30 feet bgs rather than 25 feet bgs;
- On December 8, 2015, an electrician evaluated low flow conditions associated with well EW-2 and reset the pump savers; and
- On December 16, 2015, the cartridge filters were changed due to a high pressure alarm. The system was off for approximately 1 hour.

Based on the above information, the GWET system was shut-down for approximately 138.5 hours. The system was operated for approximately 98.4% of 2015.

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

This section presents the methods and results of the evaluation of hydraulic control and capture of VOCs identified in the A-aquifer beneath the Site. In accordance with the EPA's electronic correspondence dated May 6, 2005, capture was evaluated using the six-step process recommended by EPA in our December 16, 2004 meeting and the February 3, 2005 EPA Training Course entitled *Capture Zone Analyses for Pump-and-Treat Systems*. In January 2008, EPA published a document entitled "*A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems (EPA/600/R-098/003)*", which is also based on the six-step process.

#### **2.3.1 Methodology**

The groundwater capture zone (shown on Plates 5 and 6) for the GWET system were manually prepared using flownet construction techniques based on potentiometric surface maps prepared from groundwater elevation measurements collected from the Site on March 19 and September 17, 2015. The capture zone maps were developed through a combination of: (1) qualitative analysis of the groundwater elevation contour maps using available Site information (i.e., groundwater elevation/location data, pumping well locations, and Site-specific hydrogeologic data); (2) application of groundwater flow concepts (i.e., continuity of flow and well hydraulics); and (3) performing flow budget and capture zone width calculations. Capture for the Site was then further evaluated using the six-step process recommended by EPA, as summarized in the following section.

#### **2.3.2 Estimated Capture Zone for 2015**

##### **Step 1 – Review Site Data, Site Conceptual Model, and Remedy Goals**

Hydrogeologic characterization activities performed at the Site have included: (1) the advancement and lithologic logging of at least 30 boreholes ranging in depth from approximately 20 to 67 feet bgs; (2) the installation of 15 groundwater monitoring

wells and 4 groundwater extraction wells; (3) collection and laboratory analysis of at least 120 soil samples; (4) the collection and laboratory analysis of groundwater samples from at least 18 locations; and (5) the performance of variable rate and step discharge testing of 4 groundwater wells located at the Site. These activities exclude regional work (deeper investigations and deeper wells). These activities have adequately characterized the horizontal and vertical extent of VOCs in soil and groundwater at the Site and identified potential on-Site source areas (as described above in Section 1.1). As discussed in Section 1.3, soil remediation was completed in 2001. Groundwater source remediation activities have included operation of an AS/SVE system, a chemical oxidation pilot test, and continued operation of the GWET system. Additionally, these activities have generated a large volume of Site-specific hydrogeologic data to facilitate the evaluation of capture at the Site, including hydraulic conductivity estimates, aquifer thickness data, aquifer geometry information, and horizontal hydraulic gradients (as described in Section 1.2). Further, the hydrogeologic characterization activities have resulted in the development of an extensive network of groundwater monitoring wells that are well distributed across the Site, with which to construct potentiometric surface and capture zone maps.

The 106 Order requires the removal or remediation of sources of chemicals of concern originating from the Site (source control). As discussed in Section 1.1, the sources at the Site consisted of the former waste solvent/neutralization tanks formerly located near the southeastern corner of the 455 EMR building and suspected surface releases located in the vicinity of the southeastern corner of the 455 EMR site and near the southern portion of the 485/487 EMR property.

## Step 2 – Define Site-Specific Target Capture Zones

The EPA-approved final O&M report<sup>7</sup> for the Site states “Capture zone areas will be compared to the groundwater chemical data to assess whether sufficient groundwater capture is occurring”. Thus, the target capture for the Site is that which results in a reduction in groundwater chemical concentrations emanating from the Site. The on-Site area of A-aquifer groundwater impacts originate from the source area (southeast corner of the building at 455 EMR) in the vicinity of wells SO-PZ1 (located approximately 40 feet south of the southeast corner of the building at 455 EMR) and well SO-PZ2 (located approximately 30 feet east of the southeast corner of the building at 455 EMR and approximately 60 feet southwest of the southwest corner of the building at 485/487 EMR). Since 1995, the highest A-aquifer groundwater concentrations have historically been identified in wells SO-PZ1 and SO-PZ2. Treatment system influent concentrations began increasing in September 2013; however, TCE concentrations in wells SO-PZ1 and SO-PZ2 have declined, albeit cis-1,2-DCE concentrations (a degradation product of TCE) have generally increased. Maintaining hydraulic control of the groundwater originating from this area should result in a reduction in groundwater chemical concentrations at the Site, which has been noted to date. Continued operation of the GWET system is not expected to greatly reduce on-Site groundwater concentrations and many more years (or decades) of operation is required to meet the clean-up goals. As discussed in a

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<sup>7</sup> SECOR, 1998. *Final Report, Operation and Maintenance Plan for 455, 485/487, and 501/505 East Middlefield Road, Mountain View, California*. February 20.

prior document, a slow dissolution process (matrix diffusion), associated with absorbed TCE contained predominantly within the finer-grained materials, may be continually leaching TCE from fine-grained aquifer soils into the surrounding aquifer<sup>8</sup>.

### Step 3 – Interpret Water Levels

An accurate interpretation of capture zones relies on an accurate interpretation of the potentiometric surface. The potentiometric surface maps for the March 2015 and September 2015 groundwater monitoring events were contoured manually using data from the 15 A-aquifer groundwater monitoring wells distributed across the Site. Additionally, groundwater level elevations from groundwater extraction wells EW-2 and EW-3 were also considered in preparing the potentiometric surface maps. Based on the results of step-discharge testing, well losses at wells EW-2 and EW-3 were found to be negligible (i.e., less than 0.02 foot for the range of pumping rates associated with these wells)<sup>9</sup>. Because extraction well EW-4 is no longer operating, groundwater levels from well EW-4 were used for preparing the capture zone maps. Groundwater levels measured at well EW-1 were not considered in preparing the potentiometric surface maps, as pronounced drawdown effects in that well are large and well losses appear to be significant.

Table 4 summarizes depth to groundwater and groundwater elevation data at the Site. Plate 7 provides a graphical summary of groundwater elevation data from 1992 through 2015 for wells R-21A, SO-PZ1, SO-1, SO-2, C-3, and R-20A. Between 1992 and 1997, the groundwater elevations rose more than 10 feet. Seasonal variations in groundwater levels at the Site in 2015 do not appear to significantly influence the shape of the potentiometric surface and capture zone maps. The groundwater elevations decreased by an average of 0.03 feet between September 2014 and March 2015. The groundwater elevations decreased by an average of 1.19 feet between March 2015 and September 2015. Overall, the groundwater level decreased by an average of 1.22 feet between September 2014 and September 2015<sup>10</sup>. As shown on Plate 7, the groundwater elevations have decreased by approximately 6 feet since 2011 due to the state-wide drought.

Plates 5 and 6 present the potentiometric surface maps and capture zone maps of the A-aquifer for the two groundwater monitoring events performed in 2015. Consistent with historical data, the groundwater at the Site is flowing to the northeast. The potentiometric surface maps show groundwater on the western portion of the Site flowing to the north, which is consistent with data from previous monitoring events. The groundwater contour data shows that the estimated capture zone overlaps the target capture zone. The capture zone encompasses the former potential source areas (the targeted area).

<sup>8</sup> PES, 2008. *Remedial Optimization Evaluation Report, SMI Holding LLC, 455, 485/487, and 501/505 East Middlefield Road, Mountain View, California.* September 2.

<sup>9</sup> PES, 2005. *2004 Annual Progress Report, SMI Holding Company, LLC, 455, 485/487, and 501/505 East Middlefield Road, Mountain View, California.* June 8.

<sup>10</sup> Note that operating extraction wells (EW-1, EW-2, and EW-3) and B1-aquifer well SO3-B1 were not used in this analysis of average water level changes. For 2015, groundwater level measurements from wells R-20, R-21A, R-51A, and ME-1A are not included in this average, as the wells were not sounded by Raytheon.

#### Step 4 – Perform Appropriate Calculations

To facilitate the preparation of the capture zone maps, capture zone width and stagnation point calculations were performed to serve as additional lines of evidence for assessing the extent of capture. Results of these calculations contributed to interpreting the extent of capture in areas that could not be precisely defined based on the potentiometric surface map alone. The capture zone width and stagnation point calculations are provided in Table 5, along with a description of the assumptions considered in the calculations.

Flow budget calculations were also performed, which calculate the estimated rate of groundwater extraction required for capture based on groundwater flow through the extent of the plume. These calculations are also provided in Table 5 and indicate that the estimated groundwater extraction rate for capture ranges from approximately 4.4 to 14.3 gpm (based on estimates of transmissivity ranging from 700 to 2,300 ft<sup>2</sup>/day, as identified in Section 1.2). The cumulative extraction rates for the three extraction wells operating at the Site averaged 14.4 gpm during 2015, just above the high (conservative) end of the range of estimated groundwater extraction rates required for capture.

#### Step 5 – Evaluate Concentration Trends at Monitoring Wells

Chemical concentration trends observed in monitoring wells at the Site have also previously been evaluated to provide an additional line of evidence for capture. However, with US EPA approval, groundwater sampling was not completed in 2015. Plate 8 presents graphs showing chemical concentration trends over time for each monitoring well located at the Site, including wells located within the target capture zone and wells located outside and downgradient of the target capture zone through 2014. As indicated on Plate 8, concentration trends have shown a significant decline in nearly all of the monitoring wells following start-up of the GWET system in 1997. VOC concentration trends observed at downgradient off-Site monitoring wells R-15A and IM-7A (located directly north and northwest of the Site, respectively) exhibited appreciable declining trends between 1992 and 2002, with relatively stable concentrations thereafter. The 2014 TCE concentrations identified in wells R-15A and IM-7A were 47 µg/L and 4.6 µg/L, respectively. VOC concentration trends observed in downgradient monitoring well ME-1A (located northeast of the Site) have also shown a more recent declining trend, with TCE concentrations below 100 µg/L since 2005 (the 2014 TCE concentration was 70 µg/L).

#### Step 6 – Interpret Actual Capture Based on Steps 1 through 5, Compare to Target Capture Zone, and Assess Uncertainties and Data Gaps

Capture at the Site was assessed by evaluating the multiple lines of evidence described in Steps 1 through 5 above. The following lines of evidence indicate that the GWET system is effectively providing hydraulic capture at the Site:

- The Site has been adequately characterized through the extensive sampling and monitoring programs performed at the Site. Sufficient groundwater chemistry data has been collected from the Site to characterize the horizontal and vertical distribution of VOCs in groundwater and a large amount of Site-specific hydrogeologic data has been collected to facilitate assessing capture;

- The target capture for the Site has been identified as that which results in a reduction in groundwater chemical concentrations on the Site. Maintaining hydraulic control of the groundwater originating from the source area in the vicinity of wells SO-PZ1 (near the southeast corner of the building at 455 EMR) and well SO-PZ2 (near the southwest corner of the building at 485/487 EMR) should result in a reduction in groundwater chemical concentrations at the Site, which has been noted to date;
- Potentiometric surface and capture zone maps prepared for the Site have been developed based on an extensive network of groundwater monitoring wells and capture zone width calculations. These maps indicate that the estimated capture zone overlaps the target capture zone (i.e., the source area);
- Flow budget calculations performed for the Site indicate that the 2015 average GWET system extraction rate of approximately 14.4 gpm is sufficient for providing capture; and
- VOC concentration trends could not be evaluated in 2015, as groundwater sampling was not completed during 2015. However, prior results show a significant decline in nearly all of the monitoring wells following start-up of the GWET system in 1997 and appreciable declining concentration trends observed at off-Site downgradient monitoring wells R-15A and IM-7A between 1992 and 2002, with relatively stable concentrations thereafter.

Uncertainties and data gaps associated with the above-described evaluation of capture include: (1) the effect of VOCs migrating onto the Site in the A-aquifer from an unknown upgradient source has not been completely characterized; (2) well pairs are not available at the Site to demonstrate that inward hydraulic gradients exist at the downgradient margin of the target capture zone; and (3) reliable groundwater level data in the immediate vicinity of extraction well EW-1 is not available due to pronounced drawdown effects (i.e., significant well losses) associated with that well and the lack of an adjacent groundwater piezometer.

Based on the multiple lines of evidence described above, which indicate that the GWET system is providing adequate capture, the first two uncertainties and data gaps are not deemed as critical data requirements for evaluating capture at the Site. Further, with regards to the uncertainty associated with the effect of VOCs migrating onto the Site, the final O&M report for the Site stated that the groundwater extraction wells would be shut down if the downgradient VOC groundwater concentrations are statistically the same as the VOC groundwater concentrations of upgradient sources migrating onto the Site.

With regards to the uncertainty related to reliable groundwater levels in the immediate vicinity of extraction well EW-1, because this well is not critical in controlling the source area (i.e., VOC groundwater concentrations in well EW-1 are relatively low and pumping rates from well EW-1 are relatively low) and all lines of evidence show that adequate capture is being maintained, no action is recommended at this time.

### 2.3.3 Horizontal and Vertical Gradients

The horizontal hydraulic gradient calculated for the A-aquifer at the Site was approximately 0.001 feet/foot in March 2015 (calculated between wells R-21A and R-15A) and approximately 0.001 feet/foot in September 2015 (calculated between wells SO-PZ2 and R-15A, as well R-21A was not sounded by Raytheon). These measurements are consistent with historical data collected from the Site.

The vertical hydraulic gradient, which is based on data from a single B-aquifer zone well (SO3-B1) indicates that an upward hydraulic gradient has persisted between the A- and B-aquifer zones throughout 2015.

### 2.4 Groundwater Monitoring and Analytical Results

With US EPA approval, groundwater monitoring for VOCs was not completed during 2015. The Site groundwater quality sampling schedule was included in the final O&M report and is summarized on Table 6. Table 7 summarizes the historical monitoring and extraction well groundwater VOC concentrations through 2014.

TCE and its degradation product cis-1,2-DCE are the chemicals detected in groundwater at the highest frequency and concentrations beneath the Site. Graphical depictions of the TCE and cis-1,2-DCE (when present) groundwater concentration trends with time (since 1992) through 2014 are shown on Plate 8.

Plate 9 presents TCE and cis-1,2-DCE groundwater concentrations in November 2014.

### 3.0 OTHER SITE ACTIVITIES (INCLUDING VAPOR INTRUSION)

In 2010, EPA issued requirements to address vapor intrusion<sup>11</sup>. The requirements include assignment of a Response Action Tier to assess the required response action. The buildings must be sampled with the heating, ventilation and air conditioning (HVAC) system off, to show that the HVAC system is not being relied on to control vapor intrusion, and allow the building to be tiered as 3A or 3B.

A site-specific work plan for indoor air sampling was submitted to EPA in September 2014. EPA approved the plan on November 25, 2014. In 2015, an access agreement for the indoor air sampling was obtained. The indoor air sampling was completed on the weekends of March 6 to 8 and March 14 to 15, 2015 as documented in PES' May 8, 2015 report.<sup>12</sup> Based on telephone discussions with Ms. Alana Lee of EPA, it is understood that both buildings would

<sup>11</sup> EPA, 2010. *Record of Decision Amendment for the Vapor Intrusion Pathway, Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California*. August 16.

<sup>12</sup> PES, 2015. *Indoor Air Sampling Report, SMI Holding LLC, 455 and 485/487 East Middlefield Road, Mountain View, California*. May 8.

be categorized as Response Action Tier 3A (building with indoor air concentrations below indoor air cleanup levels, but greater than outdoor air concentrations).<sup>13</sup>

#### **4.0 PROBLEMS ENCOUNTERED**

Problems encountered during calendar year 2015 included: a treatment system leak that occurred on March 9, 2015 and resulted in the release of untreated groundwater was reported in a letter to Ms. Lou Gonzales of the California Regional Water Quality Control Board (RWQCB)<sup>14</sup>. The leak occurred due to a split in a Schedule 80 PVC valve located on top of the pipe manifold used to divert untreated groundwater to the two granular activated carbon vessels. The system was shut-off using the emergency shut-off button on the exterior of the treatment compound within approximately 10 minutes of its occurrence. The untreated groundwater that was released is estimated to be an approximate volume of approximately 100 to 125 gallons. Although untreated groundwater was released to the parking lot, based on visual observations of the water stains on the pavement the water did not reach the storm drain. The heavy-duty hoses associated with the carbon manifold were subsequently replaced with lighter hoses to minimize stress on the manifold piping.

No other problems were encountered during calendar year 2015.

#### **5.0 TECHNICAL ASSESSMENT AND REMEDIATION ENHANCEMENT PLAN**

##### **5.1 Technical Assessment**

The remedy is functioning as intended and VOC concentrations in former potential source areas have decreased with time but achievement of the cleanup goal (i.e., maximum contaminant levels) is not expected to occur with this remedy.

##### **5.2 Remedial Enhancement**

Pilot testing of an alternative treatment technology [in-situ bioremediation or enhanced reductive dechlorination (ERD)] had been recommended previously<sup>15</sup>, but an access agreement to allow such was never obtained.

As advised in PES's letter dated November 19, 2013<sup>16</sup>, in-situ microcosm testing was conducted. The testing occurred between December 16, 2013 and April 14, 2014 in wells C-3 and R-20A to evaluate ERD methods that could potentially increase the degradation rate and/or limit vinyl chloride formation. Two methods were tested: (1) bio-augmentation completed

<sup>13</sup> PES, 2015. *Telephone conversation between Susan Gahry of PES and Alana Lee of EPA*. May 28.

<sup>14</sup> PES, 2015. *Treatment System Leak Report, Release of Untreated Water - Permit Violation, NPDES Permit No. CAG 912002, 487 East Middlefield Road, Mountain View, California*. March 12.

<sup>15</sup> PES, 2004. *Work Plan for Enhanced Reductive Dechlorination Implementation, former Siemens/Sobrato Properties, 455, 485/487, and 501/505 East Middlefield Road, Mountain View, California*. March 2.

<sup>16</sup> PES, 2013. *SMI Holding LLC, In-Situ Microcosm Study, 455 and 487 E. Middlefield Road, Middlefield-Ellis-Whisman Superfund Study Area, Mountain View, California*. November 19.

simultaneously with substrate (or electron donor) injection, and (2) bio-augmentation completed simultaneously with substrate (or electron donor) injection and ferrous iron. The in-situ microcosm study was completed using Bio-Trap devices provided by Microbial Insights, Inc. (MII) of Pittsburg, Pennsylvania.

The results of the in-situ microcosm testing indicated more degradation in the Bio-Trap from well C-3 (which had been bio-augmented and baited with an electron donor substrate and flow-able ferrous iron) versus the Bio-Trap from well R-20 (which had been bio-augmented and baited only with an electron donor)<sup>17</sup>.

Due to property owner concerns, on June 6, 2014, SMI formerly requested a six-month extension on EPA's request to submit a work plan by August 15, 2014 to implement an alternative technology at the site. On June 17, 2014, representatives of SMI (Susan R. O' Connor) and PES (Susan Gahry) met with the property owner (Symantec) in order to try to obtain a better understanding of their concerns with respect to alternative technology testing. During the meeting with the property owner, PES suggested the use of an alternate technology, in-situ abiotic degradation using only ferrous or zero valent iron, in order to minimize the potential for formation of chlorinated solvent degradation product gases (i.e., methane) and/or vinyl chloride.

Symantec advised that they were a member of the Mountain View Commercial Owners (MCO) group and they would likely be submitting a letter to EPA expressing their concerns with alternative technology testing. On June 25, 2014, the MCO submitted a letter to EPA discussing their concerns with alternative groundwater remedies<sup>18</sup>. As a response was not received from EPA, the MCO submitted another letter to EPA's Region IX director on March 4, 2015<sup>19</sup>. PES understands that EPA has been meeting with the MCO to try to resolve their concerns.

In the interim, SMI plans to submit a formal access request letter to the property owner.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

This report presented information related to the performance of remedial actions at the Site during 2015. The remedy is functioning as intended. However, many more years (or decades) of operation will likely be required, and the ability to meet the clean-up goals with the existing technology is unlikely. Pilot testing of an alternative treatment technology has been recommended, but has been hampered by the need to work on private property. Use of an alternative treatment technology, followed by a monitored natural attenuation period, is recommended.

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<sup>17</sup> PES, 2014. *SMI Holding LLC, Results of In-Situ Microcosm Study, 455 and 487 E. Middlefield Road, Middlefield-Ellis-Whisman Superfund Study Area, Mountain View, California.* July 7.

<sup>18</sup> Arnold & Porter, LLP, 2014. *EPA Informal Procedures or Stakeholder Participation in New Groundwater Remedies: Comments of Mountain View Commercial Owners.* June 25.

<sup>19</sup> Arnold & Porter, LLP, 2015. *Concerns About New Groundwater Remedies and EPA Delays at Redevelopment Projects at the MEW Superfund Site.* March 4.

## 7.0 FOLLOW-UP ACTIONS

As previously stated, SMI plans to submit a formal access request letter to the property owner to allow for pilot testing of an alternative cleanup technology. SMI will keep EPA updated on the status of this access request.

## 8.0 WORK PLANNED FOR THE NEXT REPORTING PERIOD

The work planned for the next reporting period includes the following:

- Coordinate/participate with other respondents regarding meetings and other regional data collection activities;
- Participate in All-Parties Meetings and/or conference calls, as requested by EPA;
- Continue operation and maintenance of the GWET system in accordance with the O&M Plan, until an alternative technology is implemented at the Site;
- Continue NPDES sampling and reporting of the GWET system at the Site, as necessary;
- Submit documents as required by vapor intrusion ROD amendment<sup>11</sup> and/or as required by EPA;
- Submit a letter to the property owner to formalize SMI's request to the property owner to pilot test an alternative technology;
- Participate in meeting(s) with EPA and property owner for alternative treatment technologies; and
- Complete an annual groundwater monitoring event in fall 2016.

## 9.0 REFERENCES

Arnold & Porter, LLP, 2014. *EPA Informal Procedures or Stakeholder Participation in New Groundwater Remedies: Comments of Mountain View Commercial Owners*. June 25.

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**TABLES**

**Table 1A**  
**Summary of Laboratory Analytical Results - First Quarter 2015**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

SAMPLE IDENTIFICATION		Laboratory Reporting Limits and Method Detection Limits		I-1		M-1		E-1		I-1		M-1		E-1		I-1		M-1		E-1		NPDES DISCHARGE LIMITS		
SAMPLE LOCATIONS				System Influent		Between Carbon Vessels		System Effluent		System Influent		Between Carbon Vessels		System Effluent		System Influent		Between Carbon Vessels		System Effluent				
ANALYTICAL METHOD				8260B		8260B		8260B		8260B		8260B		8260B		8260B		8260B		8260B				
LABORATORY				TAL		TAL		TAL		TAL		TAL		TAL		TAL		TAL		TAL				
DATE SAMPLED				2/2/15		2/2/15		2/2/15		2/20/15		2/20/15		2/20/15		2/20/15		3/19/15		3/19/15			3/19/15	
DATE ANALYZED				2/3/15		2/3/15		2/3/15		2/23/15		2/23/15		2/23/15		2/24/15		3/25/15		3/25/15			3/25/15	
VOCs listed in Order (µg/L)	RLs	MDLs	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier				
Carbon Tetrachloride	0.50	0.11	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5			
Chloroform	1.0	0.40	<MDL		0.85	DNQ	<MDL		0.70	DNQ	<b>1.4</b>		<MDL		0.44	DNQ	0.55	DNQ	<MDL		5			
1,1-Dichloroethane	0.50	0.11	0.13	DNQ	0.20	DNQ	<MDL		0.15	DNQ	0.29	DNQ	<MDL		<MDL		<MDL		<MDL		5			
1,2-Dichloroethane	0.50	0.077	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5			
1,1-Dichloroethylene	0.50	0.20	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.24	DNQ	<MDL		<MDL		0.11			
Methylene Chloride	5.0	1.5	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		5			
Tetrachloroethylene	0.50	0.20	<MDL		<MDL		<MDL		0.24	DNQ	<MDL		<MDL		0.21	DNQ	<MDL		<MDL		1.6			
cis-1,2-Dichloroethylene	0.50	0.076	<b>15</b>		<b>11</b>		<MDL		<b>13</b>		<b>31</b>		<MDL		<b>50</b>		<b>2.1</b>		<MDL		5			
trans-1,2-Dichloroethylene	0.50	0.13	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.33	DNQ	<MDL		<MDL		5			
1,1,1-Trichloroethane	0.50	0.20	0.28	DNQ	<MDL		<MDL		0.35	DNQ	<MDL		<MDL		0.32	DNQ	<MDL		<MDL		5			
1,1,2-Trichloroethane	0.50	0.11	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		1.2			
Trichloroethylene	0.50	0.20	<b>64</b>		<MDL		<MDL		<b>72</b>		0.47	DNQ	<MDL		<b>86</b>		<MDL		<MDL		5			
Vinyl Chloride	0.50	0.20	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5			
Trichlorofluoroethane	1.0	0.067	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		5			
Benzene	0.50	0.25	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL		1			
Toluene	0.50	0.17	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL		5			
Ethylbenzene	0.50	0.13	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL		5			
Total Xylenes	1.0	0.49	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL		5			
<b>Other VOCs (µg/L)</b>																								
Chloromethane	1.0	0.19	<b>4.3</b>		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		---			
<b>Standard Observations (Note 7):</b>																								
Any odors?					No odors						No odors						No odors				NS			
Weather conditions					Sunny, 60 °F, slight breeze						Sunny, 70 °F, no wind						66 °F, sunny, slight breeze				NS			
Any treatment system issues?					Minor hose leak near manifold repaired						No deposits, discoloration, and/or plugging						No deposits, discoloration, and/or plugging				NS			
Alarms operable (to prevent system overflow or bypass)?					High level, high pressure, and leak detection alarms operable.						High level, high pressure, and leak detection alarms operable.						High level, high pressure, and leak detection alarms operable.				NS			

- Notes:**
- 1) RLs = laboratory reporting limits; MDLs = method detection limits; DNQ = detected but not quantified (less than the RL but greater than or equal to the MDL).
  - 2) Results shown with "DNQ" qualifier are estimated concentrations (greater than MDL). Results in bold are greater than the RL.
  - 3) Volatile organic compounds (VOCs) subject to effluent limitations in NPDES Order No. R2-2014-0012, NPDES permit number CAG912002 (VOC and Fuel General Permit) are listed. All VOC results shown in micrograms per liter (µg/L).
  - 4) NA = not analyzed. NS = not specified.
  - 5) TAL = TestAmerica Laboratories, Inc. of Pleasanton, California.
  - 6) Carbon changed out on March 11, 2015.
  - 7) Standard observations for treatment system.

**Table 1B**  
**Summary of Laboratory Analytical Results - Second Quarter 2015**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

SAMPLE IDENTIFICATION		Laboratory Reporting Limits and Method Detection Limits		I-1		M-1		E-1		I-1		M-1		E-1		I-1		M-1		E-1		NPDES DISCHARGE LIMITS
SAMPLE LOCATIONS				System Influent		Between Carbon Vessels		System Effluent		System Influent		Between Carbon Vessels		System Effluent		System Influent		Between Carbon Vessels		System Effluent		
ANALYTICAL METHOD				8260B		8260B		8260B		8260B		8260B		8260B		8260B		8260B		8260B		
LABORATORY				TAL		TAL		TAL		TAL		TAL		TAL		TAL		TAL		TAL		
DATE SAMPLED				4/23/15		4/23/15		4/23/15		5/27/15		5/27/15		5/27/15		6/30/15		6/30/15		6/30/15		
DATE ANALYZED				4/27/15		4/27/15		4/27/15		5/29/15		5/29/15		5/29/15		7/7/15		7/7/15		7/7/15		
VOCs listed in Order (µg/L)		RLs	MDLs	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	
Carbon Tetrachloride		0.50	0.11	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5
Chloroform		1.0	0.40	0.43	DNQ	0.84	DNQ	<MDL		<MDL		0.66	DNQ	<MDL		<MDL		0.56	DNQ	<MDL		5
1,1-Dichloroethane		0.50	0.11	0.20	DNQ	0.30	DNQ	<MDL		0.16	DNQ	0.22	DNQ	<MDL		<MDL		<MDL		<MDL		5
1,2-Dichloroethane		0.50	0.077	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5
1,1-Dichloroethylene		0.50	0.20	0.33	DNQ	<MDL		<MDL		<MDL		<MDL		<MDL		0.28	DNQ	<MDL		<MDL		0.11
Methylene Chloride		5.0	1.5	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		5
Tetrachloroethylene		0.50	0.20	0.32	DNQ	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		1.6
cis-1,2-Dichloroethylene		0.50	0.076	<b>45</b>		<b>24</b>		<MDL		<b>44</b>		<b>46</b>		<MDL		<b>43</b>		<b>4.3</b>		<MDL		5
trans-1,2-Dichloroethylene		0.50	0.13	0.43	DNQ	0.14	DNQ	<MDL		0.21	DNQ	<MDL		<MDL		0.42	DNQ	<MDL		<MDL		5
1,1,1-Trichloroethane		0.50	0.20	0.36	DNQ	<MDL		<MDL		0.22	DNQ	<MDL		<MDL		0.27	DNQ	<MDL		<MDL		5
1,1,2-Trichloroethane		0.50	0.11	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		1.2
Trichloroethylene		0.50	0.20	<b>95</b>		0.23	DNQ	<MDL		<b>88</b>		<b>0.87</b>		<MDL		<b>84</b>		<MDL		<MDL		5
Vinyl Chloride		0.50	0.20	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5
Trichlorofluoroethane		1.0	0.067	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		5
Benzene		0.50	0.25	NA		NA		<MDL		NA		NA		<MDL		<MDL		NA		<MDL		1
Toluene		0.50	0.17	NA		NA		<MDL		NA		NA		<MDL		<MDL		NA		<MDL		5
Ethylbenzene		0.50	0.13	NA		NA		<MDL		NA		NA		<MDL		<MDL		NA		<MDL		5
Total Xylenes		1.0	0.49	NA		NA		<MDL		NA		NA		<MDL		<MDL		NA		<MDL		5
<b>Other VOCs (µg/L)</b>																						
Chloromethane		1.0	0.19	<MDL		0.37	DNQ	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		---
<b>Standard Observations (Note 7):</b>																						
Any odors?				No odors								No odors								NS		
Weather conditions				Sunny, 68° F, wind approximately 5 miles per hour								Sunny, 65° F, wind approximately 2 to 5 miles per hour								NS		
Any treatment system issues?				No deposits, discoloration, and/or plugging								No deposits, discoloration, and/or plugging								NS		
Alarms operable (to prevent system overflow or bypass)?				High level, high pressure, and leak detection alarms operable.								High level, high pressure, and leak detection alarms operable.								NS		

**Notes:**

- 1) RLs = laboratory reporting limits; MDLs = method detection limits; DNQ = detected but not quantified (less than the RL but greater than or equal to the MDL).
- 2) Results shown with "DNQ" qualifier are estimated concentrations (greater than MDL). Results in bold are greater than the RL.
- 3) Volatile organic compounds (VOCs) subject to effluent limitations in NPDES Order No. R2-2014-0012, NPDES permit number CAG912002 (VOC and Fuel General Permit) are listed. All VOC results shown in micrograms per liter (µg/L).
- 4) NA = not analyzed. NS = not specified.
- 5) TAL = TestAmerica Laboratories, Inc. of Pleasanton, California.
- 6) Carbon changed out on June 9, 2015.
- 7) Standard observations for treatment system.

**Table 1C**  
**Summary of Laboratory Analytical Results - Third Quarter 2015**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

SAMPLE IDENTIFICATION		Laboratory Reporting Limits and Method Detection Limits																NPDES DISCHARGE LIMITS			
SAMPLE LOCATIONS	I-1		M-1		E-1		I-1		M-1		E-1		I-1		M-1		E-1				
ANALYTICAL METHOD	System Influent		Between Carbon Vessels		System Effluent		System Influent		Between Carbon Vessels		System Effluent		System Influent		Between Carbon Vessels		System Effluent				
LABORATORY	8260B		8260B		8260B		8260B		8260B		8260B		8260B		8260B		8260B				
DATE SAMPLED	TAL		TAL		TAL		TAL		TAL		TAL		TAL		TAL		TAL				
DATE ANALYZED	7/27/15		7/27/15		7/27/15		8/24/15		8/24/15		8/24/15		9/17/15		9/17/15		9/17/15				
DATE ANALYZED	7/30/15		7/30/15		7/30/15		8/29/15		8/28/15		8/28/15		9/18/15		9/18/15		9/18/15				
VOCs listed in Order (µg/L)	RLs	MDLs	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	
Carbon Tetrachloride	0.50	0.11	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5
Chloroform	1.0	0.40	<MDL		0.71	DNQ	<MDL		<MDL		0.68	DNQ	<MDL		0.40	DNQ	<MDL		<MDL		5
1,1-Dichloroethane	0.50	0.11	0.14	DNQ	0.22	DNQ	<MDL		0.11	DNQ	0.20	DNQ	<MDL		0.20	DNQ	<MDL		<MDL		5
1,2-Dichloroethane	0.50	0.077	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5
1,1-Dichloroethylene	0.50	0.20	0.21	DNQ	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.11
Methylene Chloride	5.0	1.5	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		5
Tetrachloroethylene	0.50	0.20	0.20	DNQ	<MDL		<MDL		0.21	DNQ	<MDL		<MDL		<MDL		<MDL		<MDL		1.6
cis-1,2-Dichloroethylene	0.50	0.076	<b>64</b>		<b>17</b>		<MDL		<b>19</b>		<b>31</b>		<MDL		<b>30</b>		<MDL		<MDL		5
trans-1,2-Dichloroethylene	0.50	0.13	0.28	DNQ	<MDL		<MDL		<MDL		<MDL		<MDL		0.17	DNQ	<MDL		<MDL		5
1,1,1-Trichloroethane	0.50	0.20	0.24	DNQ	<MDL		<MDL		0.24	DNQ	<MDL		<MDL		0.26	DNQ	<MDL		<MDL		5
1,1,2-Trichloroethane	0.50	0.11	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		1.2
Trichloroethylene	0.50	0.20	<b>110</b>		<MDL		<MDL		<b>71</b>		<MDL		<MDL		<b>78</b>		<MDL		<MDL		5
Vinyl Chloride	0.50	0.20	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5
Trichlorofluoroethane	1.0	0.067	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		5
Benzene	0.50	0.25	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL		1
Toluene	0.50	0.17	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL		5
Ethylbenzene	0.50	0.13	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL		5
Total Xylenes	1.0	0.49	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL		5
<b>Other VOCs (µg/L)</b>																					
Chloromethane	1.0	0.19	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		---
<b>Standard Observations (Note 7):</b>																					
Any odors?			No odors.																NS		
Weather conditions			Sunny, 75° F, wind approximately 3 miles per hour (West to East).																NS		
Any treatment system issues?			No deposits, discoloration, and/or plugging.																NS		
Alarms operable (to prevent system overflow or bypass)?			High level, high pressure, and leak detection alarms operable.																NS		

**Notes:**

- 1) RLs = laboratory reporting limits; MDLs = method detection limits; DNQ = detected but not quantified (less than the RL but greater than or equal to the MDL).
- 2) Results shown with "DNQ" qualifier are estimated concentrations (greater than MDL). Results in bold are greater than the RL.
- 3) Volatile organic compounds (VOCs) subject to effluent limitations in NPDES Order No. R2-2014-0012, NPDES permit number CAG912002 (VOC and Fuel General Permit) are listed. All VOC results shown in micrograms per liter (µg/L).
- 4) NA = not analyzed. NS = not specified.
- 5) TAL = TestAmerica Laboratories, Inc. of Pleasanton, California.
- 6) Carbon changed out on September 11, 2015.
- 7) Standard observations for treatment system.

**Table 1D**  
**Summary of Laboratory Analytical Results - Fourth Quarter 2015**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

SAMPLE IDENTIFICATION		Laboratory Reporting Limits and Method Detection Limits		I-1	M-1	E-1	I-1	M-1	E-1	I-1	M-1	E-1	I-1	M-1	E-1	NPDES DISCHARGE LIMITS					
SAMPLE LOCATIONS				System Influent	Between Carbon Vessels	System Effluent	System Influent	Between Carbon Vessels	System Effluent	System Influent	Between Carbon Vessels	System Effluent	System Influent	Between Carbon Vessels	System Effluent						
ANALYTICAL METHOD				8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8260B						
LABORATORY				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL						
DATE SAMPLED				10/30/15	10/30/15	10/30/15	11/25/15	11/25/15	11/25/15	12/16/15	12/16/15	12/16/15	12/16/15	12/16/15	12/16/15						
DATE ANALYZED				11/6/15	11/6/15	11/6/15	11/30/15	11/30/15	11/30/15	12/16/15	12/16/15	12/16/15	12/16/15	12/16/15	12/16/15						
VOCs listed in Order (µg/L)	RLs	MDLs	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier					
Carbon Tetrachloride	0.50	0.11	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.5				
Chloroform	1.0	0.40	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		0.70	DNQ	<MDL	5			
1,1-Dichloroethane	0.50	0.11	0.24	DNQ	<MDL		<MDL		0.24	DNQ	0.25	DNQ	<MDL		0.19	DNQ	0.42	DNQ	<MDL	5	
1,2-Dichloroethane	0.50	0.077	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL	0.5	
1,1-Dichloroethylene	0.50	0.20	0.24	DNQ	<MDL		<MDL		0.22	DNQ	<MDL		<MDL		<MDL		<MDL		<MDL	0.11	
Methylene Chloride	5.0	1.5	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL	5	
Tetrachloroethylene	0.50	0.20	0.21	DNQ	<MDL		<MDL		<MDL		<MDL		<MDL		0.20	DNQ	<MDL		<MDL	1.6	
cis-1,2-Dichloroethylene	0.50	0.076	<b>71</b>		0.41	DNQ	<MDL		<b>71</b>		<b>1.6</b>		<MDL		<b>35</b>		<b>8.8</b>		<MDL	5	
trans-1,2-Dichloroethylene	0.50	0.13	<b>0.50</b>		<MDL		<MDL		0.46	DNQ	<MDL		<MDL		0.45	DNQ	<MDL		<MDL	5	
1,1,1-Trichloroethane	0.50	0.20	0.22	DNQ	<MDL		<MDL		0.22	DNQ	<MDL		<MDL		0.22	DNQ	<MDL		<MDL	5	
1,1,2-Trichloroethane	0.50	0.11	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL	1.2	
Trichloroethylene	0.50	0.20	<b>82</b>		<MDL		<MDL		<b>96</b>		<MDL		<MDL		<b>79</b>		<MDL		<MDL	5	
Vinyl Chloride	0.50	0.20	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL	0.5	
Trichlorofluoroethane	1.0	0.067	<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL		<MDL	5	
Benzene	0.50	0.25	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL	1	
Toluene	0.50	0.17	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL	5	
Ethylbenzene	0.50	0.13	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL	5	
Total Xylenes	1.0	0.49	NA		NA		<MDL		NA		NA		<MDL		NA		NA		<MDL	5	
<b>Other:</b>																					
pH	0.1	NS	NA		NA		NA		NA		NA		NA		<b>7.22</b>		NA		<b>7.09</b>	6.5 < pH < 8.5	
Temperature, degrees Fahrenheit	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		<b>55</b>	NS	
96-hour bioassay survival, %	NS	NS	NA		NA		NA		NA		NA		NA		NA		NA		<b>100<sup>a</sup></b>	90	
Electrical Conductivity, umhos/cm	10.0	10.0	NA		NA		NA		NA		NA		NA		NA		NA		<b>990<sup>e</sup></b>	NS	
Turbidity, NTUs	NA	0.10	NA		NA		NA		NA		NA		NA		NA		NA		ND<0.10	NS	
<b>Metals (7)</b>																				Trigger Level, µg/L	
Antimony	3.0	1.3	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>b</sup>	6	
Arsenic	1.0	0.19	NA		NA		NA		NA		NA		NA		NA		NA		0.41 <sup>b</sup>	DNQ	10
Beryllium	1.0	0.24	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>b</sup>	4	
Cadmium	0.50	0.16	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>b</sup>	1.1	
Chromium	5	0.50	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>b</sup>	11	
Copper	2.0	0.29	NA		NA		NA		NA		NA		NA		NA		NA		0.58 <sup>b</sup>	DNQ B	4.7
Lead	0.50	0.16	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>b</sup>	3.2	
Mercury	0.0005	0.00016	NA		NA		NA		NA		NA		NA		NA		NA		0.00037 <sup>b</sup>	DNQ	0.025
Nickel	2.1	0.48	NA		NA		NA		NA		NA		NA		NA		NA		<b>2.1<sup>b</sup></b>	19	
Selenium	2.5	0.86	NA		NA		NA		NA		NA		NA		NA		NA		1.3 <sup>b</sup>	DNQ	5
Silver	0.50	0.090	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>b</sup>	2.2	
Thallium	0.10	0.050	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>e</sup>	1.7	
Zinc	1.0	0.70	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>e</sup>	86	
Hexavalent Chromium	0.50	0.10	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>a</sup>	H	11
Cyanide	1	0.70	NA		NA		NA		NA		NA		NA		NA		NA		<MDL <sup>d</sup>	2.9	
<b>Standard Observations (Note 6):</b>			No odors						No odors						No odors						
Any odors?			Partly cloudy, 70° F, slight breeze (west to east)						Sunny, 50° F, approximate 5 mile per hour wind (west to east)						Sunny, 50° F, no wind						NS
Weather conditions			No deposits, discoloration, and/or plugging						No deposits, discoloration, and/or plugging						No deposits, discoloration, and/or plugging						NS
Any treatment system issues?			High level, high pressure, and leak detection alarms operable.						High level, high pressure, and leak detection alarms operable.						High level, high pressure, and leak detection alarms operable.						NS
Alarms operable (to prevent system overflow or bypass)?																					NS

**Notes:**

- 1) RLs = laboratory reporting limits; MDLs = method detection limits; DNQ = detected but not quantified (less than the RL but greater than or equal to the MDL); B = compound was found in blank and sample; H = sample was prepped or analyzed beyond the specified holding time (because the analyst arrived to the laboratory late).
- 2) Results shown with "DNQ" qualifier are estimated concentrations (greater than MDL). Results in bold are greater than the RL.
- 3) Volatile organic compounds (VOCs) subject to effluent limitations in previously issued NPDES Order No. R2-2009-0059 dated August 19, 2009 and in existing NPDES Order No. R2-2014-0032 dated August 25, 2014 are listed. All VOC results shown in micrograms per liter (µg/L).
- 4) NA = not analyzed. NS = not specified.
- 5) TAL = TestAmerica Laboratories, Inc. of Pleasanton, California.
- 6) Standard observations for treatment system.
- 7) Silver, arsenic, beryllium, cadmium, chromium, copper, nickel, lead, antimony and selenium analyzed by Method 200.8 (ICP/MS). Cyanide by analytical method SM 4500-CN C/E-99 (low). Mercury by Method 1631E (low level).
- 8) Trigger levels are not discharge levels.
- 9) Date of analysis a)12/17/15, b) 12/21/15, c) 12/23/15, d) 12/29/15, e) 12/30/15

**Table 2**  
**2015 Discharge Flow and Mass Removal Summary**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

Month	Treated Discharge to Storm Drain (gallons)	Total VOCs Removed (pounds) <sup>1</sup>	Total VOCs Removed (kilograms) <sup>3</sup>
JANUARY	638,309	0.42	0.19
FEBRUARY	616,478	0.44	0.20
MARCH	709,997	0.80	0.36
<b>Total Q1 2015</b>	<b>1,964,784</b>	<b>1.7</b>	<b>0.8</b>
APRIL	577,569	0.67	0.30
MAY	854,272	0.94	0.43
JUNE	842,278	0.89	0.40
<b>Total Q2 2015</b>	<b>2,274,119</b>	<b>2.5</b>	<b>1.1</b>
JULY	595,650	0.86	0.39
AUGUST	567,830	0.43	0.20
SEPTEMBER	590,473	0.53	0.24
<b>Total Q3 2015</b>	<b>1,753,953</b>	<b>1.8</b>	<b>0.8</b>
OCTOBER	319,577	0.41	0.19
NOVEMBER	244,930	0.34	0.15
DECEMBER	511,650	0.49	0.22
<b>Total Q4 2015</b>	<b>1,076,157</b>	<b>1.2</b>	<b>0.6</b>
Cumulative 2015	7,069,013	7.2	3.3
<b>Q3 1997 - Q4 2014</b>	<b>129,617,182</b>	<b>83</b>	<b>38</b>
<b>Cumulative to Date</b>	<b>136,686,195</b>	<b>90</b>	<b>41</b>

**Notes:**

- (1) Total VOCs Removed (lbs) = Total Volume Treated (gallons) \* Concentration of VOCs in system influent (micrograms/liter) \* (3.78 liters / gallon) \* (gram/1,000,000 micrograms) \* (lb/454 grams). Influent VOCs is the sum of the VOCs detected above the reporting limit.
- (2) VOCs = volatile organic compounds.
- (3) 1 kilogram = 2.2 pounds.

**Table 3**  
**2015 Individual Average Monthly Extraction Well Flowrate**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

Month	EW-1 Average Flow (gpm)	EW-2 Average Flow (gpm)	EW-3 Average Flow (gpm)	EW-4 Average Flow (gpm)	Monthly Total (gpm)
Jan-15	0.0	8.2	8.6	Off	16.8
Feb-15	0.0	6.8	7.0	Off	13.8
Mar-15	0.0	7.9	8.3	Off	16.3
Apr-15	1.6	8.3	9.1	Off	19.0
May-15	1.4	8.1	9.3	Off	18.9
Jun-15	1.1	8.0	9.4	Off	18.5
Jul-15	1.1	6.1	9.4	Off	16.6
Aug-15	1.1	5.4	8.8	Off	15.3
Sep-15	0.8	2.9	5.3	Off	9.0
Oct-15	1.4	7.6	2.5	Off	11.5
Nov-15	1.1	4.7	1.3	Off	7.1
Dec-15	1.2	4.9	3.0	Off	9.1
<b>Annual Average</b>	<b>0.9</b>	<b>6.6</b>	<b>6.9</b>	<b>Off</b>	<b>14.4</b>

**Notes:**

Calculations based on monthly flow meter readings.  
 New flow meter installed for well EW-2 in May 2014.  
 Pump lowered in well EW-2 on 11/2/2015.  
 gpm = gallons per minute.

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
R-15A	6/25/2002	56.88*	10.31	46.57
R-15A	7/26/2002	56.88*	10.41	46.47
R-15A	8/22/2002	56.88*	10.62	46.26
R-15A	9/13/2002	56.88*	10.69	46.19
R-15A	10/29/2002	56.88*	11.01	45.87
R-15A	11/21/2002	56.88*	11.25	45.63
R-15A	12/18/2002	56.88*	10.63	46.25
R-15A	1/16/2003	56.88*	10.51	46.37
R-15A	2/27/2003	56.88*	10.35	46.53
R-15A	3/26/2003	56.88*	10.34	46.54
R-15A	4/28/2003	56.88*	9.90	46.98
R-15A	5/22/2003	56.88*	9.72	47.16
R-15A	6/19/2003	56.88*	10.55	46.33
R-15A	7/24/2003	56.88*	9.55	47.33
R-15A	8/28/2003	56.88*	9.87	47.01
R-15A	9/24/2003	56.88*	10.12	46.76
R-15A	10/28/2003	56.88*	9.91	46.97
R-15A	11/20/2003	56.88*	10.59	46.29
R-15A	12/22/2003	56.88*	10.62	46.26
R-15A	3/25/2004	56.94****	9.91	47.03
R-15A	5/28/2004	56.94****	9.85	47.09
R-15A	8/26/2004	56.94****	10.09	46.85
R-15A	11/18/2004	56.94****	11.13	45.81
R-15A	3/24/2005	56.94****	11.43	45.51
R-15A	11/17/2005	56.94****	10.48	46.46
R-15A	3/23/2006	56.94****	9.52	47.42
R-15A	11/16/2006	56.94****	9.80	47.14
R-15A	3/22/2007	56.94****	9.94	47.00
R-15A	6/29/2007	56.94****	10.25	46.69
R-15A	11/15/2007	56.94****	11.16	45.78
R-15A	3/27/2008	56.94****	10.91	46.03
R-15A	11/20/2008	56.94****	11.63	45.31
R-15A	3/26/2009	56.94****	11.21	45.73
R-15A	11/19/2009	56.94****	11.82	45.12
R-15A	3/25/2010	56.94****	11.11	45.83
R-15A	11/18/2010	56.94****	11.20	45.74
R-15A	3/24/2011	56.94****	10.02	46.92
R-15A	9/15/2011	56.94****	10.37	46.57
R-15A	3/15/2012	56.94****	10.95	45.99
R-15A	9/20/2012	56.94****	11.41	45.53
R-15A	3/21/2013	56.94****	11.52	45.42
R-15A	9/19/2013	56.94****	11.57	45.37
R-15A	3/20/2014	56.94****	12.71	44.23
R-15A	9/18/2014	56.94****	14.22	42.72
R-15A	3/19/2015	56.94****	14.07	42.87
R-15A	9/17/2015	56.94****	15.33	41.61

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
R-20A	6/25/2002	56.98*	10.27	46.71
R-20A	7/26/2002	56.98*	10.41	46.57
R-20A	8/22/2002	56.98*	10.60	46.38
R-20A	9/13/2002	56.98*	10.71	46.27
R-20A	10/29/2002	56.98*	12.11	44.87
R-20A	11/21/2002	56.98*	12.10	44.88
R-20A	12/18/2002	56.98*	10.65	46.33
R-20A	1/16/2003	56.98*	10.51	46.47
R-20A	2/27/2003	56.98*	10.38	46.60
R-20A	3/26/2003	56.98*	10.29	46.69
R-20A	4/28/2003	56.98*	9.95	47.03
R-20A	5/22/2003	56.98*	9.69	47.29
R-20A	6/19/2003	56.98*	9.47	47.51
R-20A	7/24/2003	56.98*	9.55	47.43
R-20A	8/28/2003	56.98*	9.86	47.12
R-20A	9/24/2003	56.98*	10.12	46.86
R-20A	10/28/2003	56.98*	10.28	46.70
R-20A	11/20/2003	56.98*	10.58	46.40
R-20A	12/22/2003	56.98*	10.62	46.36
R-20A	3/25/2004	57.00****	9.88	47.12
R-20A	5/28/2004	57.00****	9.93	47.07
R-20A	8/26/2004	57.00****	10.51	46.49
R-20A	11/18/2004	57.00****	11.14	45.86
R-20A	3/24/2005	57.00****	11.42	45.58
R-20A	11/17/2005	57.00****	14.47	42.53
R-20A	3/23/2006	57.00****	9.55	47.45
R-20A	11/16/2006	57.00****	9.80	47.20
R-20A	3/22/2007	57.00****	9.94	47.06
R-20A	6/29/2007	57.00****	10.24	46.76
R-20A	11/15/2007	57.00****	11.20	45.80
R-20A	3/27/2008	57.00****	10.95	46.05
R-20A	11/20/2008	57.00****	11.68	45.32
R-20A	3/26/2009	57.00****	11.27	45.73
R-20A	11/19/2009	57.00****	11.90	45.10
R-20A	3/25/2010	57.00****	11.04	45.96
R-20A	11/18/2010	57.00****	11.19	45.81
R-20A	3/24/2011	57.00****	10.06	46.94
R-20A	9/15/2011	57.00****	10.30	46.70
R-20A	3/15/2012	57.00****	10.91	46.09
R-20A	9/20/2012	57.00****	11.37	45.63
R-20A	3/21/2013	57.00****	11.00	46.00
R-20A	9/19/2013	57.00****	11.57	45.43
R-20A	5/2/2014	57.00****	12.94	44.06
R-20A	9/18/2014	57.00****	NM	NM
R-20A	3/19/2015	57.00****	14.12	42.88
R-20A	9/17/2015	57.00****	NM	NM

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
R-21A	6/25/2002	62.96*	15.44	47.52
R-21A	7/26/2002	62.96*	15.61	47.35
R-21A	8/22/2002	62.96*	15.88	47.08
R-21A	9/13/2002	62.96*	15.95	47.01
R-21A	10/29/2002	62.96*	16.42	46.54
R-21A	11/21/2002	62.96*	16.30	46.66
R-21A	12/18/2002	62.96*	16.11	46.85
R-21A	1/16/2003	62.96*	13.34	49.62
R-21A	2/27/2003	62.96*	15.65	47.31
R-21A	3/26/2003	62.96*	15.31	47.65
R-21A	4/28/2003	62.96*	14.98	47.98
R-21A	5/22/2003	62.96*	14.77	48.19
R-21A	6/19/2003	62.96*	14.62	48.34
R-21A	7/24/2003	62.96*	14.65	48.31
R-21A	8/28/2003	62.96*	15.06	47.90
R-21A	9/24/2003	62.96*	15.32	47.64
R-21A	10/28/2003	62.96*	15.20	47.76
R-21A	11/20/2003	62.96*	15.81	47.15
R-21A	12/22/2003	62.96*	15.97	46.99
R-21A	3/25/2004	64.15****	16.20	47.95
R-21A	5/28/2004	64.15****	16.22	47.93
R-21A	8/26/2004	64.15****	16.87	47.28
R-21A	11/18/2004	64.15****	17.64	46.51
R-21A	3/24/2005	64.15****	17.70	46.45
R-21A	11/17/2005	64.15****	16.85	47.30
R-21A	3/23/2006	64.15****	15.82	48.33
R-21A	11/16/2006	64.15****	16.03	48.12
R-21A	3/22/2007	64.15****	16.23	47.92
R-21A	6/29/2007	64.15****	16.58	47.57
R-21A	11/15/2007	64.15****	17.64	46.51
R-21A	3/27/2008	64.15****	17.37	46.78
R-21A	11/20/2008	64.15****	18.17	45.98
R-21A	3/26/2009	64.15****	17.71	46.44
R-21A	11/19/2009	64.15****	18.39	45.76
R-21A	3/25/2010	64.15****	17.54	46.61
R-21A	11/18/2010	64.15****	17.63	46.52
R-21A	3/24/2011	64.15****	16.35	47.80
R-21A	9/15/2011	64.15****	16.67	47.48
R-21A	3/15/2012	64.15****	17.29	46.86
R-21A	9/20/2012	64.15****	17.90	46.25
R-21A	3/21/2013	64.15****	17.45	46.70
R-21A	9/19/2013	64.15****	18.09	46.06
R-21A	3/20/2014	64.15****	19.29	44.86
R-21A	9/18/2014	64.15****	20.73	43.42
R-21A	3/19/2015	64.15****	20.74	43.41
R-21A	9/17/2015	64.15****	NM	NM

**Table 4**  
**Groundwater Elevations**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
R-48A	6/25/2002	66.70***	19.70	47.00
R-48A	7/26/2002	66.70***	19.27	47.43
R-48A	8/22/2002	66.70***	19.49	47.21
R-48A	9/13/2002	66.70***	19.56	47.14
R-48A	10/29/2002	66.70***	19.95	46.75
R-48A	11/21/2002	66.70***	20.11	46.59
R-48A	12/18/2002	66.70***	19.78	46.92
R-48A	1/16/2003	66.70***	19.42	47.28
R-48A	2/27/2003	66.70***	19.47	47.23
R-48A	3/26/2003	66.70***	19.13	47.57
R-48A	4/28/2003	66.70***	18.72	47.98
R-48A	5/22/2003	66.70***	18.48	48.22
R-48A	6/19/2003	66.70***	18.21	48.49
R-48A	7/24/2003	66.70***	18.32	48.38
R-48A	8/28/2003	66.70***	18.67	48.03
R-48A	9/24/2003	66.70***	18.99	47.71
R-48A	10/28/2003	66.70***	19.25	47.45
R-48A	11/20/2003	66.70***	19.43	47.27
R-48A	12/22/2003	66.70***	19.63	47.07
R-48A	3/25/2004	66.86****	18.61	48.25
R-48A	5/28/2004	66.86****	18.92	47.94
R-48A	8/26/2004	66.86****	19.28	47.58
R-48A	11/18/2004	66.86****	20.00	46.86
R-48A	3/24/2005	66.86****	20.16	46.70
R-48A	11/17/2005	66.86****	19.22	47.64
R-48A	3/23/2006	66.86****	18.21	48.65
R-48A	11/16/2006	66.86****	18.37	48.49
R-48A	3/22/2007	66.86****	18.61	48.25
R-48A	6/29/2007	66.86****	18.95	47.91
R-48A	11/15/2007	66.86****	20.04	46.82
R-48A	3/27/2008	66.86****	19.81	47.05
R-48A	11/20/2008	66.86****	20.58	46.28
R-48A	3/26/2009	66.86****	20.14	46.72
R-48A	11/19/2009	66.86****	20.79	46.07
R-48A	3/25/2010	66.86****	19.96	46.90
R-48A	11/18/2010	66.86****	20.03	46.83
R-48A	3/24/2011	66.86****	18.92	47.94
R-48A	9/15/2011	66.86****	19.05	47.81
R-48A	3/15/2012	66.86****	19.74	47.12
R-48A	9/20/2012	66.86****	20.25	46.61
R-48A	3/21/2013	66.86****	19.87	46.99
R-48A	9/19/2013	66.86****	20.43	46.43
R-48A	3/20/2014	66.86****	21.73	45.13
R-48A	9/18/2014	66.86****	22.98	43.88
R-48A	3/19/2015	66.86****	23.04	43.82
R-48A	9/17/2015	66.86****	24.37	42.49

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
R-51A	6/25/2002	59.82*	13.08	46.74
R-51A	7/26/2002	59.82*	13.22	46.60
R-51A	8/22/2002	59.82*	13.47	46.35
R-51A	9/13/2002	59.82*	13.55	46.27
R-51A	10/29/2002	59.82*	13.95	45.87
R-51A	11/21/2002	59.82*	14.00	45.82
R-51A	12/18/2002	59.82*	13.51	46.31
R-51A	1/16/2003	59.82*	15.77	44.05
R-51A	2/27/2003	59.82*	13.22	46.60
R-51A	3/26/2003	59.82*	13.14	46.68
R-51A	4/28/2003	59.82*	12.72	47.10
R-51A	5/22/2003	59.82*	12.47	47.35
R-51A	6/19/2003	59.82*	12.15	47.67
R-51A	7/24/2003	59.82*	12.37	47.45
R-51A	8/28/2003	59.82*	12.65	47.17
R-51A	9/24/2003	59.82*	12.96	46.86
R-51A	10/28/2003	59.82*	13.12	46.70
R-51A	11/25/2003	59.82*	13.45	46.37
R-51A	12/22/2003	59.82*	13.51	46.31
R-51A	3/25/2004	60.00****	12.71	47.29
R-51A	5/28/2004	60.00****	12.76	47.24
R-51A	8/26/2004	60.00****	13.29	46.71
R-51A	11/18/2004	60.00****	14.01	45.99
R-51A	3/24/2005	60.00****	14.26	45.74
R-51A	11/17/2005	60.00****	13.30	46.70
R-51A	3/23/2006	60.00****	12.33	47.67
R-51A	11/16/2006	60.00****	12.59	47.41
R-51A	3/22/2007	60.00****	12.76	47.24
R-51A	6/29/2007	60.00****	13.01	46.99
R-51A	11/15/2007	60.00****	14.01	45.99
R-51A	3/27/3008	60.00****	13.77	46.23
R-51A	11/20/2008	60.00****	14.52	45.48
R-51A	3/26/2009	60.00****	14.19	45.81
R-51A	11/19/2009	60.00****	14.73	45.27
R-51A	3/25/2010	60.00****	13.56	46.44
R-51A	11/18/2010	60.00****	14.05	45.95
R-51A	3/24/2011	60.00****	12.78	47.22
R-51A	9/15/2011	60.00****	13.16	46.84
R-51A	3/15/2012	60.00****	13.80	46.20
R-51A	9/20/2012	60.00****	14.28	45.72
R-51A	3/21/2013	60.00****	13.85	46.15
R-51A	9/19/2013	60.00****	14.44	45.56
R-51A	3/20/2014	60.00****	15.63	44.37
R-51A	9/18/2014	60.00****	16.92	43.08
R-51A	3/19/2015	60.00****	16.98	43.02
R-51A	9/17/2015	60.00****	NM	NM

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
IM-7A	6/25/2002	58.52*	NM	NM
IM-7A	7/26/2002	58.52*	NM	NM
IM-7A	8/22/2002	58.52*	12.21	46.31
IM-7A	9/13/2002	58.52*	12.29	46.23
IM-7A	10/29/2002	58.52*	12.64	45.88
IM-7A	11/21/2002	58.52*	12.75	45.77
IM-7A	12/18/2002	58.52*	12.19	46.33
IM-7A	1/16/2003	58.52*	12.10	46.42
IM-7A	2/27/2003	58.52*	11.93	46.59
IM-7A	3/26/2003	58.52*	11.82	46.70
IM-7A	4/28/2003	58.52*	11.40	47.12
IM-7A	5/22/2003	58.52*	11.29	47.23
IM-7A	6/19/2003	58.52*	11.00	47.52
IM-7A	7/24/2003	58.52*	11.10	47.42
IM-7A	8/28/2003	58.52*	11.42	47.10
IM-7A	9/24/2003	58.52*	11.71	46.81
IM-7A	10/28/2003	58.52*	11.69	46.83
IM-7A	11/20/2003	58.52*	12.17	46.35
IM-7A	12/22/2003	58.52*	12.21	46.31
IM-7A	3/25/2004	58.52*	12.52	46.00
IM-7A	5/28/2004	58.52*	11.51	47.01
IM-7A	8/26/2004	58.52*	NM	NA
IM-7A	11/18/2004	58.52*	12.75	45.77
IM-7A	3/24/2005	58.52*	15.62	42.90
IM-7A	8/25/2005	58.52*	11.45	47.07
IM-7A	11/17/2005	58.52*	12.01	46.51
IM-7A	3/23/2006	58.52*	11.09	47.43
IM-7A	11/16/2006	58.52*	11.52	47.00
IM-7A	3/22/2007	58.52*	11.52	47.00
IM-7A	6/29/2007	58.52*	11.81	46.71
IM-7A	11/15/2007	58.52*	12.75	45.77
IM-7A	3/27/2008	58.52*	12.62	45.90
IM-7A	11/20/2008	58.52*	13.42	45.10
IM-7A	3/26/2009	58.52*	12.80	45.72
IM-7A	11/19/2009	58.52*	13.46	45.06
IM-7A	3/25/2010	58.52*	12.58	45.94
IM-7A	11/18/2010	58.52*	12.80	45.72
IM-7A	3/24/2011	58.52*	11.56	46.96
IM-7A	9/15/2011	58.52*	11.91	46.61
IM-7A	3/15/2012	58.52*	12.51	46.01
IM-7A	9/20/2012	58.52*	13.05	45.47
IM-7A	3/21/2013	58.52*	12.58	45.94
IM-7A	9/19/2013	58.52*	13.17	45.35
IM-7A	3/20/2014	58.52*	14.33	44.19
IM-7A	9/18/2014	58.52*	15.64	42.88
IM-7A	3/18/2015	58.52*	15.70	42.82
IM-7A	9/17/2015	58.52*	17.00	41.52

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
ME-1A	6/25/2002	56.98*	11.60	45.38
ME-1A	7/26/2002	56.98*	11.64	45.34
ME-1A	8/22/2002	56.98*	11.82	45.16
ME-1A	9/13/2002	56.98*	11.90	45.08
ME-1A	10/29/2002	56.98*	13.25	43.73
ME-1A	11/21/2002	56.98*	12.42	44.56
ME-1A	12/18/2002	56.98*	11.78	45.20
ME-1A	1/16/2003	56.98*	11.78	45.20
ME-1A	2/27/2003	56.98*	11.66	45.32
ME-1A	3/26/2003	56.98*	11.62	45.36
ME-1A	4/28/2003	56.98*	11.28	45.70
ME-1A	5/22/2003	56.98*	NM (new lock, no key)	NA
ME-1A	6/19/2003	56.98*	NM (new lock, no key)	NA
ME-1A	7/24/2003	56.98*	NM (new lock, no key)	NA
ME-1A	8/28/2003	56.98*	NM (new lock, no key)	NA
ME-1A	9/24/2003	56.98*	NM (new lock, no key)	NA
ME-1A	10/28/2003	56.98*	NM (new lock, no key)	NA
ME-1A	11/20/2003	56.98*	11.79	45.19
ME-1A	12/22/2003	56.98*	11.83	45.15
ME-1A	3/25/2004	58.00****	11.22	46.78
ME-1A	5/28/2004	58.00****	Locked	NA
ME-1A	8/26/2004	58.00****	11.74	46.26
ME-1A	11/18/2004	58.00****	12.40	45.60
ME-1A	3/24/2005	58.00****	12.77	45.23
ME-1A	11/17/2005	58.00****	11.75	46.25
ME-1A	3/23/2006	58.00****	10.78	47.22
ME-1A	11/16/2006	58.00****	11.08	46.92
ME-1A	3/22/2007	58.00****	7.17	50.83
ME-1A	6/29/2007	58.00****	11.48	46.52
ME-1A	11/15/2007	58.00****	12.34	45.66
ME-1A	3/27/2008	58.00****	12.15	45.85
ME-1A	11/20/2008	58.00****	12.96	45.04
ME-1A	3/26/2009	58.00****	12.45	45.55
ME-1A	11/19/2009	58.00****	13.00	45.00
ME-1A	3/25/2010	58.00****	12.32	45.68
ME-1A	11/18/2010	58.00****	12.48	45.52
ME-1A	3/24/2011	58.00****	11.19	46.81
ME-1A	9/15/2011	58.00****	11.66	46.34
ME-1A	3/15/2012	58.00****	12.18	45.82
ME-1A	9/20/2012	58.00****	12.58	45.42
ME-1A	3/21/2013	58.00****	12.25	45.75
ME-1A	9/19/2013	58.00****	12.78	45.22
ME-1A	3/20/2014	58.00****	13.88	44.12
ME-1A	9/18/2014	58.00****	15.03	42.97
ME-1A	3/19/2015	58.00****	15.04	42.96
ME-1A	9/17/2015	58.00****	NM	NM

**Table 4**  
**Groundwater Elevations**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
C-2	6/25/2002	63.3*	16.34	46.96
C-2	7/26/2002	63.3*	16.48	46.82
C-2	8/22/2002	63.3*	18.72	44.58
C-2	9/13/2002	63.3*	16.81	46.49
C-2	10/29/2002	63.3*	17.17	46.13
C-2	11/21/2002	63.3*	17.02	46.28
C-2	12/18/2002	63.3*	16.87	46.43
C-2	1/16/2003	63.3*	16.61	46.69
C-2	2/27/2003	63.3*	16.47	46.83
C-2	3/26/2003	63.3*	16.32	46.98
C-2	4/28/2003	63.3*	15.89	47.41
C-2	5/22/2003	63.3*	15.70	47.60
C-2	6/19/2003	63.05**	15.25	47.80
C-2	7/24/2003	63.05**	15.35	47.70
C-2	8/28/2003	63.05**	15.71	47.34
C-2	9/24/2003	63.05**	16.00	47.05
C-2	10/28/2003	63.05**	16.01	47.04
C-2	11/20/2003	63.05**	16.50	46.55
C-2	12/22/2003	63.05**	16.55	46.50
C-2	3/25/2004	63.05**	15.78	47.27
C-2	5/28/2004	63.05**	15.78	47.27
C-2	8/26/2004	63.05**	16.46	46.59
C-2	11/18/2004	63.05**	17.10	45.95
C-2	3/24/2005	63.05**	15.65	47.40
C-2	8/25/2005	63.05**	15.69	47.36
C-2	11/17/2005	63.05**	15.55	47.50
C-2	3/23/2006	63.05**	15.35	47.70
C-2	11/16/2006	63.05**	16.44	46.61
C-2	3/22/2007	63.05**	15.80	47.25
C-2	6/29/2007	63.05**	16.12	46.93
C-2	11/15/2007	63.05**	17.10	45.95
C-2	3/27/2008	63.05**	16.85	46.20
C-2	11/20/2008	63.05**	17.67	45.38
C-2	3/26/2009	63.05**	17.21	45.84
C-2	11/19/2009	63.05**	17.88	45.17
C-2	3/25/2010	63.05**	16.96	46.09
C-2	11/18/2010	63.05**	17.04	46.01
C-2	3/24/2011	63.05**	15.98	47.07
C-2	9/15/2011	63.05**	16.18	46.87
C-2	3/15/2012	63.05**	16.86	46.19
C-2	9/20/2012	63.05**	17.41	45.64
C-2	3/21/2013	63.05**	16.92	46.13
C-2	9/19/2013	63.05**	17.51	45.54
C-2	3/20/2014	63.05**	18.75	44.30
C-2	9/18/2014	63.05**	20.08	42.97
C-2	3/19/2015	63.05**	20.15	42.90
C-2	9/17/2015	63.05**	21.39	41.66

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

<b>Well Identification</b>	<b>Date</b>	<b>Top of Casing (feet above MSL)</b>	<b>Depth to Water (feet)</b>	<b>Groundwater Elevation (feet above MSL)</b>
C-3	6/25/2002	58.14*	11.40	46.74
C-3	7/26/2002	58.14*	9.33	48.81
C-3	8/22/2002	58.14*	11.79	46.35
C-3	9/13/2002	58.14*	11.85	46.29
C-3	10/29/2002	58.14*	12.20	45.94
C-3	11/21/2002	58.14*	12.31	45.83
C-3	12/18/2002	58.14*	11.75	46.39
C-3	1/16/2003	58.14*	11.65	46.49
C-3	2/27/2003	58.14*	11.49	46.65
C-3	3/26/2003	58.14*	11.38	46.76
C-3	4/28/2003	58.14*	10.95	47.19
C-3	5/22/2003	58.14*	10.85	47.29
C-3	6/19/2003	58.14*	10.59	47.55
C-3	7/24/2003	58.14*	10.70	47.44
C-3	8/28/2003	58.14*	11.00	47.14
C-3	9/24/2003	58.14*	11.26	46.88
C-3	10/28/2003	58.14*	11.47	46.67
C-3	11/20/2003	58.14*	11.71	46.43
C-3	12/22/2003	58.14*	11.78	46.36
C-3	3/25/2004	58.14*	11.04	47.10
C-3	5/28/2004	58.14*	11.07	47.07
C-3	8/26/2004	58.14*	11.71	46.43
C-3	11/18/2004	58.14*	12.35	45.79
C-3	3/24/2005	58.14*	11.01	47.13
C-3	8/25/2005	58.14*	11.00	47.14
C-3	11/17/2005	58.14*	11.62	46.52
C-3	3/23/2006	58.14*	10.64	47.50
C-3	11/16/2006	58.14*	11.76	46.38
C-3	3/22/2007	58.14*	11.10	47.04
C-3	6/29/2007	58.14*	11.38	46.76
C-3	11/15/2007	58.14*	12.31	45.83
C-3	3/27/2008	58.14*	12.07	46.07
C-3	11/20/2008	58.14*	12.83	45.31
C-3	3/26/2009	58.14*	12.31	45.83
C-3	11/19/2009	58.14*	13.06	45.08
C-3	3/25/2010	58.14*	10.36	47.78
C-3	11/18/2010	58.14*	12.34	45.80
C-3	3/24/2011	58.14*	10.02	48.12
C-3	9/15/2011	58.14*	11.46	46.68
C-3	3/15/2012	58.14*	12.18	45.96
C-3	9/20/2012	58.14*	12.60	45.54
C-3	3/21/2013	58.14*	12.16	45.98
C-3	9/19/2013	58.14*	12.71	45.43
C-3	5/2/2014	58.14*	14.13	44.01
C-3	9/18/2014	58.14*	15.12	43.02
C-3	3/19/2015	58.14*	15.25	42.89
C-3	9/17/2015	58.14*	16.46	41.68

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
SO-1	6/25/2002	63.35*	16.28	47.07
SO-1	7/26/2002	63.35*	16.41	46.94
SO-1	8/22/2002	63.35*	16.66	46.69
SO-1	9/13/2002	63.35*	16.72	46.63
SO-1	10/29/2002	63.35*	17.10	46.25
SO-1	11/21/2002	63.35*	17.22	46.13
SO-1	12/18/2002	63.35*	16.85	46.50
SO-1	1/16/2003	63.35*	16.61	46.74
SO-1	2/27/2003	63.35*	16.47	46.88
SO-1	3/26/2003	63.35*	16.30	47.05
SO-1	4/28/2003	63.35*	15.92	47.43
SO-1	5/22/2003	63.35*	15.62	47.73
SO-1	6/19/2003	63.35*	15.40	47.95
SO-1	7/24/2003	63.35*	15.51	47.84
SO-1	8/28/2003	63.35*	15.87	47.48
SO-1	9/24/2003	63.35*	16.17	47.18
SO-1	10/28/2003	63.35*	16.42	46.93
SO-1	11/20/2003	63.35*	16.61	46.74
SO-1	12/22/2003	63.35*	16.77	46.58
SO-1	3/25/2004	63.35*	16.01	47.34
SO-1	5/28/2004	63.35*	16.02	47.33
SO-1	8/26/2004	63.35*	16.65	46.70
SO-1	11/18/2004	63.35*	17.38	45.97
SO-1	3/24/2005	63.35*	16.01	47.34
SO-1	8/25/2005	63.35*	15.94	47.41
SO-1	11/17/2005	63.35*	16.59	46.76
SO-1	3/23/2006	63.35*	15.55	47.80
SO-1	11/16/2006	63.35*	16.64	46.71
SO-1	3/22/2007	63.35*	16.01	47.34
SO-1	6/29/2007	63.35*	16.20	47.15
SO-1	11/15/2007	63.35*	17.31	46.04
SO-1	3/27/2008	63.35*	17.12	46.23
SO-1	11/20/2008	63.35*	17.89	45.46
SO-1	3/26/2009	63.35*	17.40	45.95
SO-1	11/19/2009	63.35*	18.13	45.22
SO-1	3/25/2010	63.35*	17.22	46.13
SO-1	11/18/2010	63.35*	17.25	46.10
SO-1	3/24/2011	63.35*	16.21	47.14
SO-1	9/15/2011	63.35*	16.42	46.93
SO-1	3/15/2012	63.35*	17.05	46.30
SO-1	9/20/2012	63.35*	17.53	45.82
SO-1	3/21/2013	63.35*	17.15	46.20
SO-1	9/19/2013	63.35*	17.71	45.64
SO-1	3/20/2014	63.35*	18.91	44.44
SO-1	9/18/2014	63.35*	20.15	43.20
SO-1	3/19/2015	63.35*	20.21	43.14
SO-1	9/17/2015	63.35*	21.38	41.97

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
SO-2	6/25/2002	60.96*	13.99	46.97
SO-2	7/26/2002	60.96*	14.14	46.82
SO-2	8/22/2002	60.96*	14.32	46.64
SO-2	9/13/2002	60.96*	14.62	46.34
SO-2	10/29/2002	60.96*	14.80	46.16
SO-2	11/21/2002	60.96*	15.00	45.96
SO-2	12/18/2002	60.96*	14.52	46.44
SO-2	1/16/2003	60.96*	14.29	46.67
SO-2	2/27/2003	60.96*	14.14	46.82
SO-2	3/26/2003	60.96*	14.00	46.96
SO-2	4/28/2003	60.96*	15.92	45.04
SO-2	5/22/2003	60.96*	15.62	45.34
SO-2	6/19/2003	60.96*	13.12	47.84
SO-2	7/24/2003	60.96*	12.22	48.74
SO-2	8/28/2003	60.96*	13.58	47.38
SO-2	9/24/2003	60.96*	13.86	47.10
SO-2	10/28/2003	60.96*	14.08	46.88
SO-2	11/25/2003	60.96*	14.35	46.61
SO-2	12/22/2003	60.96*	14.38	46.58
SO-2	3/25/2004	60.96*	8.82	52.14
SO-2	5/28/2004	60.96*	13.62	47.34
SO-2	8/26/2004	60.96*	14.35	46.61
SO-2	11/18/2004	60.96*	14.95	46.01
SO-2	3/24/2005	60.96*	13.63	47.33
SO-2	8/25/2005	60.96*	13.59	47.37
SO-2	11/17/2005	60.96*	14.21	46.75
SO-2	3/23/2006	60.96*	13.23	47.73
SO-2	11/16/2006	60.96*	13.71	47.25
SO-2	3/22/2007	60.96*	13.67	47.29
SO-2	6/29/2007	60.96*	13.95	47.01
SO-2	11/15/2007	60.96*	14.93	46.03
SO-2	3/27/2008	60.96*	14.72	46.24
SO-2	11/20/2008	60.96*	15.52	45.44
SO-2	3/26/2009	60.96*	15.05	45.91
SO-2	11/19/2009	60.96*	15.80	45.16
SO-2	3/25/2010	60.96*	14.85	46.11
SO-2	11/18/2010	60.96*	14.90	46.06
SO-2	3/24/2011	60.96*	14.00	46.96
SO-2	9/15/2011	60.96*	14.04	46.92
SO-2	3/15/2012	60.96*	14.81	46.15
SO-2	9/20/2012	60.96*	15.21	45.75
SO-2	3/21/2013	60.96*	14.79	46.17
SO-2	9/19/2013	60.96*	15.38	45.58
SO-2	3/20/2014	60.96*	16.55	44.41
SO-2	9/18/2014	60.96*	17.91	43.05
SO-2	3/19/2015	60.96*	17.96	43.00
SO-2	9/17/2015	60.96*	19.23	41.73

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

<b>Well Identification</b>	<b>Date</b>	<b>Top of Casing (feet above MSL)</b>	<b>Depth to Water (feet)</b>	<b>Groundwater Elevation (feet above MSL)</b>
SO-3B1	6/25/2002	60.87*	9.71	51.16
SO-3B1	7/26/2002	60.87*	9.88	50.99
SO-3B1	8/22/2002	60.87*	10.20	50.67
SO-3B1	9/13/2002	60.87*	10.32	50.55
SO-3B1	10/29/2002	60.87*	10.71	50.16
SO-3B1	11/21/2002	60.87*	12.15	48.72
SO-3B1	12/18/2002	60.87*	10.60	50.27
SO-3B1	1/16/2003	60.87*	9.88	50.99
SO-3B1	2/27/2003	60.87*	9.48	51.39
SO-3B1	3/26/2003	60.87*	9.31	51.56
SO-3B1	4/28/2003	60.87*	8.85	52.02
SO-3B1	5/22/2003	60.87*	8.43	52.44
SO-3B1	6/19/2003	60.87*	8.43	52.44
SO-3B1	7/24/2003	60.87*	8.23	52.64
SO-3B1	8/28/2003	60.87*	8.31	52.56
SO-3B1	9/24/2003	60.87*	9.80	51.07
SO-3B1	10/28/2003	60.87*	9.04	51.83
SO-3B1	11/25/2003	60.87*	9.85	51.02
SO-3B1	12/22/2003	60.87*	9.92	50.95
SO-3B1	3/25/2004	60.87*	9.36	51.51
SO-3B1	5/28/2004	60.87*	9.06	51.81
SO-3B1	8/26/2004	60.87*	9.95	50.92
SO-3B1	11/18/2004	60.87*	10.79	50.08
SO-3B1	3/24/2005	60.87*	9.42	51.45
SO-3B1	8/25/2005	60.87*	9.50	51.37
SO-3B1	11/17/2005	60.87*	9.91	50.96
SO-3B1	3/23/2006	60.87*	8.79	52.08
SO-3B1	11/16/2006	60.87*	9.58	51.29
SO-3B1	3/22/2007	60.87*	9.11	51.76
SO-3B1	6/29/2007	60.87*	9.73	51.14
SO-3B1	11/15/2007	60.87*	11.10	49.77
SO-3B1	3/27/2008	60.87*	10.30	50.57
SO-3B1	11/20/2008	60.87*	10.35	50.52
SO-3B1	3/26/2009	60.87*	10.71	50.16
SO-3B1	11/19/2009	60.87*	12.14	48.73
SO-3B1	3/25/2010	60.87*	10.65	50.22
SO-3B1	11/18/2010	60.87*	10.90	49.97
SO-3B1	3/24/2011	60.87*	9.67	51.20
SO-3B1	9/15/2011	60.87*	9.73	51.14
SO-3B1	3/15/2012	60.87*	10.42	50.45
SO-3B1	9/20/2012	60.87*	11.40	49.47
SO-3B1	3/21/2013	60.87*	10.15	50.72
SO-3B1	9/19/2013	60.87*	11.58	49.29
SO-3B1	3/20/2014	60.87*	13.11	47.76
SO-3B1	9/18/2014	60.87*	14.71	46.16
SO-3B1	3/19/2015	60.87*	14.73	46.14
SO-3B1	9/17/2015	60.87*	16.30	44.57

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
SO-4	6/25/2002	58.4*	11.59	46.81
SO-4	7/26/2002	58.4*	11.77	46.63
SO-4	8/22/2002	58.4*	11.97	46.43
SO-4	9/13/2002	58.4*	12.07	46.33
SO-4	10/29/2002	58.4*	12.41	45.99
SO-4	11/21/2002	58.4*	12.53	45.87
SO-4	12/18/2002	58.4*	12.03	46.37
SO-4	1/16/2003	58.4*	11.91	46.49
SO-4	2/27/2003	58.4*	11.71	46.69
SO-4	3/26/2003	58.4*	11.58	46.82
SO-4	4/28/2003	58.4*	11.23	47.17
SO-4	5/22/2003	58.4*	11.02	47.38
SO-4	6/19/2003	58.4*	10.72	47.68
SO-4	7/24/2003	58.4*	10.85	47.55
SO-4	8/28/2003	58.4*	11.20	47.20
SO-4	9/24/2003	58.4*	11.45	46.95
SO-4	10/28/2003	58.4*	11.45	46.95
SO-4	11/20/2003	58.4*	11.95	46.45
SO-4	12/22/2003	58.4*	11.97	46.43
SO-4	3/25/2004	58.4*	11.22	47.18
SO-4	5/28/2004	58.4*	11.27	47.13
SO-4	8/26/2004	58.4*	11.90	46.50
SO-4	11/18/2004	58.4*	12.60	45.80
SO-4	3/24/2005	58.4*	12.38	46.02
SO-4	8/25/2005	58.4*	11.19	47.21
SO-4	11/17/2005	58.4*	11.82	46.58
SO-4	3/23/2006	58.4*	10.83	47.57
SO-4	11/16/2006	58.4*	11.86	46.54
SO-4	3/22/2007	58.4*	11.26	47.14
SO-4	6/29/2007	58.4*	11.60	46.80
SO-4	11/15/2007	58.4*	12.54	45.86
SO-4	3/27/2008	58.4*	12.29	46.11
SO-4	11/20/2008	58.4*	13.08	45.32
SO-4	3/26/2009	58.4*	12.58	45.82
SO-4	11/19/2009	58.4*	13.25	45.15
SO-4	3/25/2010	58.4*	12.35	46.05
SO-4	11/18/2010	58.4*	12.60	45.80
SO-4	3/24/2011	58.4*	11.46	46.94
SO-4	9/15/2011	58.4*	11.68	46.72
SO-4	3/15/2012	58.4*	12.28	46.12
SO-4	9/20/2012	58.4*	12.82	45.58
SO-4	3/21/2013	58.4*	12.34	46.06
SO-4	9/19/2013	58.4*	12.63	45.77
SO-4	3/20/2014	58.4*	14.13	44.27
SO-4	9/18/2014	58.4*	15.38	43.02
SO-4	3/19/2015	58.4*	15.36	43.04
SO-4	9/17/2015	58.4*	15.79	42.61

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
SO-PZ1	6/25/2002	62.30*	15.18	47.12
SO-PZ1	7/26/2002	62.30*	15.39	46.91
SO-PZ1	8/22/2002	62.30*	15.58	46.72
SO-PZ1	9/13/2002	62.30*	15.67	46.63
SO-PZ1	10/29/2002	62.30*	16.05	46.25
SO-PZ1	11/21/2002	62.30*	16.22	46.08
SO-PZ1	12/18/2002	62.30*	15.88	46.42
SO-PZ1	1/16/2003	62.30*	15.58	46.72
SO-PZ1	2/27/2003	62.30*	15.51	46.79
SO-PZ1	3/26/2003	62.30*	15.50	46.80
SO-PZ1	4/28/2003	62.30*	14.85	47.45
SO-PZ1	5/22/2003	62.30*	14.92	47.38
SO-PZ1	6/19/2003	62.30*	14.75	47.55
SO-PZ1	7/24/2003	62.30*	13.95	48.35
SO-PZ1	8/28/2003	62.30*	13.81	48.49
SO-PZ1	9/24/2003	62.30*	15.62	46.68
SO-PZ1	10/28/2003	62.30*	14.12	48.18
SO-PZ1	11/20/2003	62.30*	15.97	46.33
SO-PZ1	12/22/2003	62.30*	15.95	46.35
SO-PZ1	3/25/2004	62.30*	14.82	47.48
SO-PZ1	5/28/2004	62.30*	14.82	47.48
SO-PZ1	8/26/2004	62.30*	15.56	46.74
SO-PZ1	11/18/2004	62.30*	16.20	46.10
SO-PZ1	3/24/2005	62.30*	15.17	47.13
SO-PZ1	8/25/2005	62.30*	14.77	47.53
SO-PZ1	11/17/2005	62.30*	15.43	46.87
SO-PZ1	3/23/2006	62.30*	14.95	47.35
SO-PZ1	11/16/2006	62.30*	14.45	47.85
SO-PZ1	3/22/2007	62.30*	14.88	47.42
SO-PZ1	6/29/2007	62.30*	15.20	47.10
SO-PZ1	11/15/2007	62.30*	16.19	46.11
SO-PZ1	3/27/2008	62.30*	15.91	46.39
SO-PZ1	11/20/2008	62.30*	16.64	45.66
SO-PZ1	3/26/2009	62.30*	16.28	46.02
SO-PZ1	11/19/2009	62.30*	16.98	45.32
SO-PZ1	3/25/2010	62.30*	16.03	46.27
SO-PZ1	11/18/2010	62.30*	16.18	46.12
SO-PZ1	3/24/2011	62.30*	15.07	47.23
SO-PZ1	9/15/2011	62.30*	15.27	47.03
SO-PZ1	3/15/2012	62.30*	15.95	46.35
SO-PZ1	9/20/2012	62.30*	16.42	45.88
SO-PZ1	3/21/2013	62.30*	15.99	46.31
SO-PZ1	9/19/2013	62.30*	16.51	45.79
SO-PZ1	3/20/2014	62.30*	17.83	44.47
SO-PZ1	9/18/2014	62.30*	19.14	43.16
SO-PZ1	3/19/2015	62.30*	19.22	43.08
SO-PZ1	9/17/2015	62.30*	20.50	41.80

**Table 4**  
**Groundwater Elevations**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
SO-PZ2	6/25/2002	60.66*	14.65	46.01
SO-PZ2	7/26/2002	60.66*	14.40	46.26
SO-PZ2	8/22/2002	60.66*	14.31	46.35
SO-PZ2	9/13/2002	60.66*	14.38	46.28
SO-PZ2	10/29/2002	60.66*	15.41	45.25
SO-PZ2	11/21/2002	60.66*	14.44	46.22
SO-PZ2	12/18/2002	60.66*	15.50	45.16
SO-PZ2	1/16/2003	60.66*	23.91	36.75
SO-PZ2	2/27/2003	60.66*	17.43	43.23
SO-PZ2	3/26/2003	60.66*	15.79	44.87
SO-PZ2	4/28/2003	60.66*	14.98	45.68
SO-PZ2	5/22/2003	60.66*	14.35	46.31
SO-PZ2	6/19/2003	60.66*	13.91	46.75
SO-PZ2	7/24/2003	60.66*	13.68	46.98
SO-PZ2	8/28/2003	60.66*	13.56	47.10
SO-PZ2	9/24/2003	60.66*	13.59	47.07
SO-PZ2	10/28/2003	60.66*	13.62	47.04
SO-PZ2	11/20/2003	60.66*	13.61	47.05
SO-PZ2	12/22/2003	60.66*	13.64	47.02
SO-PZ2	3/25/2004	60.66*	16.55	44.11
SO-PZ2	5/28/2004	60.66*	13.66	47.00
SO-PZ2	8/26/2004	60.66*	14.09	46.57
SO-PZ2	11/18/2004	60.66*	14.30	46.36
SO-PZ2	3/24/2005	60.66*	15.49	45.17
SO-PZ2	8/25/2005	60.66*	16.16	44.50
SO-PZ2	11/17/2005	60.66*	15.01	45.65
SO-PZ2	3/23/2006	60.66*	14.93	45.73
SO-PZ2	11/16/2006	60.66*	13.40	47.26
SO-PZ2	3/22/2007	60.66*	13.71	46.95
SO-PZ2	6/29/2007	60.66*	13.62	47.04
SO-PZ2	11/15/2007	60.66*	14.55	46.11
SO-PZ2	3/27/2008	60.66*	14.35	46.31
SO-PZ2	11/20/2008	60.66*	15.10	45.56
SO-PZ2	3/26/2009	60.66*	14.19	46.47
SO-PZ2	11/19/2009	60.66*	15.28	45.38
SO-PZ2	3/25/2010	60.66*	16.04	44.62
SO-PZ2	11/18/2010	60.66*	16.20	44.46
SO-PZ2	3/24/2011	60.66*	14.98	45.68
SO-PZ2	9/15/2011	60.66*	13.76	46.90
SO-PZ2	3/15/2012	60.66*	14.40	46.26
SO-PZ2	9/20/2012	60.66*	14.81	45.85
SO-PZ2	3/21/2013	60.66*	14.43	46.23
SO-PZ2	9/19/2013	60.66*	14.96	45.70
SO-PZ2	3/20/2014	60.66*	16.10	44.56
SO-PZ2	9/18/2014	60.66*	17.57	43.09
SO-PZ2	3/19/2015	60.66*	17.61	43.05
SO-PZ2	9/17/2015	60.66*	18.89	41.77

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

<b>Well Identification</b>	<b>Date</b>	<b>Top of Casing (feet above MSL)</b>	<b>Depth to Water (feet)</b>	<b>Groundwater Elevation (feet above MSL)</b>
SO-PZ3	6/25/2002	61.78*	15.49	46.29
SO-PZ3	7/26/2002	61.78*	15.45	46.33
SO-PZ3	8/22/2002	61.78*	15.54	46.24
SO-PZ3	9/13/2002	61.78*	15.64	46.14
SO-PZ3	10/29/2002	61.78*	15.75	46.03
SO-PZ3	11/21/2002	61.78*	15.95	45.83
SO-PZ3	12/18/2002	61.78*	15.50	46.28
SO-PZ3	1/16/2003	61.78*	15.27	46.51
SO-PZ3	2/27/2003	61.78*	15.11	46.67
SO-PZ3	3/26/2003	61.78*	14.92	46.86
SO-PZ3	4/28/2003	61.78*	14.68	47.10
SO-PZ3	5/22/2003	61.78*	14.42	47.36
SO-PZ3	6/19/2003	61.78*	14.41	47.37
SO-PZ3	7/24/2003	61.78*	14.46	47.32
SO-PZ3	8/28/2003	61.78*	14.66	47.12
SO-PZ3	9/24/2003	61.78*	14.91	46.87
SO-PZ3	10/28/2003	61.78*	15.22	46.56
SO-PZ3	11/20/2003	61.78*	15.21	46.57
SO-PZ3	12/22/2003	61.78*	15.40	46.38
SO-PZ3	3/25/2004	61.78*	14.75	47.03
SO-PZ3	5/28/2004	61.78*	14.58	47.20
SO-PZ3	8/26/2004	61.78*	15.61	46.17
SO-PZ3	11/18/2004	61.78*	15.84	45.94
SO-PZ3	3/24/2005	61.78*	9.42	52.36
SO-PZ3	8/25/2005	61.78*	14.65	47.13
SO-PZ3	11/17/2005	61.78*	15.21	46.57
SO-PZ3	3/23/2006	61.78*	14.21	47.57
SO-PZ3	11/16/2006	61.78*	14.92	46.86
SO-PZ3	3/22/2007	61.78*	14.52	47.26
SO-PZ3	6/29/2007	61.78*	14.85	46.93
SO-PZ3	11/15/2007	61.78*	15.82	45.96
SO-PZ3	3/27/2008	61.78*	15.67	46.11
SO-PZ3	11/20/2008	61.78*	16.41	45.37
SO-PZ3	3/26/2009	61.78*	15.95	45.83
SO-PZ3	11/19/2009	61.78*	16.48	45.30
SO-PZ3	3/25/2010	61.78*	16.54	45.24
SO-PZ3	11/18/2010	61.78*	16.61	45.17
SO-PZ3	3/24/2011	61.78*	15.57	46.21
SO-PZ3	9/15/2011	61.78*	14.96	46.82
SO-PZ3	3/15/2012	61.78*	15.66	46.12
SO-PZ3	9/20/2012	61.78*	16.08	45.70
SO-PZ3	3/21/2013	61.78*	15.71	46.07
SO-PZ3	9/19/2013	61.78*	16.23	45.55
SO-PZ3	3/20/2014	61.78*	17.84	43.94
SO-PZ3	9/18/2014	61.78*	18.75	43.03
SO-PZ3	3/19/2015	61.78*	18.76	43.02
SO-PZ3	9/17/2015	61.78*	19.96	41.82

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
EW-1	6/25/2002	57.39*	11.29	46.10
EW-1	7/26/2002	57.39*	11.54	45.85
EW-1	8/22/2002	57.39*	12.35	45.04
EW-1	9/13/2002	57.39*	12.65	44.74
EW-1	10/29/2002	57.39*	13.72	43.67
EW-1	11/21/2002	57.39*	15.41	41.98
EW-1	12/18/2002	57.39*	11.70	45.69
EW-1	1/16/2003	57.39*	11.46	45.93
EW-1	2/27/2003	57.39*	11.29	46.10
EW-1	3/26/2003	57.39*	11.02	46.37
EW-1	4/28/2003	57.39*	10.80	46.59
EW-1	5/22/2003	57.39*	10.35	47.04
EW-1	6/19/2003	57.39*	10.05	47.34
EW-1	7/24/2003	57.39*	10.20	47.19
EW-1	8/28/2003	57.39*	10.62	46.77
EW-1	9/24/2003	57.39*	10.81	46.58
EW-1	10/28/2003	57.39*	11.05	46.34
EW-1	11/20/2003	57.39*	11.29	46.10
EW-1	12/22/2003	57.39*	11.29	46.10
EW-1	3/25/2004	57.39*	10.53	46.86
EW-1	5/28/2004	57.39*	10.65	46.74
EW-1	8/26/2004	57.39*	26.30	31.09
EW-1	11/18/2004	57.39*	27.85	29.54
EW-1	3/24/2005	57.39*	14.33	43.06
EW-1	8/25/2005	57.39*	11.43	45.96
EW-1	11/17/2005	57.39*	27.67	29.72
EW-1	3/23/2006	57.39*	25.81	31.58
EW-1	11/16/2006	57.39*	14.98	42.41
EW-1	3/22/2007	57.39*	15.81	41.58
EW-1	6/29/2007	57.39*	27.66	29.73
EW-1	11/15/2007	57.39*	11.54	45.85
EW-1	3/27/2008	57.39*	21.59	35.80
EW-1	11/20/2008	57.39*	20.61	36.78
EW-1	3/26/2009	57.39*	11.96	45.43
EW-1	12/17/2009	57.39*	20.72	36.67
EW-1	3/25/2010	57.39*	16.52	40.87
EW-1	11/18/2010	57.39*	21.70	35.69
EW-1	3/24/2011	57.39*	10.89	46.50
EW-1	9/15/2011	57.39*	11.14	46.25
EW-1	3/15/2012	57.39*	18.82	38.57
EW-1	9/20/2012	57.39*	23.74	33.65
EW-1	3/21/2013	57.39*	22.49	34.90
EW-1	9/19/2013	57.39*	16.67	40.72
EW-1	3/20/2014	57.39*	13.27	44.12
EW-1	9/18/2014	57.39*	14.52	42.87
EW-1	3/19/2015	57.39*	14.51	42.88
EW-1	9/17/2015	57.39*	15.87	41.52

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
EW-2	6/25/2002	60.04*	13.36	46.68
EW-2	7/26/2002	60.04*	13.60	46.44
EW-2	8/22/2002	60.04*	13.77	46.27
EW-2	9/13/2002	60.04*	13.88	46.16
EW-2	10/29/2002	60.04*	14.25	45.79
EW-2	11/21/2002	60.04*	14.35	45.69
EW-2	12/18/2002	60.04*	13.89	46.15
EW-2	1/16/2003	60.04*	13.65	46.39
EW-2	2/27/2003	60.04*	13.02	47.02
EW-2	3/26/2003	60.04*	13.99	46.05
EW-2	4/28/2003	60.04*	13.13	46.91
EW-2	5/22/2003	60.04*	14.00	46.04
EW-2	6/19/2003	60.04*	12.50	47.54
EW-2	7/24/2003	60.04*	12.61	47.43
EW-2	8/28/2003	60.04*	12.98	47.06
EW-2	9/24/2003	60.04*	13.30	46.74
EW-2	10/28/2003	60.04*	13.05	46.99
EW-2	11/20/2003	60.04*	13.61	46.43
EW-2	12/22/2003	60.04*	13.68	46.36
EW-2	3/25/2004	60.04*	12.99	47.05
EW-2	5/28/2004	60.04*	12.98	47.06
EW-2	8/26/2004	60.04*	13.75	46.29
EW-2	11/18/2004	60.04*	14.34	45.70
EW-2	3/24/2005	60.04*	12.98	47.06
EW-2	8/25/2005	60.04*	12.95	47.09
EW-2	11/17/2005	60.04*	13.64	46.40
EW-2	3/23/2006	60.04*	12.61	47.43
EW-2	11/16/2006	60.04*	14.45	45.59
EW-2	3/22/2007	60.04*	12.62	47.42
EW-2	6/29/2007	60.04*	13.55	46.49
EW-2	11/15/2007	60.04*	14.69	45.35
EW-2	3/27/2008	60.04*	14.47	45.57
EW-2	11/20/2008	60.04*	15.68	44.36
EW-2	3/26/2009	60.04*	15.05	44.99
EW-2	12/17/2009	60.04*	17.37	42.67
EW-2	3/25/2010	60.04*	14.95	45.09
EW-2	11/18/2010	60.04*	15.06	44.98
EW-2	3/24/2011	60.04*	13.88	46.16
EW-2	9/15/2011	60.04*	13.74	46.30
EW-2	3/15/2012	60.04*	14.48	45.56
EW-2	9/20/2012	60.04*	15.04	45.00
EW-2	3/21/2013	60.04*	14.61	45.43
EW-2	9/19/2013	60.04*	14.45	45.59
EW-2	3/20/2014	60.04*	15.64	44.40
EW-2	9/18/2014	60.04*	17.61	42.43
EW-2	3/19/2015	60.04*	16.97	43.07
EW-2	9/17/2015	60.04*	18.21	41.83

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
EW-3	6/25/2002	59.55*	12.96	46.59
EW-3	7/26/2002	59.55*	13.10	46.45
EW-3	8/22/2002	59.55*	13.31	46.24
EW-3	9/13/2002	59.55*	13.40	46.15
EW-3	10/29/2002	59.55*	14.80	44.75
EW-3	11/21/2002	59.55*	13.82	45.73
EW-3	12/18/2002	59.55*	13.19	46.36
EW-3	1/16/2003	59.55*	13.20	46.35
EW-3	2/27/2003	59.55*	13.52	46.03
EW-3	3/26/2003	59.55*	12.90	46.65
EW-3	4/28/2003	59.55*	12.61	46.94
EW-3	5/22/2003	59.55*	14.05	45.50
EW-3	6/19/2003	59.55*	12.00	47.55
EW-3	7/24/2003	59.55*	12.20	47.35
EW-3	8/28/2003	59.55*	12.50	47.05
EW-3	9/24/2003	59.55*	12.65	46.90
EW-3	10/28/2003	59.55*	12.82	46.73
EW-3	11/20/2003	59.55*	13.19	46.36
EW-3	12/22/2003	59.55*	13.32	46.23
EW-3	3/25/2004	59.55*	12.57	46.98
EW-3	5/28/2004	59.55*	12.59	46.96
EW-3	8/26/2004	59.55*	13.20	46.35
EW-3	11/18/2004	59.55*	13.90	45.65
EW-3	3/24/2005	59.55*	12.58	46.97
EW-3	8/25/2005	59.55*	12.48	47.07
EW-3	11/17/2005	59.55*	13.11	46.44
EW-3	3/23/2006	59.55*	12.15	47.40
EW-3	11/16/2006	59.55*	14.55	45.00
EW-3	3/22/2007	59.55*	13.09	46.46
EW-3	6/29/2007	59.55*	12.94	46.61
EW-3	11/15/2007	59.55*	13.84	45.71
EW-3	3/27/2008	59.55*	13.64	45.91
EW-3	11/20/2008	59.55*	14.35	45.20
EW-3	3/26/2009	59.55*	13.91	45.64
EW-3	12/17/2009	59.55*	14.68	44.87
EW-3	3/25/2010	59.55*	13.75	45.80
EW-3	11/18/2010	59.55*	13.82	45.73
EW-3	3/24/2011	59.55*	12.72	46.83
EW-3	9/15/2011	59.55*	13.07	46.48
EW-3	3/15/2012	59.55*	13.74	45.81
EW-3	9/20/2012	59.55*	14.27	45.28
EW-3	3/21/2013	59.55*	13.72	45.83
EW-3	9/19/2013	59.55*	14.26	45.29
EW-3	3/20/2014	59.55*	15.27	44.28
EW-3	9/18/2014	59.55*	16.40	43.15
EW-3	3/19/2015	59.55*	16.43	43.12
EW-3	9/17/2015	59.55*	16.55	43.00

**Table 4  
Groundwater Elevations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Date	Top of Casing (feet above MSL)	Depth to Water (feet)	Groundwater Elevation (feet above MSL)
EW-4	6/25/2002	60.83*	13.99	46.84
EW-4	7/26/2002	60.83*	14.14	46.69
EW-4	8/22/2002	60.83*	14.40	46.43
EW-4	9/13/2002	60.83*	14.49	46.34
EW-4	10/29/2002	60.83*	14.91	45.92
EW-4	11/21/2002	60.83*	15.01	45.82
EW-4	12/18/2002	60.83*	14.53	46.30
EW-4	1/16/2003	60.83*	14.30	46.53
EW-4	2/27/2003	60.83*	14.16	46.67
EW-4	3/26/2003	60.83*	13.98	46.85
EW-4	4/28/2003	60.83*	13.69	47.14
EW-4	5/22/2003	60.83*	13.30	47.53
EW-4	6/19/2003	60.83*	13.11	47.72
EW-4	7/24/2003	60.83*	13.20	47.63
EW-4	8/28/2003	60.83*	14.11	46.72
EW-4	9/24/2003	60.83*	14.71	46.12
EW-4	10/28/2003	60.83*	15.00	45.83
EW-4	11/20/2003	60.83*	16.24	44.59
EW-4	12/22/2003	60.83*	15.69	45.14
EW-4	3/25/2004	60.83*	14.31	46.52
EW-4	5/28/2004	60.83*	14.19	46.64
EW-4	8/26/2004	60.83*	14.85	45.98
EW-4	11/18/2004	60.83*	15.90	44.93
EW-4	3/24/2005	60.83*	13.87	46.96
EW-4	8/25/2005	60.83*	13.75	47.08
EW-4	11/17/2005	60.83*	14.45	46.38
EW-4	3/23/2006	60.83*	13.35	47.48
EW-4	11/16/2006	60.83*	15.03	45.80
EW-4	3/22/2007	60.83*	13.71	47.12
EW-4	6/29/2007	60.83*	13.78	47.05
EW-4	11/15/2007	60.83*	14.78	46.05
EW-4	3/27/2008	60.83*	14.55	46.28
EW-4	11/20/2008	60.83*	15.34	45.49
EW-4	3/26/2009	60.83*	14.80	46.03
EW-4	12/17/2009	60.83*	15.62	45.21
EW-4	3/24/2011	60.83*	13.65	47.18
EW-4	9/15/2011	60.83*	14.11	46.72
EW-4	3/15/2012	60.83*	14.53	46.30
EW-4	9/20/2012	60.83*	15.02	45.81
EW-4	3/21/2013	60.83*	14.63	46.20
EW-4	9/19/2013	60.83*	15.19	45.64
EW-4	3/20/2014	60.83*	16.41	44.42
EW-4	9/18/2014	60.83*	17.72	43.11
EW-4	3/19/2015	60.83*	17.74	43.09
EW-4	9/17/2015	60.83*	19.00	41.83

**Notes:**

Only measurements from June 2002 shown; historical data available upon request.

\* Well resurveyed on 12/9/99 by Sandis Humber Jones.

\*\* Top of casing cut by 0.25 inches on 5/20/03 to repair well cap & lock.

\*\*\* Well resurveyed on 11/11/01 by Sandis Humber Jones.

\*\*\*\* Well resurveyed by Raytheon in 2004

NM = not measured.

NA = not applicable.

MSL = mean sea level.

**Table 5**  
**Stagnation Point, Capture Zone Width and Flow Budget Calculations**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

<b>Stagnation Point (feet) = <math>Q / (2 * 3.14 * T * i)</math></b>						
		<b>Mar-15</b>		<b>Sep-15</b>		
	<b>Q</b>	<b>SP</b>		<b>Q</b>	<b>SP</b>	
EW-1	0.0	0		0.8	16	
EW-2	7.9	153		2.9	56	
EW-3	8.3	161		5.3	103	
EW-4	0.0	0		0.0	0	

<b>Width at Extraction Well (feet) = <math>Q / (4 * T * i)</math></b>			
		<b>Mar-15</b>	<b>Sep-15</b>
EW-1		0	24
EW-2		241	88
EW-3		253	161
EW-4		0	0

<b>Maximum Width (feet) = <math>Q / (2 * T * i)</math></b>			
		<b>Mar-15</b>	<b>Sep-15</b>
EW-1		0	49
EW-2		481	177
EW-3		506	323
EW-4		0	0

	<b>Estimated Transmissivity (ft<sup>2</sup>/day)</b>	<b>Estimated Extraction Rate (gpm)</b>
	700	4.4
	2,300	14.3

**Notes:**

Assumes (1) the aquifer is homogenous, isotropic, of infinite aerial extent, and uniform thickness;  
 (2) extraction wells fully penetrate the aquifer; (3) groundwater flow is at steady-state;  
 (4) vertical gradients are negligible; and (5) net recharge is accounted for by the regional hydraulic gradient.

Q = average extraction well flowrate (from Table 3).

T = transmissivity.

T = 700-790 ft<sup>2</sup>/day for EW-1 and EW-4 (based on aquifer test performed at SO-1).

T = 2,300 ft<sup>2</sup>/day for EW-2 and EW-3 (based on aquifer test performed at SO-2).

i = average horizontal hydraulic gradient for non-pumping conditions.

i = 0.002 based on historical data.

SP = stagnation point.

ft<sup>2</sup> = square feet.

gpm = gallons per minute.

**Table 6  
Groundwater Quality Sampling Schedule  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Identification	Annual Monitoring	Biennial Monitoring
On-Site Wells		
C-2		x
C-3	x	
R-20A		x
R-21A	x	
R-48A		x
SO-1		x
SO-2		x
SO3-B1		x
SO-4	x	
EW-1	x	
EW-2	x	
EW-3	x	
EW-4	x	
SO-PZ1	x	
SO-PZ2	x	
SO-PZ3		x
Off-Site Wells		
R-15A	x	
R-51A		x
IM-7A	x	
ME-1A		x

**Notes:**

From SECOR International Inc., February 20, 1998 report entitled "Final Report Operation and Maintenance Plan for 455, 485/487, and 501/505 East Middlefield Road".

**Table 7  
Groundwater Concentrations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
C-2	A	31-Aug-1989	48	NT	
C-2	A	27-Feb-1992	21	34	
C-2	A	25-Sep-1992	< 1	< 1	
C-2	A	26-Jun-1995	61	< 1	
C-2	A	13-Mar-1996	25	< 1	
C-2	A	13-Mar-1996	25	< 0.5	
C-2	A	16-Dec-1997	15	< 0.5	
C-2	A	18-Dec-1998	7.3	< 0.5	
C-2	A	7-Dec-1999	7.1	1.4	
C-2	A	19-Dec-2000	3.5	< 0.5	
C-2	A	18-Dec-2002	4.1	< 0.5	
C-2	A	21-Dec-2004	5.4	< 0.5	
C-2	A	20-Dec-2006	1.8	< 0.5	
C-2	A	17-Dec-2008	4.0	< 0.5	
C-2	A	14-Dec-2010	3.3	< 0.5	
C-2	A	1-Oct-2012	3.8	< 0.5	
C-2	A	6-Nov-2014	4.2	< 0.5	
C-3	A	5-Sep-1989	52	NT	
C-3	A	27-Feb-1992	37	< 1	
C-3	A	28-Jun-1995	740	< 1	
C-3	A	17-Jan-1996	480	< 10	
C-3	A	13-Mar-1996	480	< 10	
C-3	A	13-Mar-1996	400	< 10	
C-3	A	25-Jun-1997	380	< 5	
C-3	A	24-Sep-1997	400	< 5	
C-3	A	16-Dec-1997	290	< 5	
C-3	A	16-Mar-1998	270	< 5	
C-3	A	4-Jan-1999	230	< 5	
C-3	A	17-Jun-1999	310	< 5	
C-3	A	7-Dec-1999	260	6.1	
C-3	A	19-Dec-2000	110	< 2.5	
C-3	A	12-Dec-2001	320	< 5	
C-3	A	18-Dec-2002	310	< 5	
C-3	A	22-Dec-2003	360	4.7	
C-3	A	22-Dec-2004	240	< 2.5	
C-3	A	14-Dec-2005	420	5.0	
C-3	A	21-Dec-2006	140	1.9	
C-3	A	19-Dec-2007	240	3	
C-3	A	17-Dec-2008	240	<2.5	
C-3	A	17-Dec-2009	400	6	DUP: TCE = 420; cis-1,2-DCE = 6.1.
C-3	A	14-Dec-2010	580	8.4	
C-3	A	25-Oct-2011	260	2.8	
C-3	A	1-Oct-2012	490	7	
C-3	A	3-Oct-2013	250	2.9	DUP: TCE = 240; cis-1,2-DCE = 2.7.
C-3	A	2-May-2014	760	110	1,1-DCA = 3.4; VC = 10; nitrate = 6.4 mg/L; sulfate = 89 mg/L.
C-3	A	6-Nov-2014	140	3.4	
IM-7A	A	12-Feb-1986	17	NT	
IM-7A	A	25-Mar-1986	480	NT	
IM-7A	A	26-Mar-1986	400	NT	
IM-7A	A	1-Apr-1986	420	NT	
IM-7A	A	17-Oct-1986	430	NT	
IM-7A	A	19-Nov-1992	180	< 50	
IM-7A	A	28-Jun-1995	200	< 4	
IM-7A	A	17-Jan-1996	140	< 2.5	
IM-7A	A	13-Mar-1996	120	< 2.5	
IM-7A	A	25-Jun-1997	67	< 1	
IM-7A	A	24-Sep-1997	73	< 2.5	
IM-7A	A	15-Dec-1997	56	< 2.5	

**Table 7  
Groundwater Concentrations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
IM-7A	A	17-Mar-1998	54	< 2.5	
IM-7A	A	16-Jun-1999	36	< 0.5	
IM-7A	A	7-Dec-1999	6.8	< 0.5	
IM-7A	A	19-Dec-2000	36	< 0.5	
IM-7A	A	12-Dec-2001	31	< 0.5	
IM-7A	A	18-Dec-2002	13	< 0.5	
IM-7A	A	22-Dec-2003	8.9	< 0.5	
IM-7A	A	22-Dec-2004	15	< 0.5	
IM-7A	A	14-Dec-2005	16	< 0.5	
IM-7A	A	20-Dec-2006	7.5	< 0.5	
IM-7A	A	19-Dec-2007	11	< 0.5	
IM-7A	A	17-Dec-2008	11	< 0.5	
IM-7A	A	17-Dec-2009	12	< 0.5	
IM-7A	A	14-Dec-2010	12	< 0.5	
IM-7A	A	25-Oct-2011	11	0.80	
IM-7A	A	1-Oct-2012	9.4	< 0.5	
IM-7A	A	3-Oct-2013	14	< 0.5	
IM-7A	A	6-Nov-2014	4.6	< 0.5	
ME-1A	A	29-May-1985	80	3.0	
ME-1A	A	19-Jun-1985	45	NT	
ME-1A	A	12-Jul-1985	49	NT	
ME-1A	A	12-Jul-1985	81	NT	
ME-1A	A	19-Sep-1985	14	NT	
ME-1A	A	26-Nov-1985	62	NT	
ME-1A	A	26-Nov-1985	47	NT	
ME-1A	A	14-Oct-1986	41	NT	
ME-1A	A	25-Sep-1992	36	9.1	
ME-1A	A	28-Jun-1995	31	10	
ME-1A	A	17-Nov-1995	29	8.8	
ME-1A	A	20-Dec-1995	22	8.0	
ME-1A	A	17-Jan-1996	3.6	2.2	
ME-1A	A	13-Mar-1996	19	6.3	
ME-1A	A	25-Jun-1997	39	7.7	
ME-1A	A	24-Sep-1997	51	9.2	
ME-1A	A	15-Dec-1997	85	15	
ME-1A	A	18-Dec-1998	75	6.0	
ME-1A	A	7-Dec-1999	150	14	
ME-1A	A	19-Dec-2000	200	13	
ME-1A	A	18-Dec-2002	170	15	
ME-1A	A	22-Dec-2003	140	14	DUP: TCE = 160; cis-1,2-DCE = 15.
ME-1A	A	22-Dec-2004	120	13	
ME-1A	A	14-Dec-2005	66	6.8	
ME-1A	A	21-Dec-2006	57	8.2	
ME-1A	A	19-Dec-2007	98	8.2	
ME-1A	A	17-Dec-2008	90	11	PCE = 0.54; 1,1-DCA = 0.53. DUP: TCE = 89; cis-1,2-DCE = 12.
ME-1A	A	17-Dec-2009	78	9.9	
ME-1A	A	14-Dec-2010	67	9.0	DUP: TCE = 67; cis-1,2-DCE = 8.8.
ME-1A	A	25-Oct-2011	55	6.4	Freon 113 = 0.53.
ME-1A	A	1-Oct-2012	79	10	
ME-1A	A	3-Oct-2013	52	7.2	Freon 113 = 0.50.
ME-1A	A	6-Nov-2014	70	9.3	
R-15A	A	2-Mar-1985	3,100	NT	
R-15A	A	15-Mar-1985	3,700	NT	
R-15A	A	22-Apr-1985	2,700	NT	
R-15A	A	7-Jun-1985	2,900	NT	
R-15A	A	12-Sep-1985	2,200	NT	
R-15A	A	27-Jan-1985	2,900	NT	

**Table 7**  
**Groundwater Concentrations**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
R-15A	A	6-Mar-1986	2,900	NT	
R-15A	A	22-Oct-1986	1,800	NT	
R-15A	A	16-Oct-1992	410	< 10	
R-15A	A	26-Jun-1995	370	< 1	
R-15A	A	17-Nov-1995	400	< 6	
R-15A	A	20-Dec-1995	470	< 1	
R-15A	A	17-Jan-1996	400	< 5	
R-15A	A	11-Mar-1996	540	< 10	
R-15A	A	15-Dec-1997	220	< 25	
R-15A	A	16-Mar-1998	270	< 5	
R-15A	A	4-Jan-1999	190	< 2.5	
R-15A	A	16-Jun-1999	240	< 0.5	
R-15A	A	8-Dec-1999	140	< 0.5	
R-15A	A	19-Dec-2000	17	< 0.5	
R-15A	A	12-Dec-2001	110	< 2.5	
R-15A	A	18-Dec-2002	39	< 0.5	
R-15A	A	22-Dec-2003	70	< 0.5	
R-15A	A	21-Dec-2004	100	< 1	
R-15A	A	14-Dec-2005	67	< 0.5	
R-15A	A	21-Dec-2006	44	< 0.5	
R-15A	A	19-Dec-2007	67	0.54	
R-15A	A	17-Dec-2008	65	0.78	
R-15A	A	17-Dec-2009	56	0.55	
R-15A	A	14-Dec-2010	44	< 0.5	
R-15A	A	25-Oct-2011	78	0.50	PCE = 0.69.
R-15A	A	1-Oct-2012	18	< 0.5	
R-15A	A	3-Oct-2013	67	0.54	PCE = 0.64.
R-15A	A	6-Nov-2014	47	0.77	
R-20A	A	5-May-1985	68	NT	
R-20A	A	30-May-1985	30	NT	
R-20A	A	12-Sep-1985	90	NT	
R-20A	A	19-Sep-1985	44	NT	
R-20A	A	23-Dec-1985	38	NT	
R-20A	A	4-Mar-1986	120	NT	
R-20A	A	9-Oct-1986	49	NT	
R-20A	A	25-Sep-1989	143	NT	
R-20A	A	26-Jun-1995	89	4.4	
R-20A	A	17-Jan-1996	280	NT	
R-20A	A	13-Mar-1996	350	9.4	
R-20A	A	16-Dec-1997	290	NT	
R-20A	A	18-Dec-1998	220	16	
R-20A	A	8-Dec-1999	180	30	
R-20A	A	19-Dec-2000	180	25	
R-20A	A	18-Dec-2002	190	8.5	
R-20A	A	22-Dec-2003	340	15	
R-20A	A	22-Dec-2004	360	15	
R-20A	A	21-Dec-2006	360	11	
R-20A	A	2-Feb-2009	320	8.1	Well resampled on Feb. 2, 2009.
R-20A	A	14-Dec-2010	480	14	
R-20A	A	1-Oct-2012	580	14	
R-20A	A	2-May-2014	240 / 250	6.9 / 7.4	Nitrate = 16 mg/L; sulfate = 82 mg/L
R-20A	A	6-Nov-2014	60 / 57	2.5 / 2.2	VC = 0.50 and <0.50.
R-21A	A	15-Aug-1985	540	NT	
R-21A	A	13-Sep-1985	350	NT	
R-21A	A	2-Dec-1985	380	NT	
R-21A	A	22-Oct-1986	380	NT	
R-21A	A	27-Jun-1989	500	< 5	

**Table 7  
Groundwater Concentrations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
R-21A	A	31-Aug-1989	68	NT	
R-21A	A	25-Sep-1989	397	NT	
R-21A	A	9-Mar-1992	1,400	< 25	
R-21A	A	1-Dec-1992	190	< 10	
R-21A	A	28-Jun-1995	110	< 2	
R-21A	A	11-Mar-1996	90	2	
R-21A	A	25-Jun-1997	60	< 10	
R-21A	A	24-Sep-1997	64	< 2.5	
R-21A	A	16-Dec-1997	45	< 1.3	
R-21A	A	16-Mar-1998	67	< 0.5	
R-21A	A	16-Jun-1999	63	< 0.5	
R-21A	A	7-Dec-1999	43	1.4	
R-21A	A	19-Dec-2000	43	1.3	
R-21A	A	12-Dec-2001	43	1.6	
R-21A	A	18-Dec-2002	37	1.4	
R-21A	A	22-Dec-2003	42	2.3	
R-21A	A	21-Dec-2004	39	2.3	
R-21A	A	14-Dec-2005	39	1.9	
R-21A	A	20-Dec-2006	40	2.4	
R-21A	A	19-Dec-2007	39	2.8	
R-21A	A	17-Dec-2008	47	4.8	PCE = 0.59.
R-21A	A	17-Dec-2009	44	4.6	
R-21A	A	14-Dec-2010	39	6.4	
R-21A	A	25-Oct-2011	57	7.4	
R-21A	A	1-Oct-2012	45	5.1	
R-21A	A	3-Oct-2013	41	5.1	
R-21A	A	6-Nov-2014	26	4.1	
R-48A	A	15-Dec-1986	< 1	NT	
R-48A	A	27-Jan-1987	79	NT	
R-48A	A	3-Feb-1987	34	NT	
R-48A	A	9-Mar-1992	54	< 1	
R-48A	A	13-Oct-1992	6.8	< 1	
R-48A	A	28-Jun-1995	30	< 1	
R-48A	A	11-Mar-1996	17	< 0.5	
R-48A	A	16-Dec-1997	13	< 0.5	
R-48A	A	19-Dec-2000	10	< 0.5	
R-48A	A	18-Dec-2002	10	< 0.5	
R-48A	A	21-Dec-2004	7.0	< 0.5	
R-48A	A	20-Dec-2006	5.4	< 0.5	
R-48A	A	17-Dec-2008	8.5	< 0.5	
R-48A	A	14-Dec-2010	6.0	< 0.5	
R-48A	A	1-Oct-2012	6.9	< 0.5	
R-48A	A	6-Nov-2014	4.6	< 0.5	
R-51A	A	29-Apr-1987	54	NT	
R-51A	A	7-May-1987	56	NT	
R-51A	A	14-May-1987	120	NT	
R-51A	A	26-Jun-1995	140	< 1	
R-51A	A	17-Nov-1995	130	< 1	
R-51A	A	20-Dec-1995	130	< 1	
R-51A	A	17-Jan-1996	120	< 2.5	
R-51A	A	11-Mar-1996	110	< 2.5	
R-51A	A	16-Dec-1997	65	< 2.5	
R-51A	A	17-Dec-1998	42	< 0.5	
R-51A	A	7-Dec-1999	40	< 0.5	
R-51A	A	19-Dec-2000	29	< 0.5	
R-51A	A	18-Dec-2002	27	< 0.5	
R-51A	A	21-Dec-2004	20	< 0.5	

**Table 7  
Groundwater Concentrations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
R-51A	A	20-Dec-2006	15	< 0.5	
R-51A	A	17-Dec-2008	17	< 0.5	
R-51A	A	14-Dec-2010	14	< 0.5	
R-51A	A	1-Oct-2012	12	< 0.5	
R-51A	A	6-Nov-2014	11	< 0.5	
SO-1	A	5-Sep-1989	132	NT	
SO-1	A	27-Feb-1992	390	< 1	
SO-1	A	25-Sep-1992	260	< 1	
SO-1	A	28-Jun-1995	83	< 1	
SO-1	A	17-Nov-1995	57	< 1	
SO-1	A	20-Dec-1995	54	< 1	
SO-1	A	18-Jan-1996	53	< 1	
SO-1	A	11-Mar-1996	57	< 1	
SO-1	A	16-Dec-1997	33	< 3.3	
SO-1	A	16-Dec-1998	33	< 0.5	
SO-1	A	7-Dec-1999	36	< 0.5	
SO-1	A	19-Dec-2000	28	< 0.5	
SO-1	A	18-Dec-2002	30	0.56	
SO-1	A	21-Dec-2004	22	0.67	
SO-1	A	20-Dec-2006	19	0.89	
SO-1	A	17-Dec-2008	22	1.1	
SO-1	A	14-Dec-2010	15	0.71	
SO-1	A	1-Oct-2012	18	1.1	
SO-1	A	6-Nov-2014	16	0.92	
SO-2	A	31-Aug-1989	67	NT	
SO-2	A	25-Sep-1989	41,000	NT	
SO-2	A	25-Sep-1989	36,600	NT	
SO-2	A	12-Oct-1989	35,000	NT	
SO-2	A	27-Feb-1992	60,000	< 1	
SO-2	A	25-Sep-1992	49,000	< 1	
SO-2	A	28-Jun-1995	230	< 4	
SO-2	A	11-Oct-1995	270	3.1	
SO-2	A	17-Nov-1995	280	< 4	
SO-2	A	20-Dec-1995	250	3.3	
SO-2	A	18-Jan-1996	170	4.7	
SO-2	A	11-Mar-1996	240	6.1	
SO-2	A	15-Dec-1997	93	3.2	
SO-2	A	17-Dec-1998	110	1.6	
SO-2	A	7-Dec-1999	95	< 0.5	
SO-2	A	19-Dec-2000	100	3.9	
SO-2	A	18-Dec-2002	45	1.7	
SO-2	A	22-Dec-2003	60	3.1	
SO-2	A	21-Dec-2004	66	3.4	
SO-2	A	21-Dec-2006	51	5.3	1,1-DCA = 0.51.
SO-2	A	17-Dec-2008	54	2.2	1,1-DCA = 0.52.
SO-2	A	14-Dec-2010	46	2.5	1,1-DCA = 0.72.
SO-2	A	1-Oct-2012	43	2.2	
SO-2	A	6-Nov-2014	24	0.60	
SO-PZ1	A	27-Apr-1993	1,200	< 25	
SO-PZ1	A	27-Apr-1993	1,100	< 25	
SO-PZ1	A	28-Jun-1995	1,100	< 15	
SO-PZ1	A	17-Nov-1995	560	< 13	
SO-PZ1	A	20-Dec-1995	450	< 5	
SO-PZ1	A	17-Jan-1996	520	< 10	
SO-PZ1	A	13-Mar-1996	560	< 10	
SO-PZ1	A	25-Jun-1997	450	< 10	

**Table 7  
Groundwater Concentrations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
SO-PZ1	A	25-Jun-1997	470	< 10	
SO-PZ1	A	24-Sep-1997	920	< 13	
SO-PZ1	A	15-Dec-1997	350	< 13	
SO-PZ1	A	15-Dec-1997	340	< 25	
SO-PZ1	A	16-Mar-1998	570	< 10	
SO-PZ1	A	4-Jan-1999	340	< 10	
SO-PZ1	A	16-Jun-1999	360	63	
SO-PZ1	A	7-Dec-1999	400	830	
SO-PZ1	A	19-Dec-2000	10	310	
SO-PZ1	A	12-Dec-2001	130	690	
SO-PZ1	A	18-Dec-2002	84	610	
SO-PZ1	A	22-Dec-2003	110	570	
SO-PZ1	A	22-Dec-2004	160	620	
SO-PZ1	A	14-Dec-2005	66	380	
SO-PZ1	A	21-Dec-2006	13	78	
SO-PZ1	A	19-Dec-2007	12	370	
SO-PZ1	A	17-Dec-2008	100	200	VC = 2.6
SO-PZ1	A	17-Dec-2009	14	210	
SO-PZ1	A	14-Dec-2010	46	900	VC = 24; trans-1,2-DCE = 3.9
SO-PZ1	A	25-Oct-2011	120	310	VC = 4.6. DUP: TCE = 130, cis-1,2-DCE = 300, VC = 3.9
SO-PZ1	A	1-Oct-2012	130 / 120	820 / 800	VC = 15/18; trans-1,2-DCE = 4.1/3.8; 1,1-DCE = 2.6/2.5; 1,1-DCA = <0.5/0.79
SO-PZ1	A	3-Oct-2013	68	500	VC = 69; trans-1,2-DCE = 3.2
SO-PZ1	A	6-Nov-2014	33 / 31	180 / 170	VC = 110 / 110
SO-PZ2	A	27-Apr-1993	3,900	< 100	
SO-PZ2	A	28-Jun-1995	5,000	< 75	
SO-PZ2	A	17-Nov-1995	7,400	85	
SO-PZ2	A	17-Nov-1995	5,900	< 75	
SO-PZ2	A	20-Dec-1995	1,900	120	
SO-PZ2	A	20-Dec-1995	1,800	120	
SO-PZ2	A	17-Jan-1996	4,200	280	
SO-PZ2	A	17-Jan-1996	4,000	240	
SO-PZ2	A	12-Mar-1996	1,200	< 25	
SO-PZ2	A	12-Mar-1996	1,400	< 25	
SO-PZ2	A	25-Jun-1997	3,500	< 100	
SO-PZ2	A	24-Sep-1997	6,300	110	
SO-PZ2	A	24-Sep-1997	7,000	110	
SO-PZ2	A	15-Dec-1997	8,000	< 100	
SO-PZ2	A	16-Mar-1998	700	150	
SO-PZ2	A	16-Mar-1998	2,900	< 50	
SO-PZ2	A	4-Jan-1999	2,400	< 50	
SO-PZ2	A	16-Jun-1999	2,900	730	
SO-PZ2	A	8-Dec-1999	800	2,500	
SO-PZ2	A	19-Dec-2000	190	270	
SO-PZ2	A	12-Dec-2001	610	3,600	
SO-PZ2	A	18-Dec-2002	120	1,900	
SO-PZ2	A	22-Dec-2003	35	370	
SO-PZ2	A	22-Dec-2004	230	960	DUP: TCE = 160; cis-1,2-DCE = 290
SO-PZ2	A	14-Dec-2005	510	2,200	VC = 40. DUP: TCE = 43; cis-1,2-DCE = 2,300; VC = 43; trans-1,2-DCE = 23
SO-PZ2	A	21-Dec-2006	420	1,500	VC = 32. DUP: TCE = 410; cis-1,2-DCE = 1,600; VC = 30; trans-1,2-DCE = 20
SO-PZ2	A	19-Dec-2007	38	840	DUP: DCE = 160
SO-PZ2	A	17-Dec-2008	420	1,500	VC = 36; trans-1,2-DCE = 16
SO-PZ2	A	17-Dec-2009	300	1,700	VC = 46; trans-1,2-DCE = 19
SO-PZ2	A	14-Dec-2010	21	430	VC = 15. DUP: TCE = 18; cis-1,2-DCE = 370; VC = 19
SO-PZ2	A	25-Oct-2011	350	1,200	VC = 39; trans-1,2-DCE = 14
SO-PZ2	A	1-Oct-2012	110	780	VC = 30; trans-1,2-DCE = 11
SO-PZ2	A	3-Oct-2013	52	640	VC = 40
SO-PZ2	A	6-Nov-2014	140	1,100	VC = 32

**Table 7  
Groundwater Concentrations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
SO-PZ3	A	27-Apr-1993	< 0.5	< 0.5	
SO-PZ3	A	16-Dec-1997	< 0.5	< 0.5	
SO-PZ3	A	17-Dec-1998	< 0.5	< 0.5	
SO-PZ3	A	8-Dec-1999	< 0.5	< 0.5	
SO-PZ3	A	19-Dec-2000	< 0.5	< 0.5	
SO-PZ3	A	18-Dec-2002	< 0.5	< 0.5	
SO-PZ3	A	21-Dec-2004	< 0.5	< 0.5	
SO-PZ3	A	20-Dec-2006	< 0.5	< 0.5	
SO-PZ3	A	17-Dec-2008	< 0.5	< 0.5	
SO-PZ3	A	14-Dec-2010	< 0.5	< 0.5	
SO-PZ3	A	1-Oct-2012	< 0.5	< 0.5	
SO-PZ3	A	6-Nov-2014	< 0.5	< 0.5	
SO-4	A	28-Jun-1995	<b>220</b>	< 4	
SO-4	A	28-Jun-1995	<b>210</b>	< 5	
SO-4	A	17-Jan-1996	<b>140</b>	< 2.5	
SO-4	A	13-Mar-1996	<b>140</b>	< 2.5	
SO-4	A	25-Jun-1997	<b>80</b>	< 1.2	
SO-4	A	24-Sep-1997	<b>81</b>	< 2.5	
SO-4	A	16-Dec-1997	<b>52</b>	< 2.5	
SO-4	A	16-Mar-1998	<b>51</b>	< 0.5	
SO-4	A	4-Jan-1999	<b>53</b>	< 1	
SO-4	A	16-Jun-1999	<b>58</b>	< 0.5	
SO-4	A	7-Dec-1999	<b>37</b>	< 0.5	
SO-4	A	19-Dec-2000	< 0.5	< 0.5	
SO-4	A	12-Dec-2001	<b>34</b>	< 0.5	
SO-4	A	18-Dec-2002	<b>28</b>	< 0.5	
SO-4	A	22-Dec-2003	<b>25</b>	< 0.5	
SO-4	A	21-Dec-2004	<b>19</b>	< 0.5	
SO-4	A	14-Dec-2005	<b>12</b>	< 0.5	
SO-4	A	20-Dec-2006	<b>6.1</b>	< 0.5	
SO-4	A	19-Dec-2007	<b>10</b>	< 0.5	
SO-4	A	17-Dec-2008	<b>18</b>	< 0.5	
SO-4	A	17-Dec-2009	<b>16</b>	< 0.5	
SO-4	A	14-Dec-2010	<b>14</b>	< 0.5	
SO-4	A	25-Oct-2011	<b>11</b>	< 0.5	
SO-4	A	1-Oct-2012	<b>14</b>	< 0.5	Chloroform = 4.0.
SO-4	A	3-Oct-2013	<b>15</b>	< 0.5	
SO-4	A	6-Nov-2014	<b>12</b>	< 0.5	
EW-1	A	26-Jun-1995	<b>150</b>	< 2	
EW-1	A	17-Nov-1995	<b>76</b>	< 1	
EW-1	A	20-Dec-1995	<b>60</b>	< 1	
EW-1	A	17-Jan-1996	<b>51</b>	< 1	
EW-1	A	13-Mar-1996	<b>190</b>	< 2.5	
EW-1	A	25-Jun-1997	<b>180</b>	< 2.5	
EW-1	A	24-Sep-1997	<b>170</b>	< 5	
EW-1	A	17-Dec-1997	<b>170</b>	< 5	
EW-1	A	16-Mar-1998	<b>260</b>	< 2.5	
EW-1	A	4-Jan-1999	<b>200</b>	< 5	
EW-1	A	17-Jun-1999	<b>220</b>	< 0.5	
EW-1	A	8-Dec-1999	<b>140</b>	< 0.5	
EW-1	A	19-Dec-2000	<b>95</b>	< 2.5	
EW-1	A	12-Dec-2001	<b>77</b>	< 2.5	
EW-1	A	18-Dec-2002	<b>70</b>	< 2.5	
EW-1	A	22-Dec-2003	<b>78</b>	< 2.5	Chloroform = 0.58.
EW-1	A	22-Dec-2004	<b>46</b>	<b>1.1</b>	Chloroform = 0.61.
EW-1	A	14-Dec-2005	<b>75</b>	<b>1.2</b>	
EW-1	A	21-Dec-2006	<b>53</b>	<b>1.2</b>	

**Table 7  
Groundwater Concentrations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
EW-1	A	19-Dec-2007	53	1.6	Dichlorobromomethane = 0.60.
EW-1	A	17-Dec-2008	43	< 0.5	
EW-1	A	17-Dec-2009	56	1.6	
EW-1	A	14-Dec-2010	40	< 0.5	
EW-1	A	25-Oct-2011	56	0.93	
EW-1	A	1-Oct-2012	48	1.9	
EW-1	A	3-Oct-2013	67	3.8	
EW-1	A	6-Nov-2014	56	3.2	
EW-2	A	25-Jun-1997	270	< 5	Chloroform = 0.56. Chloroform = 0.74.  1,1,1-TCA = 0.51.
EW-2	A	24-Sep-1997	220	< 5	
EW-2	A	17-Dec-1997	290	< 5	
EW-2	A	16-Mar-1998	290	< 2.5	
EW-2	A	4-Jan-1999	150	< 5	
EW-2	A	15-Jun-1999	190	< 0.5	
EW-2	A	7-Dec-1999	180	< 0.5	
EW-2	A	19-Dec-2000	140	3.2	
EW-2	A	12-Dec-2001	140	3.5	
EW-2	A	18-Dec-2002	88	< 2.5	
EW-2	A	22-Dec-2003	84	1.9	
EW-2	A	22-Dec-2004	79	3.2	
EW-2	A	14-Dec-2005	66	2.2	
EW-2	A	21-Dec-2006	59	3.3	
EW-2	A	19-Dec-2007	47	2.2	
EW-2	A	17-Dec-2008	92	5.6	
EW-2	A	6-Jan-2010	81	6.7	
EW-2	A	14-Dec-2010	73	8.5	
EW-2	A	4-Nov-2011	55	13	
EW-2	A	1-Oct-2012	62	11	
EW-2	A	3-Oct-2013	110	32	
EW-2	A	6-Nov-2014	170	150	
EW-3	A	25-Jun-1997	220	< 5	Chloroform = 0.66.
EW-3	A	24-Sep-1997	210	< 5	
EW-3	A	17-Dec-1997	170	< 5	
EW-3	A	16-Mar-1998	140	< 2.5	
EW-3	A	4-Jan-1999	130	< 1	
EW-3	A	17-Jun-1999	140	< 0.5	
EW-3	A	7-Dec-1999	92	< 0.5	
EW-3	A	19-Dec-2000	96	< 2.5	
EW-3	A	12-Dec-2001	86	< 2.5	
EW-3	A	18-Dec-2002	51	< 0.5	
EW-3	A	22-Dec-2003	47	< 0.5	
EW-3	A	22-Dec-2004	46	< 0.5	
EW-3	A	14-Dec-2005	41	< 0.5	
EW-3	A	21-Dec-2006	32	< 0.5	
EW-3	A	19-Dec-2007	35	< 0.5	
EW-3	A	17-Dec-2008	43	< 0.5	
EW-3	A	17-Dec-2009	40	< 0.5	
EW-3	A	14-Dec-2010	41	< 0.5	
EW-3	A	25-Oct-2011	44	< 0.5	
EW-3	A	1-Oct-2012	45	< 0.5	
EW-3	A	3-Oct-2013	41	< 0.5	
EW-3	A	6-Nov-2014	50	0.51	
EW-4	A	25-Jun-1997	130	< 2.5	
EW-4	A	24-Sep-1997	110	< 2.5	
EW-4	A	17-Dec-1997	69	< 2.5	
EW-4	A	16-Mar-1998	89	< 0.5	
EW-4	A	4-Jan-1999	69	< 1	

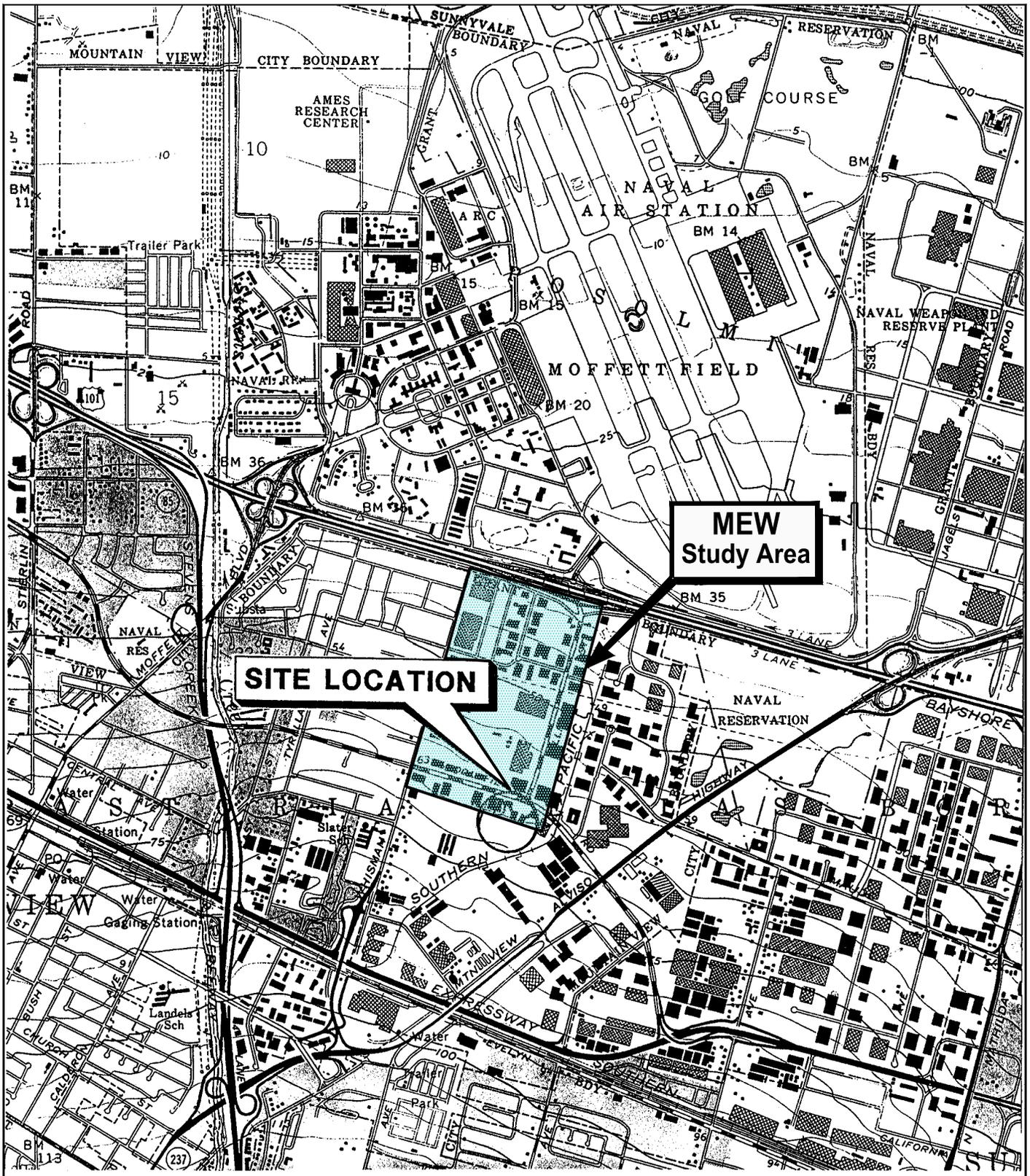
**Table 7  
Groundwater Concentrations  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**

Well Number	Aquifer	Sample Date	TCE (µg/L)	cis-1,2-DCE (µg/L)	Notes
EW-4	A	15-Jun-1999	56	< 0.5	
EW-4	A	7-Dec-1999	60	< 0.5	
EW-4	A	19-Dec-2000	45	< 1	
EW-4	A	12-Dec-2001	49	< 1	
EW-4	A	18-Dec-2002	37	< 1	
EW-4	A	22-Dec-2003	34	< 0.5	Chloroform = 0.51
EW-4	A	22-Dec-2004	32	< 0.5	Chloroform = 0.64
EW-4	A	14-Dec-2005	31	< 0.5	
EW-4	A	21-Dec-2006	23	< 0.5	
EW-4	A	19-Dec-2007	28	< 0.5	Sampled from port with pump off. Resampled March 18, 2008.
EW-4	A	17-Dec-2008	34	< 0.5	1,1,1-TCA = 0.53
EW-4	A	17-Dec-2009	28	< 0.5	
EW-4	A	14-Dec-2010	27	< 0.5	1,1,1-TCA = 0.51
EW-4	A	25-Oct-2011	24	< 0.5	
EW-4	A	1-Oct-2012	32	1.4	
EW-4	A	3-Oct-2013	27	< 0.5	
EW-4	A	6-Nov-2014	25	< 0.5	
SO3-B1	B1	27-Feb-1992	18	10	
SO3-B1	B1	26-Jun-1995	11	6.6	
SO3-B1	B1	11-Mar-1996	10	6.4	
SO3-B1	B1	11-Mar-1996	12	7.0	
SO3-B1	B1	15-Dec-1997	3.4	2.1	
SO3-B1	B1	17-Dec-1998	1.1	< 0.5	
SO3-B1	B1	7-Dec-1999	3.6	< 0.5	
SO3-B1	B1	19-Dec-2000	2.5	< 0.5	
SO3-B1	B1	18-Dec-2002	1.3	< 0.5	
SO3-B1	B1	21-Dec-2004	2.0	0.69	
SO3-B1	B1	20-Dec-2006	< 0.5	< 0.5	
SO3-B1	B1	17-Dec-2008	< 0.5	< 0.5	
SO3-B1	B1	14-Dec-2010	3.3	1.5	
SO3-B1	B1	1-Oct-2012	< 0.5	< 0.5	
SO3-B1	B1	6-Nov-2014	< 0.5	< 0.5	

Notes:

- µg/L = micrograms per liter.
- mg/L = milligrams per liter (sulfate and nitrate results only).
- NT = not tested.
- PCE = tetrachloroethylene.
- TCE = trichloroethylene.
- cis-1,2-DCE = cis-1,2-dichloroethylene.
- trans-1,2-DCE = trans-1,2-dichloroethylene.
- VC = vinyl chloride.
- 1,1-DCE = 1,1-Dichloroethene.
- 1,1-DCA = 1,1-Dichloroethane.
- 1,1,1-TCA = 1,1,1-Trichloroethane.
- < 5 = Not detected above specified detection limit.

**PLATES**



**MEW  
Study Area**

**SITE LOCATION**

SOURCE: BASE MAP FROM U.S.G.S. MOUNTAIN VIEW, CA QUADRANGLE. 7.5 MINUTE SERIES TOPOGRAPHIC MAP, PHOTOREVISED 1981.



**NORTH**



SCALE

FEET



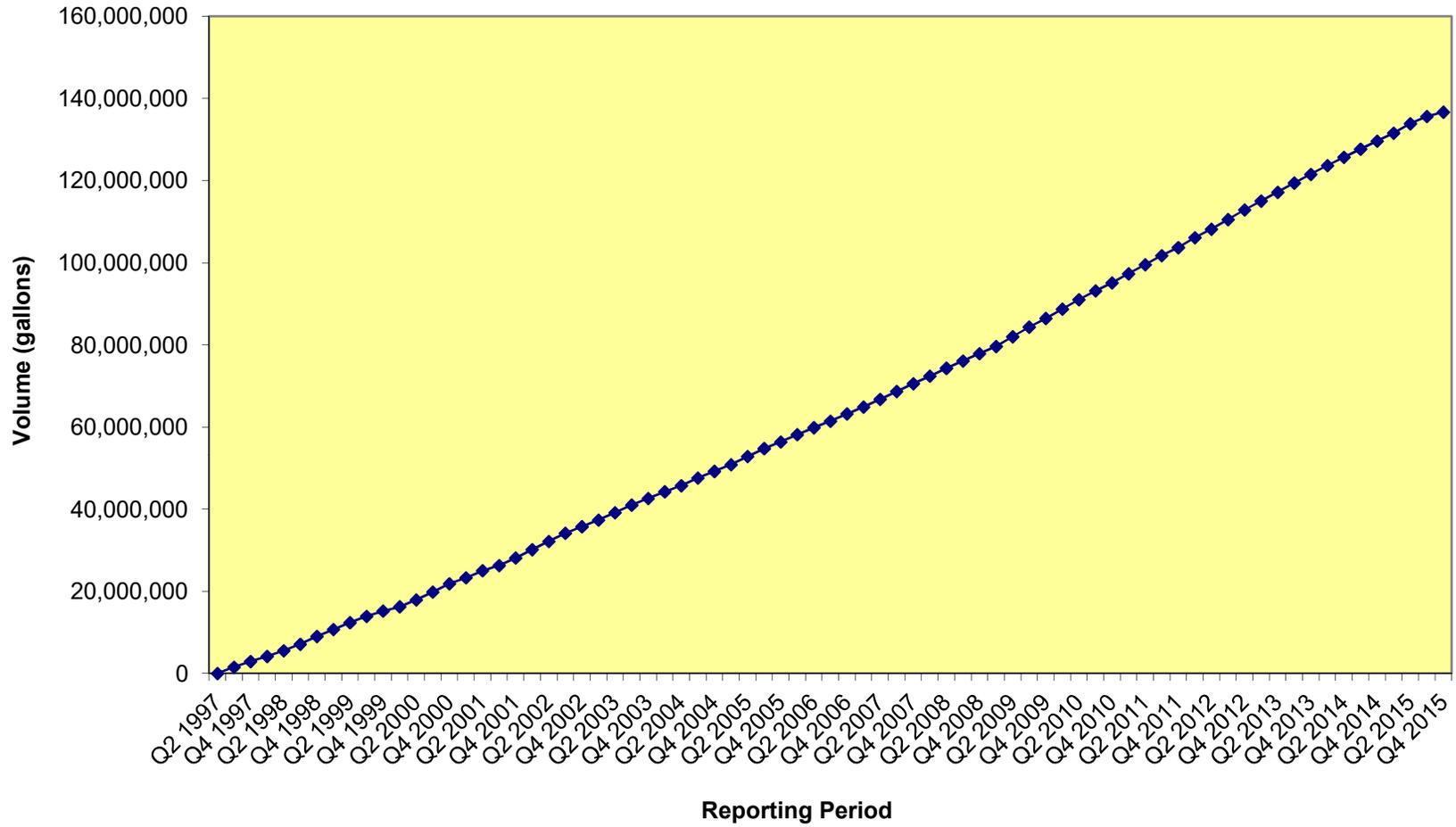
**PES Environmental, Inc.**  
Engineering & Environmental Services

**Site Location Map**  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California

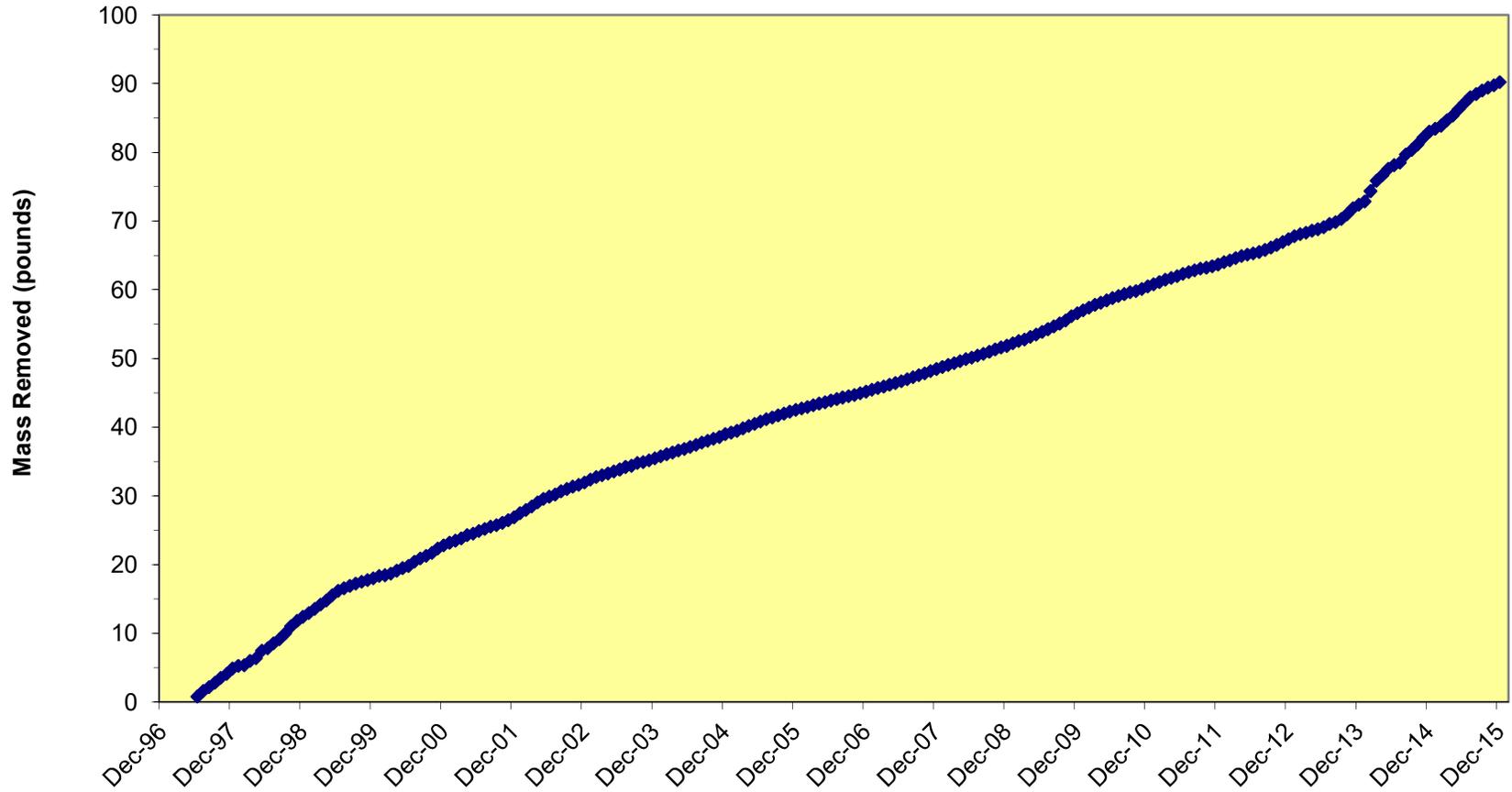
PLATE

**1**

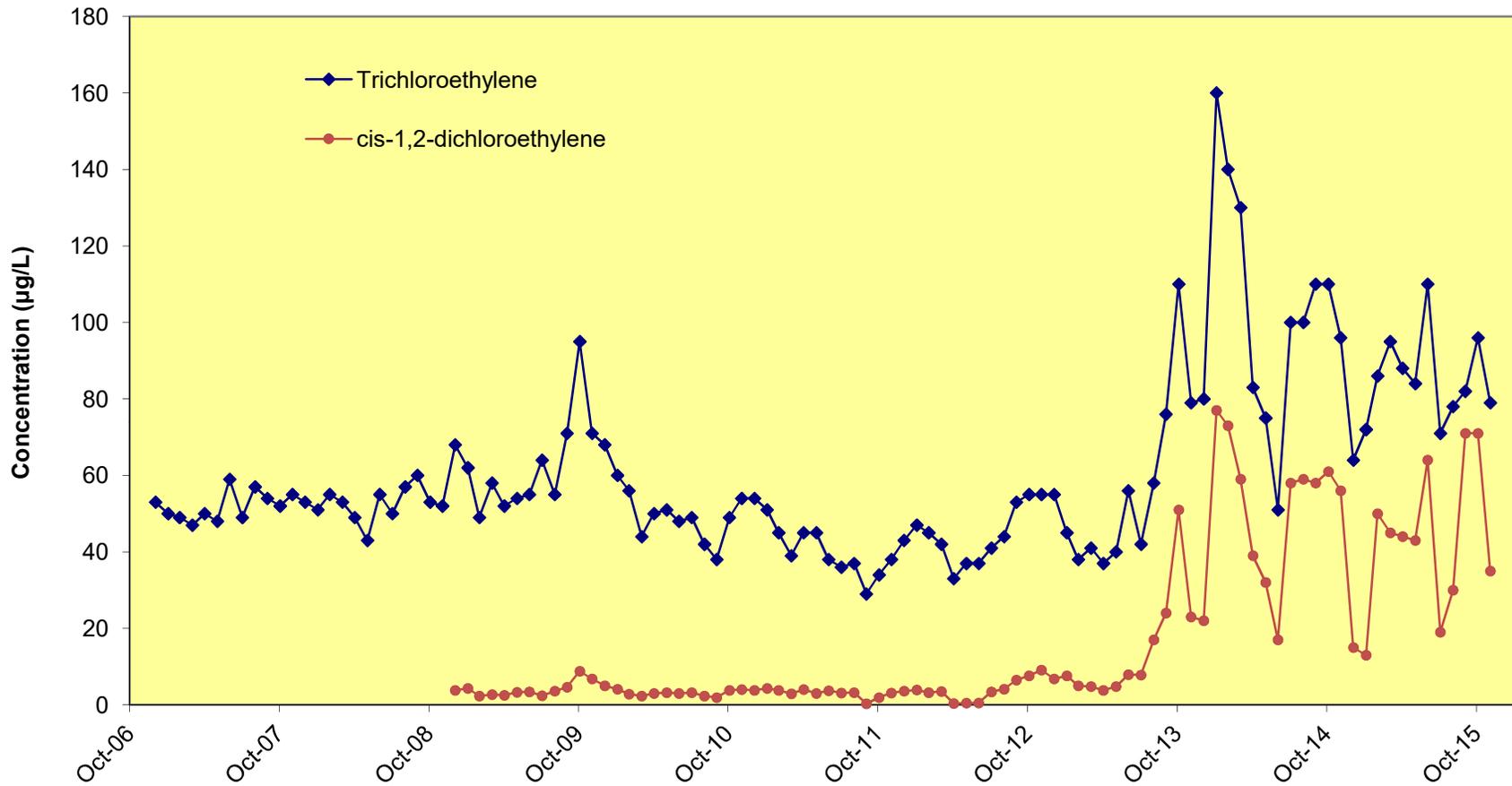
**Plate 2**  
**Cumulative Groundwater Discharge Volume**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

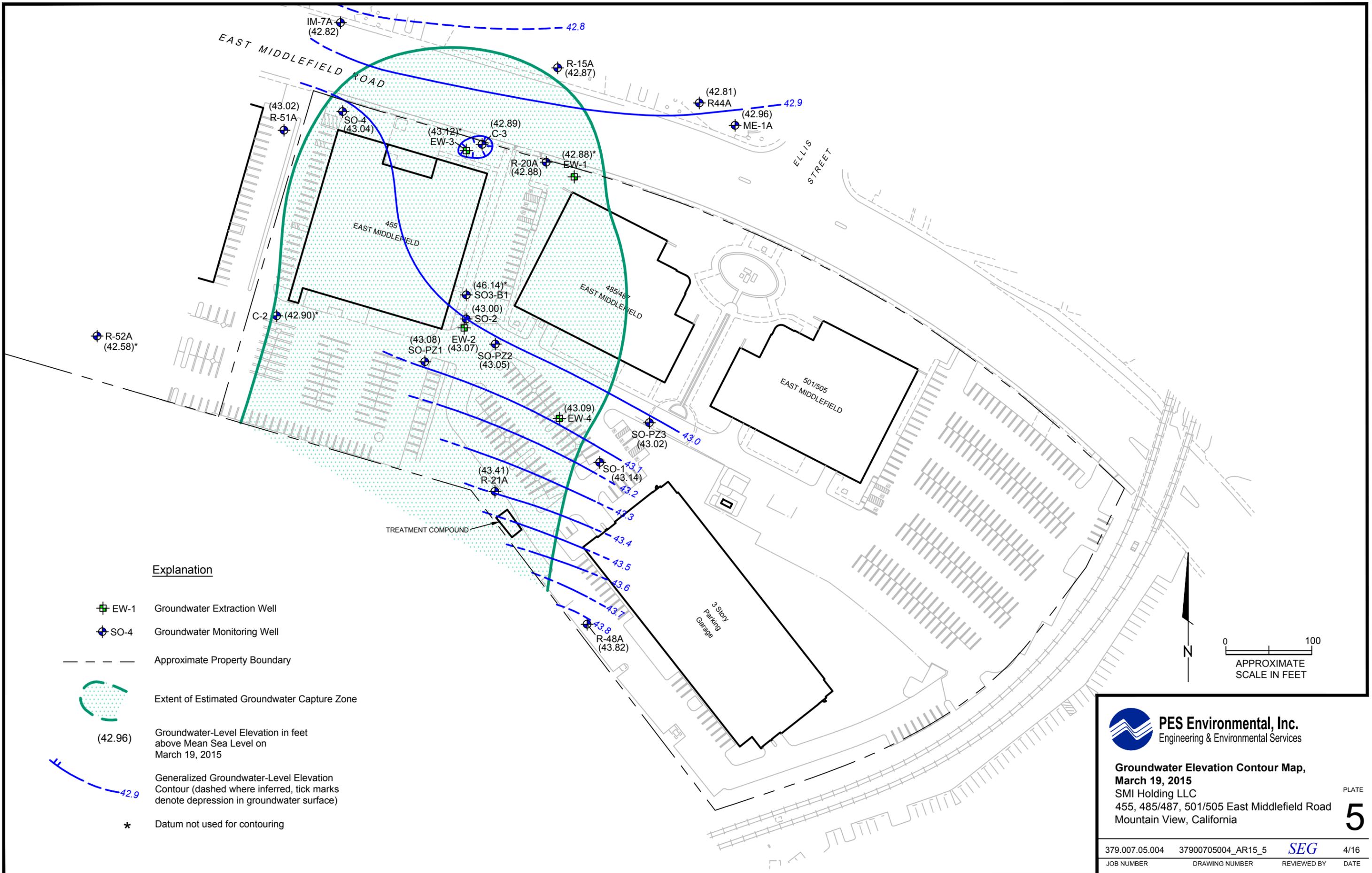


**Plate 3  
Cumulative Mass Removal  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California**



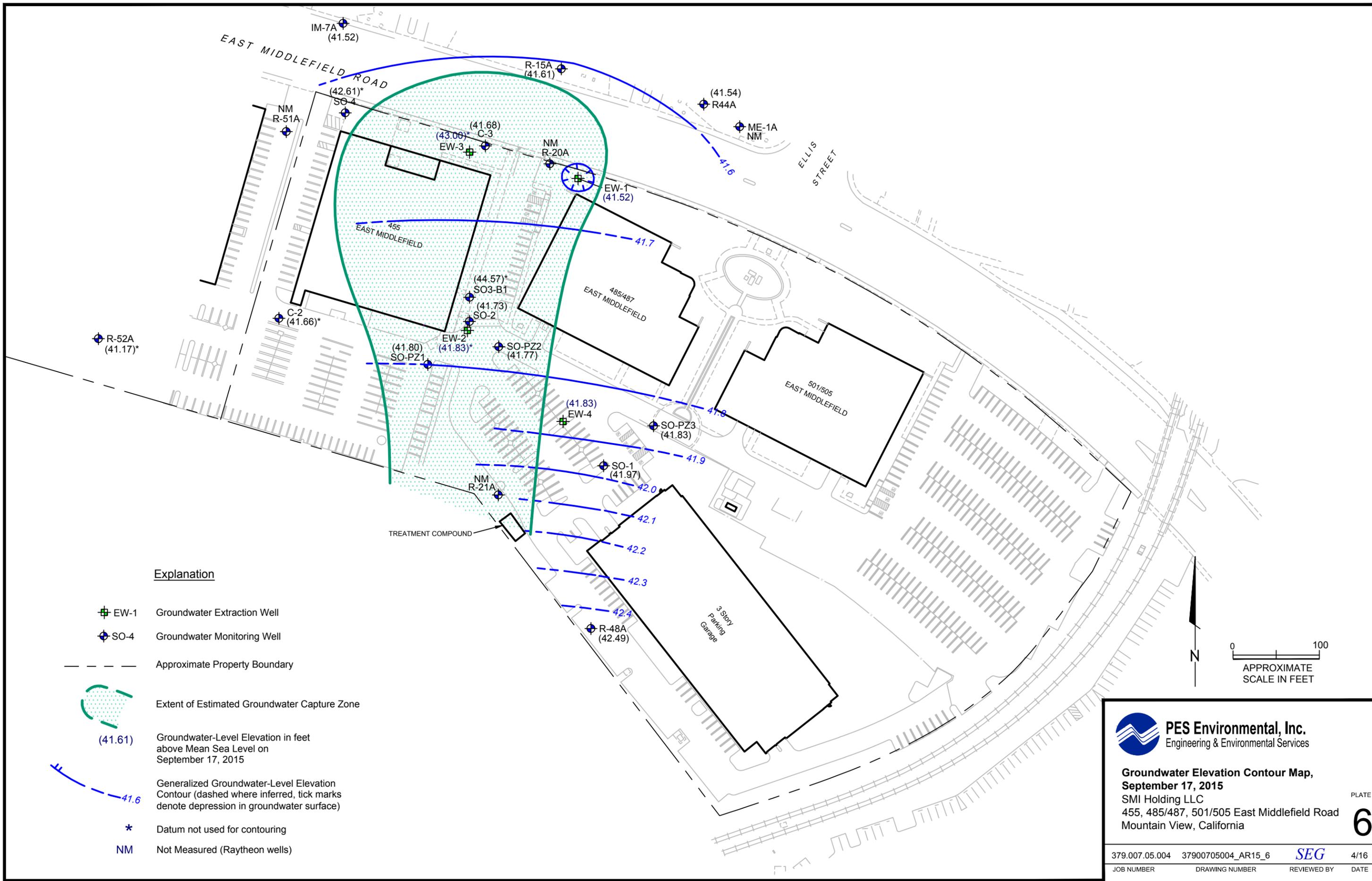
**Plate 4**  
**GWET System Influent TCE and Cis-1,2-DCE Concentrations**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**





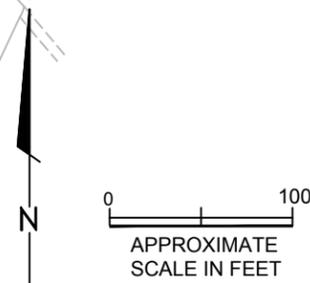
**Groundwater Elevation Contour Map,  
March 19, 2015**  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California

PLATE  
**5**



**Explanation**

- EW-1 Groundwater Extraction Well
- SO-4 Groundwater Monitoring Well
- Approximate Property Boundary
- Extent of Estimated Groundwater Capture Zone
- (41.61) Groundwater-Level Elevation in feet above Mean Sea Level on September 17, 2015
- Generalized Groundwater-Level Elevation Contour (dashed where inferred, tick marks denote depression in groundwater surface)
- \* Datum not used for contouring
- NM Not Measured (Raytheon wells)

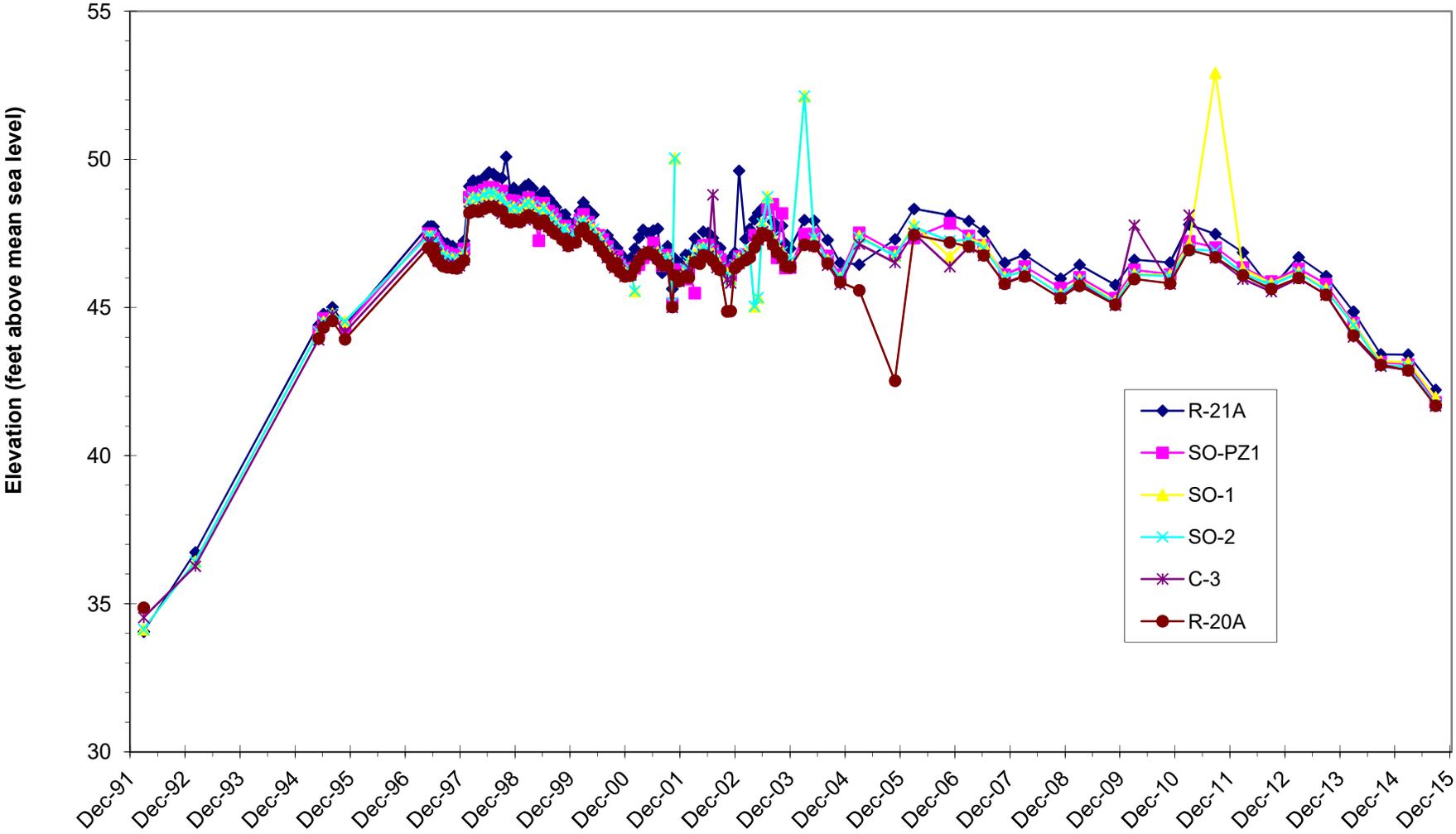


**PES Environmental, Inc.**  
Engineering & Environmental Services

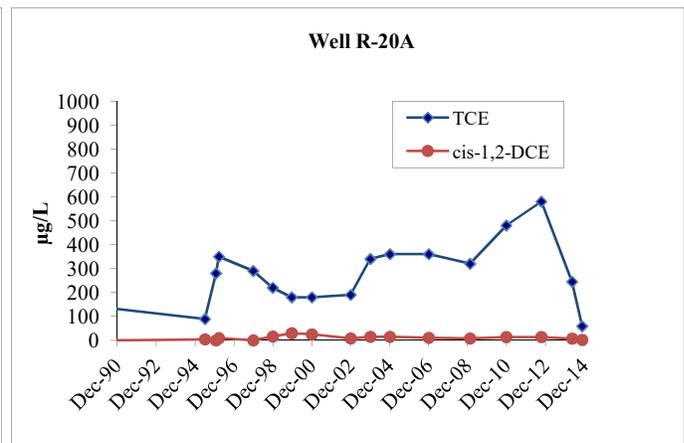
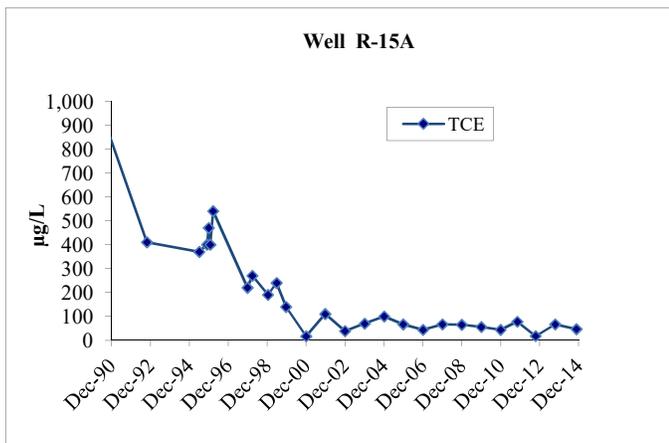
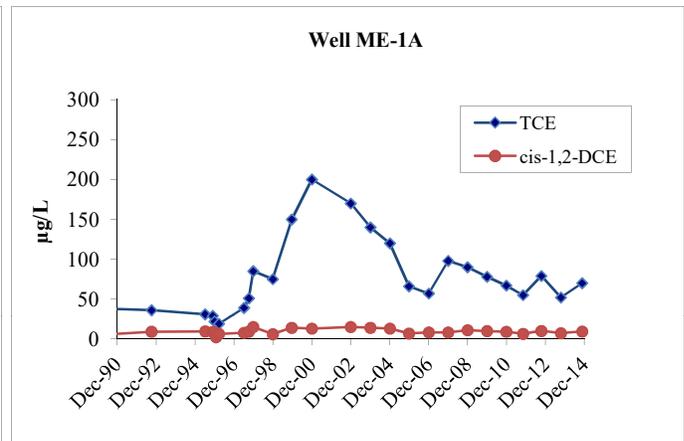
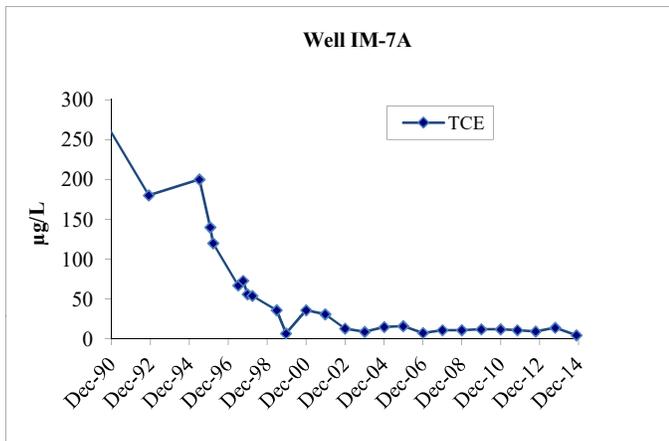
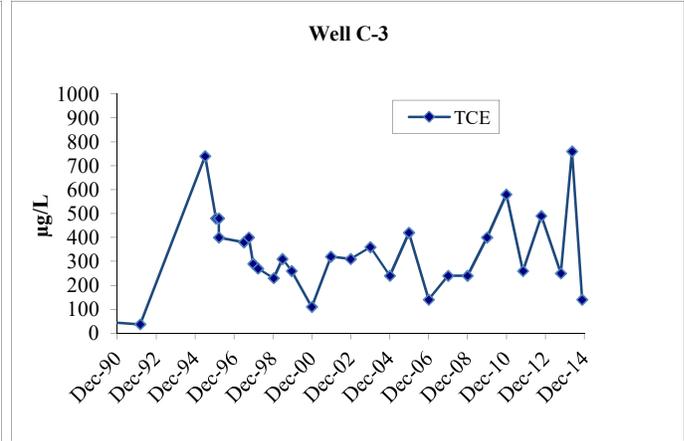
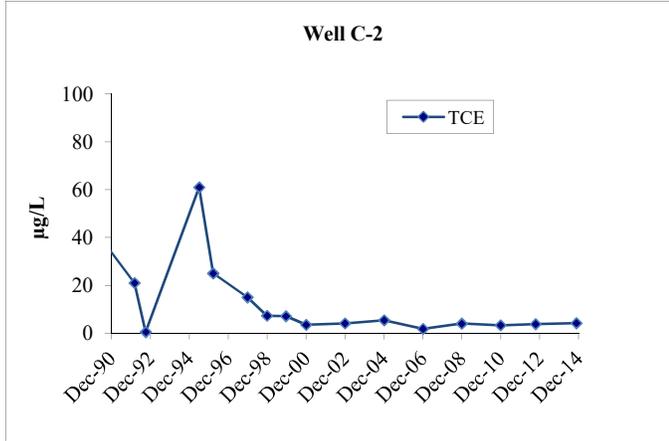
**Groundwater Elevation Contour Map,**  
**September 17, 2015**  
SMI Holding LLC  
455, 485/487, 501/505 East Middlefield Road  
Mountain View, California

PLATE  
**6**

**Plate 7**  
**A-Aquifer Monitoring Well Groundwater Elevations (1992-2015)**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**

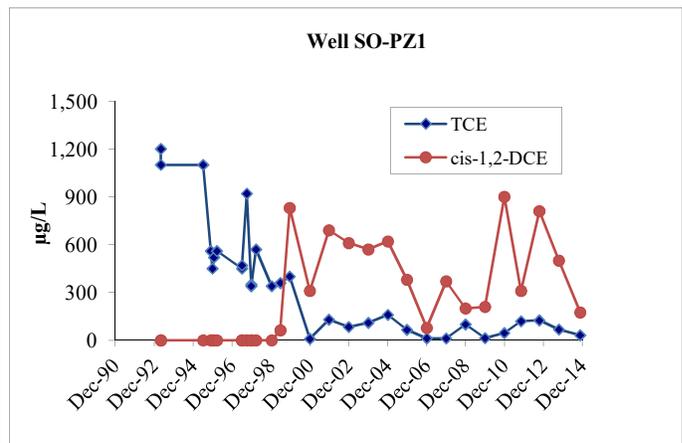
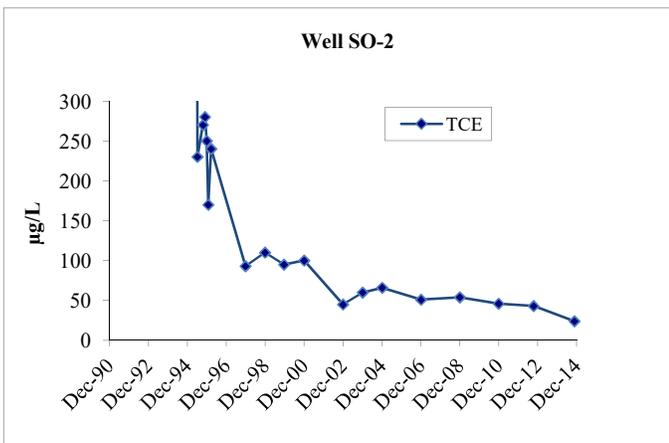
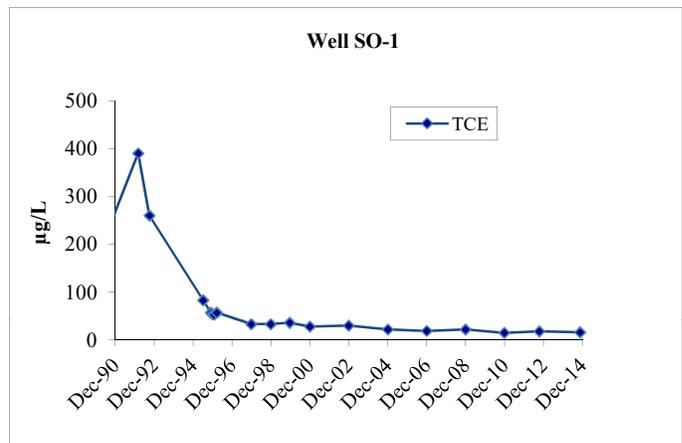
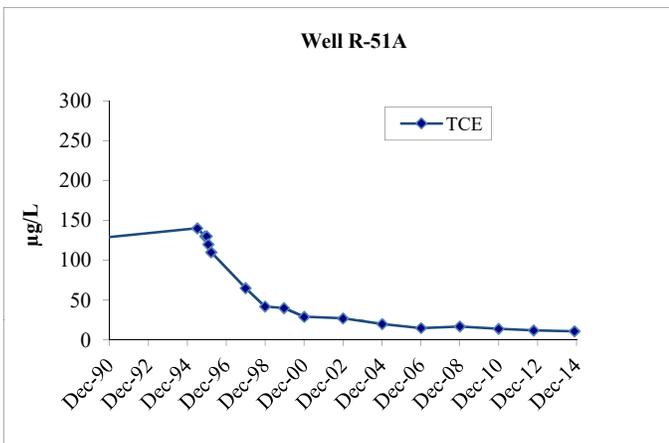
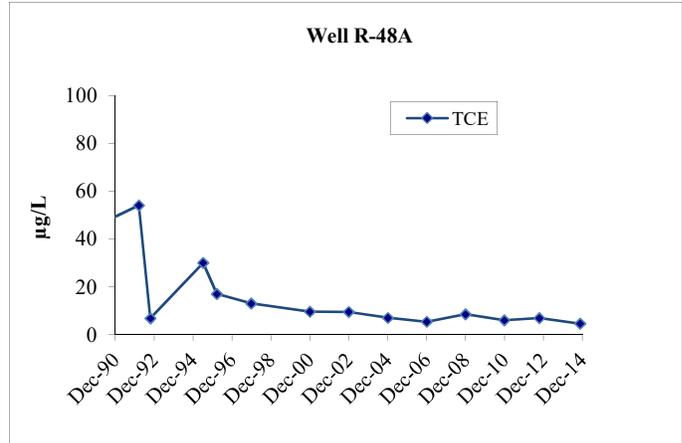
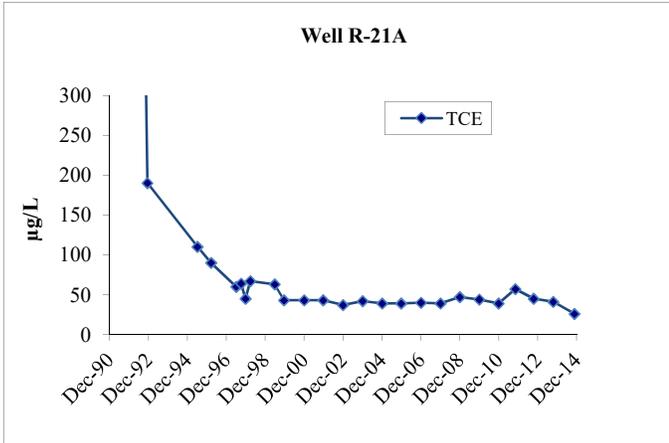


**Plate 8**  
**Monitoring and Extraction Well Concentration Trends**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**



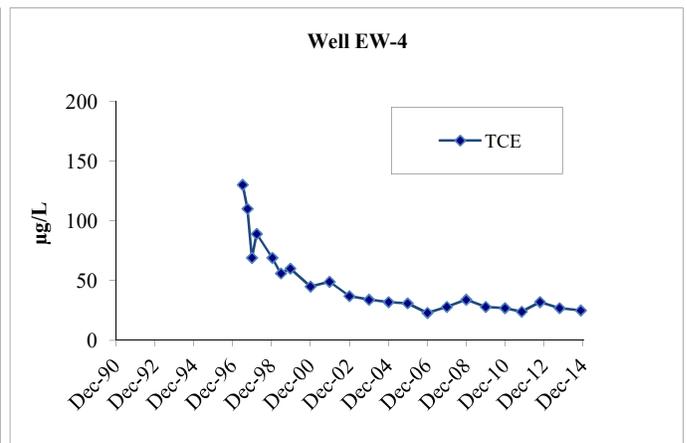
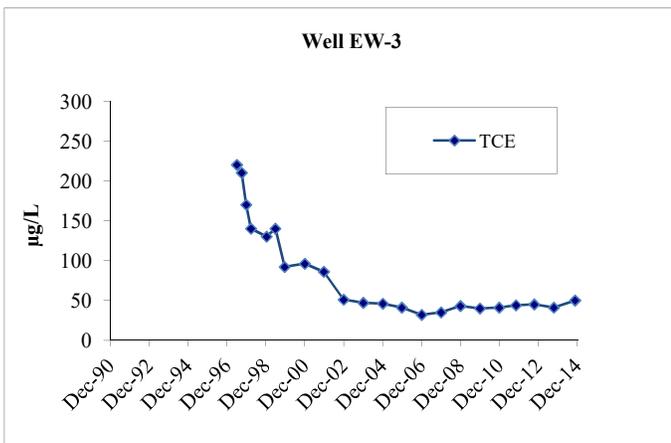
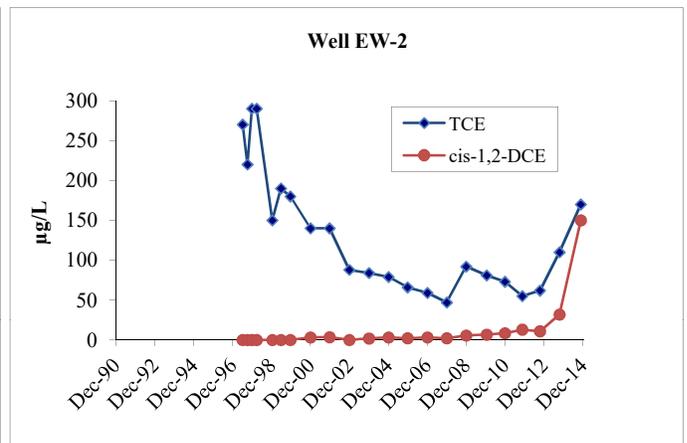
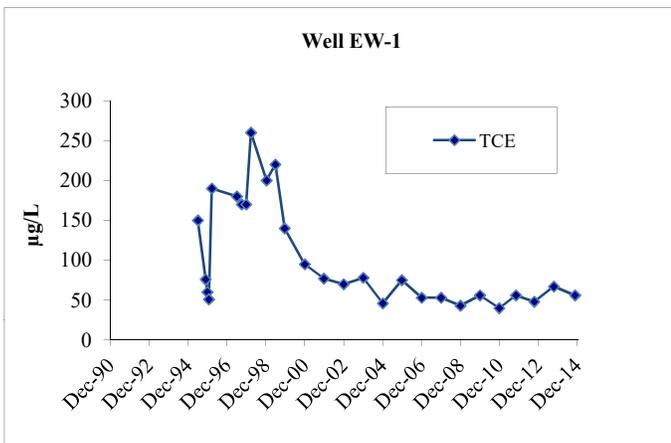
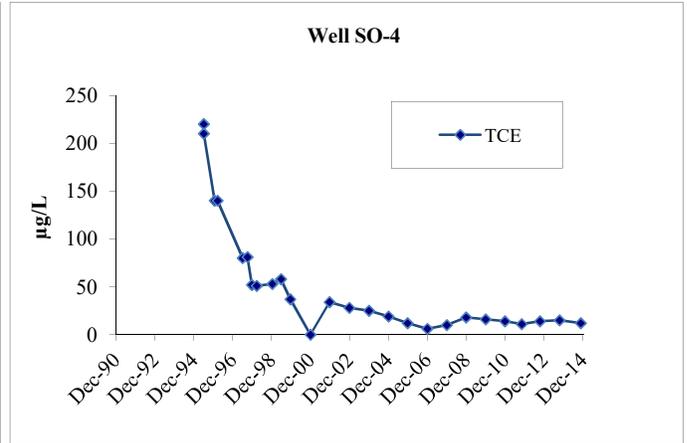
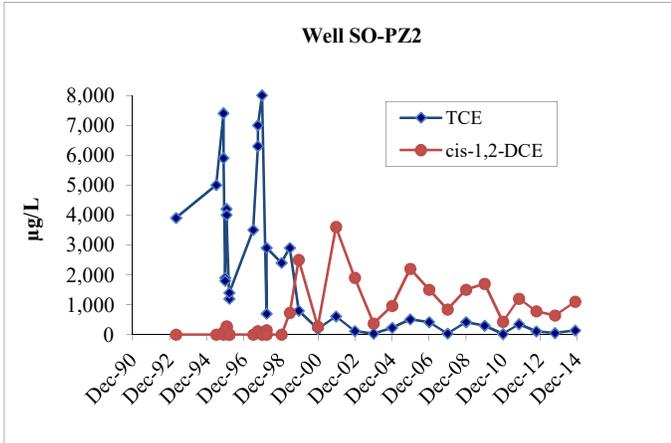
**Notes:**  
 µg/L = micrograms per liter.  
 TCE = trichloroethylene; cis-1,2-DCE = cis-1,2-dichloroethylene.

**Plate 8**  
**Monitoring and Extraction Well Concentration Trends**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**



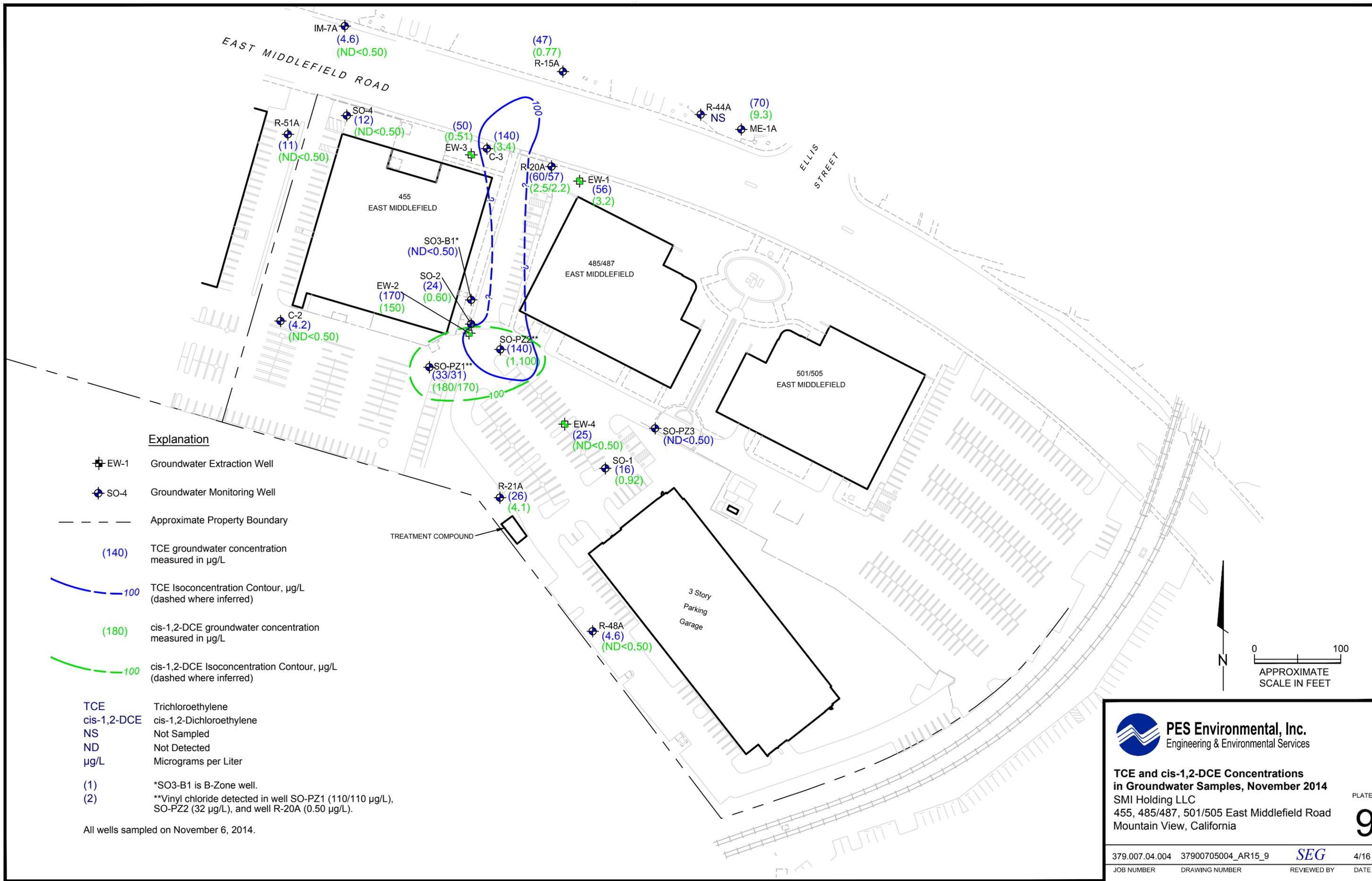
**Notes:**  
 µg/L = micrograms per liter.  
 TCE = trichloroethylene; cis-1,2-DCE = cis-1,2-dichloroethylene.

**Plate 8**  
**Monitoring and Extraction Well Concentration Trends**  
**SMI Holding LLC**  
**455, 485/487, 501/505 East Middlefield Road**  
**Mountain View, California**



**Notes:**

µg/L = micrograms per liter.  
 TCE = trichloroethylene; cis-1,2-DCE = cis-1,2-dichloroethylene.



**Explanation**

-  EW-1 Groundwater Extraction Well
-  SO-4 Groundwater Monitoring Well
-  Approximate Property Boundary
-  (140) TCE groundwater concentration measured in µg/L
-  100 TCE Isoconcentration Contour, µg/L (dashed where inferred)
-  (180) cis-1,2-DCE groundwater concentration measured in µg/L
-  100 cis-1,2-DCE Isoconcentration Contour, µg/L (dashed where inferred)

TCE Trichloroethylene  
 cis-1,2-DCE cis-1,2-Dichloroethylene  
 NS Not Sampled  
 ND Not Detected  
 µg/L Micrograms per Liter

(1) \*SO3-B1 is B-Zone well.  
 (2) \*\*Vinyl chloride detected in well SO-PZ1 (110/110 µg/L), SO-PZ2 (32 µg/L), and well R-20A (0.50 µg/L).

All wells sampled on November 6, 2014.



**TCE and cis-1,2-DCE Concentrations in Groundwater Samples, November 2014**  
 SMI Holding LLC  
 455, 485/487, 501/505 East Middlefield Road  
 Mountain View, California

**APPENDIX A**

**PROGRESS TOWARDS COMPLETING EPA FIVE-YEAR REVIEW  
RECOMMENDATIONS**

## APPENDIX A

### PROGRESS TOWARDS COMPLETING EPA FIVE-YEAR REVIEW RECOMMENDATIONS

EPA completed the third five-year review for the MEW Area in 2014<sup>1</sup>. An issue identified in the five-year review was: *“Declining efficiency and effectiveness of existing groundwater remedy will not achieve groundwater cleanup levels and will not meet the vapor intrusion remedial action objective to accelerate the reduction of the source of vapor intrusion (i.e., Site contaminants in shallow groundwater and soil gas) to levels that are protective of current and future building occupants, such that the need for a vapor intrusion remedy would be minimized or no longer be necessary for many decades”*. EPA’s recommendation was: *“Enhance groundwater contaminant plume capture and groundwater cleanup efforts by implementing facility-specific and regional program optimization plans. Evaluate and implement pilot tests and treatability studies of alternative groundwater cleanup technologies to expedite contaminant mass removal and cleanup timeframe and reduce VOC concentrations in different representative source and Regional Plume areas. Complete Feasibility Study to evaluate remedial alternatives that can effectively meet the RAO for the vapor intrusion remedy”*.

SMI initiated discussions with the property owner in 2013 to obtain a reasonable access agreement for in-situ groundwater treatment using enhanced reductive dechlorination (e.g., in-situ bioremediation). In 2014, SMI met with the property owner and suggested the use of an abiotic (ferrous or zero valent iron) remedy to minimize the potential formation of methane gas or vinyl chloride which can be formed during in-situ bioremediation. The property owner is a member of the MCO and in June 2014 and March 2015 the MCO submitted letters to EPA expressing their concerns with alternative groundwater remedies. SMI understands that EPA wants to meet with the property owner and SMI will participate in such a meeting, as requested. SMI plans to submit a letter to the property owner in 2016 to formerly request access for remedial enhancements.

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<sup>1</sup> EPA, 2014. *Third Five-Year Review Report for Middlefield-Ellis-Whisman (MEW) Superfund Study Area, Mountain View and Moffett Field, California*. September.

**APPENDIX B**

**2015 ANNUAL REMEDY PERFORMANCE CHECKLIST**

**APPENDIX B**

**2015 ANNUAL REPORT REMEDY PERFORMANCE CHECKLIST**

<b>I. GENERAL SITE INFORMATION</b>			
Facility Name: <a href="#">SMI Holding LLC</a>			
Facility Address, City, State: <a href="#">455, 485/487, and 501/505 East Middlefield Road, Mountain View, California.</a>			
Checklist completion date: <a href="#">April 2016</a>		EPA Site ID: <a href="#">CAD980638084</a>	
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: <a href="#">US EPA Region IX</a>			
Site Remedy Components (Include Other Reference Documents for More Information, as appropriate): <a href="#">Four A-aquifer zone groundwater extraction wells (three currently operate: EW-1, EW-2, and EW-3). Extracted water is treated by two 1,000-pound granular activated carbon vessels connected in series.</a>			
<b>II. CONTACTS</b>			
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 Contact</b>	<a href="#">Ms. Susan R. O'Connor</a> <a href="#">Vice President</a> <a href="#">Siemens</a> <a href="#">3850 Quadrangle Blvd.</a> <a href="#">MC SRE-222</a> <a href="#">Orlando, FL 32818</a>	<a href="#">(407) 810-3204</a>	<a href="mailto:sue.oconnor@siemens.com">sue.oconnor@siemens.com</a>
<b>Alternate PRP Contact</b>	<a href="#">Mr. Chuck Hunnewell</a> , <a href="#">Principal Consultant</a> <a href="#">Siemens Financial Services</a> <a href="#">Risk Management Services</a> <a href="#">170 Wood Avenue South,</a> <a href="#">7<sup>th</sup> Floor</a> <a href="#">Iselin, NJ 08830</a>	<a href="#">(732) 476-3449</a>	<a href="mailto:Chuck.Hunnewell@siemens.com">Chuck.Hunnewell@siemens.com</a>
<b>PRP Contractor/O&amp;M Contractor</b>	<a href="#">Ms. Susan Gahry, P.E.</a> <a href="#">Principal Engineer</a> <a href="#">PES Environmental, Inc.</a> <a href="#">1682 Novato Blvd., Suite 100</a> <a href="#">Novato, CA 94947-7021</a>	<a href="#">(415) 899-1600</a>	<a href="mailto:sgahry@pesenv.com">sgahry@pesenv.com</a>
<b>Other</b>			

**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?

Some copies of documents are kept at the Site; all are available at PES's office.

**V. INSTITUTIONAL CONTROLS (as applicable)**

List institutional controls called for (and from what enforcement document): **NONE**

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:

<p><b>VI. SIGNIFICANT SITE EVENTS</b>  <b>Check all Significant Site events Since the Last Checklist that Affects or May Affect Remedy Performance</b></p>	
<p><input type="checkbox"/> Community Issues  <input type="checkbox"/> Vandalism  <input type="checkbox"/> Maintenance Issues  <input type="checkbox"/> Other:</p>	
<p><u>Please elaborate on Significant Site Events:</u></p>	
<p><b>VII. REDEVELOPMENT</b></p>	
<p>Is redevelopment on property planned? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No          If yes, what is planned? Please describe below.          Is redevelopment plan complete <input type="checkbox"/> Yes, date: _____; <input type="checkbox"/> No ? <input type="checkbox"/> Not Applicable          Redevelopment proposal in progress? <input type="checkbox"/> Yes, elaborate below  <input type="checkbox"/> No; If no, is a proposal anticipated? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p><input type="checkbox"/> Is the redevelopment proposal compatible with remedy performance? <input type="checkbox"/> Yes <input type="checkbox"/> No          Elaborate on redevelopment proposal and how it affects remedy performance</p>	
<p><b>VIII. GROUNDWATER REMEDY (reference isoconcentration, capture zone maps, trend analysis, and other documentation to support analysis)</b></p>	
<p><u>Groundwater Quality Data</u>          List the types of data that are available: _____ What is the source report?  <u>Historical tabulation; isoconcentrations maps; capture zone maps; and trend plots for individual wells</u> <u>2015 Annual Progress Report</u></p>	
<p><input checked="" type="checkbox"/> Contaminant trend(s) tracked during O&amp;M (i.e., temporal analysis of groundwater contaminant trends).  <input 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><u>Groundwater Pump &amp; Treat Extraction Well and Treatment System Data</u>          List the types of data that are available: _____ What is the source report?  <u>Total volume extracted; influent, mid-point, and effluent concentrations; extraction rates; and mass removal.</u> <u>2015 Annual Progress Report</u></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><u>Discharge Data</u></p> <p>List the types of data that are available:</p> <p><a href="#">Monthly influent, mid-point, and effluent concentrations.</a></p> <hr/> <hr/> <p>■ The system is in compliance with discharge permits.</p>		<p>What is the source report?</p> <p><a href="#">Quarterly NPDES discharge reports.</a> (posted on GeoTracker)</p> <hr/> <hr/>
<p><u>Slurry Wall Data</u></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</p> <p>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>		

<p><b>IX. AIR MONITORING/VAPOR INTRUSION PATHWAY EVALUATION (Include in Annual Progress Report and reference document)</b></p>	
<p><b>Walk-throughs/Surveys:</b>  <a href="#">Completed in Fall 2003 and December 2013 with EPA in attendance.</a></p> <p><b>Air testing/monitoring conducted:</b>  <a href="#">May and October 2003. Completed March 6-8 and March 14-15, 2015 with HVAC off.</a></p>	
<p><b>Summary of Results:</b>  <a href="#">The 2003 results were within EPA’s allowable risk range, excluding on anomalous sample result. The 2015 results indicated the buildings would be categorized as Tier 3A (Building with indoor air concentrations below indoor air cleanup levels, but greater than outdoor concentrations).</a></p> <p><b>Problems Encountered:</b>  <a href="#">None.</a></p> <p><b>Recommendations/Next Steps:</b>  <a href="#">Implement other items required by VI ROD amendment upon request from EPA.</a></p>	
<p><b>Schedule:</b> <a href="#">Not known.</a></p>	

<b>X. REMEDY PERFORMANCE ASSESSMENT</b>
<b>A. Groundwater Remedies</b>
<p>What are the remedial goals for groundwater? <input type="checkbox"/> Plume containment (prevent plume migration); <input checked="" type="checkbox"/> Plume restoration (attain ROD-specific cleanup levels in aquifer); <input checked="" type="checkbox"/> Other goals, please explain: <a href="#">Source control (not remediation of the plume that existed off-Site prior to implementation of remedial actions or that which may be reach Site from off-Site upgradient location).</a></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 <a href="#">See 2015 Annual Progress Report, groundwater concentrations are decreasing but chemical concentrations were not measured in 2015.</a></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: <a href="#">Capture zone maps were provided in the 2015 Annual Progress Report and Site groundwater concentrations have historically been generally trending down.</a></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: <a href="#">Groundwater concentrations have decreased, but many more years of operation is expected to be required to reach cleanup level due to known limitations of pump-and-treat systems.</a></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? <a href="#">Gradient from deeper B1-aquifer to A-aquifer is upward. The deeper aquifer (B1 zone) is not impacted above clean-up goals at this Site near the former potential source areas.</a></p> <p>Are the concentrations increasing or decreasing? Explain and provide source document reference  <a href="#">Not applicable.</a></p>

**C. Source Control Remedies**

What are the remedial goals for source control? [The 106 Order requires the removal or remediation of chemicals of concern originating from the site \(soil source remediation is complete\).](#)

Elaborate on basis for determining progress or lack of progress toward these goals: [Groundwater originating from source area is being captured; based on 2014 data, concentrations in A-aquifer zone down-gradient wells \(on north side of East Middlefield Road\) remained below 100 milligrams per liter for the tenth consecutive year in 2014.](#)

**XI. PROJECTIONS**

Administrative Issues

Dates of next monitoring and sampling events for next annual reporting period: [Fall 2016 for groundwater monitoring; September 2016 for water level monitoring](#)

**A. Groundwater Remedies - Projections for the upcoming year and long-term (Check all that apply)**

Remedy Projections for the upcoming year (2016)

- No significant changes projected.
- Groundwater remedy will be converted to monitored natural attenuation. Target date:
- Groundwater Pump & Treat will be shut down. Target date: [2016 or 2017 to implement abiotic pilot test.](#)
- Groundwater cleanup standards to be modified. Target date:
- PRP will request remedy modification. Target date of request:
- Change in the number of monitoring wells.  Increasing or  decreasing? Target date:
- Change in the number and/or types of analytes being analyzed.  Increasing or  decreasing?  
Target date:
- 
- Change in groundwater extraction system. Expansion or minimization (i.e., number of extraction wells and/or pumping rate)? . Target date:  Modification on groundwater treatment? Elaborate below. Target date:
  - Change in discharge location. Target date:
  - Other modification(s) anticipated: \_\_\_\_\_ Elaborate below. Target date:

Elaborate on Remedy Projections

Remedy Projections for the long-term (Check all that apply)

- No significant changes projected.
- Groundwater remedy will be converted to monitored natural attenuation. Target date: [2020](#)
- Groundwater Pump & Treat will be shut down. Target date:
- Groundwater cleanup standards to be modified. Target date:
- PRP will request remedy modification. Target date of request:
- Change in the number of monitoring wells.  Increasing or  decreasing? Target date:
- Change in the number and/or types of analytes being analyzed.  Increasing or  decreasing?  
Target date:
- Change in groundwater extraction system. Expansion or minimization (i.e., number of extraction wells and/or pumping rate)? Target date:
- Modification on groundwater treatment? Elaborate below. Target date:
- Change in discharge location. Target date:
- Other modification(s) anticipated: \_\_\_\_\_ Elaborate below. Target date:

Elaborate on Remedy Projections: As continued operation of the pump and treat system may result in only asymptotic concentrations, and enhanced remediation may not reach the clean-up goal of 5 micrograms per liter of TCE, monitored natural attenuation is a logical next step, if the property owner will not allow the implementation of remedial enhancements.

**B. Projections – Slurry Walls (Check all that apply) NOT APPLICABLE**

**Remedy Projections for the upcoming year**

- No significant changes projected.
- PRP will request remedy modification. Target date of request:
- Change in the number of monitoring wells.  Increasing or  decreasing? Target date:
- Other modification(s) anticipated: \_\_\_\_\_ Elaborate below. Target date:

Elaborate on Remedy Projections:

**Remedy Projections for the long-term**

- No significant changes projected.
- PRP will request remedy modification. Target date of request:
- Change in the number of monitoring wells.  Increasing or  decreasing? Target date:
- Other modification(s) anticipated: \_\_\_\_\_ Elaborate below. Target date:

Elaborate on Remedy Projections:

**C. Projections – Other Remedial Options Being Reviewed to Enhance Cleanup**

Progress implementing recommendations from last report or Five-Year Review

Has optimization study been implemented or scheduled?  Yes;  No; If Yes, please elaborate.

Submitted plan for enhanced reductive dechlorination (ERD) pilot test in March 2004. Work was put on hold due to concerns of the former property owner. In 2008, discussions with regards to implementing the ERD pilot test were re-initiated with the property owner and when negotiations were nearly completed, they subsequently sold the property (in 2010). SMI initiated access discussions with the current property owner in 2013. In-situ microcosm testing was completed in 2014 using ERD with simultaneous bioaugmentation and ERD with in-situ chemical reduction and simultaneous bioaugmentation. SMI has told the property owner that in-situ chemical reduction can be used to facilitate abiotic degradation to minimize the potential for formation of methane gas and vinyl chloride (as could be formed during ERD). Assuming the property owner provides reasonable access, the remedial enhancements could be implemented in 2016 or 2017.

**XII. ADMINISTRATIVE ISSUES**

**Check all that apply:**

- Explanation of Significant Differences in progress     ROD Amendment in progress
- Site in operational and functional ("shake down") period;
- Notice of Intent to Delete in progress     Partial site deletion in progress     TI Waivers
- Other administrative issues:

Date of Next EPA Five-Year Review: [September 30, 2019](#)

**XII. RECOMMENDATIONS**

[Recognition of the difficulty in achieving MCLs is needed; an alternate clean-up goal is needed to allow targeted remedial enhancements and/or transition to an MNA remedy.](#)

**APPENDIX C**

**QUALITY ASSURANCE / QUALITY CONTROL REPORT**

## APPENDIX C

### QUALITY ASSURANCE / QUALITY CONTROL REPORT

#### INTRODUCTION

This Quality Assurance/Quality Control (QA/QC) Report has been prepared by PES Environmental, Inc. (PES) on behalf of SMI Holding LLC for 455, 485/487, and 501/505 East Middlefield Road, Mountain View, California (Site). This QA/QC Report summarizes the QA/QC procedures used to collect and analyze data for the Site's annual monitoring event, and is submitted as part of the annual report for 2015.

This QA/QC Report demonstrates that the work performed at the Site complied with the standards specified in the Unified Quality Assurance Project Plan (UQAPP).

Thirty-six groundwater samples were collected from the influent, mid-point (between carbon vessels), and the effluent of the groundwater extraction and treatment system. The effluent samples were analyzed for the full EPA Method 8260B list for volatile organic compounds (VOCs) and the influent and mid-point samples were analyzed for halogenated VOCs (HVOCs) using EPA Method 8260B.

#### QUALITY CONTROL SAMPLES

The laboratory analytical data and accompanying QA/QC data are reviewed for each data set by the laboratory and by PES upon receipt of laboratory analytical results.

The samples for VOCs were analyzed within the 14 day holding time. The QA/QC laboratory data includes: method blank report, lab control sample/lab control sample duplicate (LCS/LCSD) recovery report, and matrix spike/matrix spike duplicate (MS/MSD) recovery report. The method blank reports are reviewed to ensure no compounds are detected in the method blank, and that the surrogate recoveries are within acceptable ranges. In accordance with the UQAPP, one MS/MSD sample was obtained for a minimum of every 20 samples collected and analyzed under the protocols of EPA's Test Methods for Evaluating Solid and Water Wastes (EPA SW-846). The MS/MSD percent recovery goal specified in the UQAPP was 40 to 150 percent recovery, and was met except as discussed below. Copies of the quality control reports, which are provided with each laboratory data set, are available in the files at PES.

The 2015 laboratory reports noted minor laboratory issues, but none affected the reported results.

**EQUIPMENT BLANK**

During this reporting period, no groundwater sampling was completed and thus, equipment blanks were not collected.

**TRIP BLANK**

During this reporting period, no groundwater sampling was completed and thus, trip blanks were not utilized.

**DUPLICATE SAMPLES**

During this reporting period, no groundwater sampling was completed and thus, duplicate samples were not collected.

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