

30 January 2009

Mr. Roger Papler, P.G.  
California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, California 94612

**Subject: Results of Fourth Quarter 2008 Groundwater and SVE Monitoring  
Hopyard Cleaners, 2771 Hopyard Road, Pleasanton, California  
Self-Monitoring Program No. R2-2006-0059**

Dear Mr. Papler:

On behalf of the property owner, Ms. Clare Leung, Geosyntec Consultants (Geosyntec) prepared this fourth quarter 2008 groundwater and soil vapor extraction (SVE) monitoring report for Hopyard Cleaners located at 2771 Hopyard Road, in Pleasanton, California (the "Site"). A Site location map is provided in Figure 1. The work described in this report was performed in compliance with the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Order No. R2-2008-0032, issued on 29 May 2008.

The Site monitoring well network consists of seven wells (MW-1 through MW-7). For discussion purposes, the uppermost groundwater zone beneath the Site, which occurs from approximately 20 to 35 feet below ground surface (feet bgs), is referred to as the A Zone, and the deeper groundwater from approximately 40 to 60 feet bgs is referred to as the B Zone. Wells MW-1 through MW-4 are screened in the A Zone, and wells MW-5 through MW-7 are screened in the B Zone. B Zone wells MW-6 and MW-7 were installed in August 2008 and were monitored for the first time in the fourth quarter of 2008. Well completion details are summarized in Table 1. Well locations relative to the Site are shown on Figure 2.

The SVE system with five SVE wells was installed at the Site in August 2008. Geosyntec conducted a pilot test of the SVE system on 19 and 21 August 2008. The SVE system installation, pilot test, and start-up were documented in the *SVE System Installation and Pilot Test Report*, which was submitted to the RWQCB on 29 September 2008. The full-scale SVE operations began on 21 August 2008. An *Addendum to the SVE System Installation and Pilot*

*Test Report*, which included quarterly SVE influent VOC analysis and recommendations and conclusions, was submitted to the RWQCB on 1 December 2008. The *SVE System Installation and Pilot Test Report* and the *Addendum to the SVE System Installation and Pilot Test Report* was approved by the RWQCB on 9 December 2008.

## **WORK PERFORMED THIS QUARTER**

The following work was performed in the fourth quarter of 2008:

- The fourth quarter groundwater monitoring event was performed on 10 December 2008 using passive diffusion bag (PDB) samplers. This work is discussed in detail in this report.
- SVE monitoring was conducted on 8 October, 17 November, and 5 December 2008. This work is also discussed in detail in this report.
- The *Addendum to the SVE System Installation and Pilot Test Report* was submitted to the RWQCB on 1 December 2008. The *SVE System Installation and Pilot Test Report* and the *Addendum to the SVE System Installation and Pilot Test Report* was approved by the RWQCB on 9 December 2008.
- The *Remedial Action Plan Addendum: Comprehensive Feasibility Study for ISCO & EISB* (RAP Addendum) was submitted to the RWQCB on 24 November 2008. This Rap Addendum included a work plan for a feasibility study to evaluate enhanced in situ bioremediation (EISB) and for additional soil oxidant demand characterization to further evaluate in situ chemical oxidation (ISCO) as remedial alternatives for the Site.

## **QUARTERLY GROUNDWATER MONITORING**

Quarterly groundwater monitoring was performed at the Site on 10 December 2008. PDBs were used to collect samples from MW-1 through MW-7. A study to test the appropriateness of using PDBs was proposed in the *Results of Fourth Quarter 2007 Groundwater Monitoring* report submitted to the RWQCB on 31 January 2008<sup>1</sup> and was verbally approved by the RWQCB in a

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<sup>1</sup> Geosyntec Consultants, 2008. *Results of the Fourth Quarter 2007 Groundwater Monitoring, Hopyard Cleaners, 2771 Hopyard Road, Pleasanton, California, Self-Monitoring Program No. R2-2006-0059*, 31 January 2008.

conference call on 12 March 2008. The PDB study was completed in the first and second quarters 2008. In general, cis-1,2-dichloroethene (cis-1,2-DCE), tetrachloroethene (PCE), and trichloroethene (TCE) concentrations were slightly higher in samples collected from PDBs compared to samples collected using a submersible pump. Sample results reported as non-detect using the conventional sampling method were also non-detect using the PDB sampling method. These results indicate that PDB samplers are an appropriate and reliable method of monitoring volatile organic compounds (VOCs) at this Site. Therefore, PDBs have replaced sampling via peristaltic pump starting in the third quarter 2008.

Two PDBs were deployed in MW-6 and MW-7 during the fourth quarter 2008, as this was the first sampling event for these wells. The water bearing zones for both MW-6 and MW-7 exceed five feet in thickness<sup>2</sup>, therefore two PDBs were deployed in each well. These PDBs were placed in the center of the upper and lower 5 feet to assess stratification within the 10-foot well screens. For subsequent monitoring events PDBs will be deployed at the depth with the highest observed concentrations or in the middle of the well screen, if the concentrations are similar.

### **Sampling and Analytical Procedures**

The groundwater sampling fieldwork was performed by Environmental Sampling Services, Inc. (ESS), of Martinez, California. ESS's report, including field procedures and sampling logs, is provided in Attachment 1.

The PDBs were deployed on 14 July 2008, during the third quarter 2008 monitoring event, in monitoring wells MW-1 through MW-5. PDBs were deployed on 8 September 2008 in MW-6, after well development. MW-7 was paved over by the City of Pleasanton immediately after well development and a PDB could not be deployed at that time. The PDB was deployed in MW-7 on 17 November 2008, after the well was uncovered and inspected and after the well box was raised.

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<sup>2</sup> United States Geologic Survey (USGS), 2001a, *User's Guide for Polyethylene-Based Passive Diffusion Bag Samplers to Obtain Volatile Organic Compound Concentrations in Wells, Part 1: Deployment, Recovery, Data Interpretation, and Quality Control and Assurance, Water Resource Investigations Report 01-4060. Part 2: Field Tests, Water-Resources Investigations Report 01-4061.*

On 10 December 2008, the PDBs were removed from the wells and sampled. Samples were hand-delivered to Test America of Pleasanton, California, for analysis. Groundwater samples from the Site monitoring wells were analyzed for VOCs by EPA Method 8260B.

New PDBs for the first quarter 2009 sampling event were deployed in wells MW-1 through MW-5 on 10 December 2008 after the fourth quarter 2008 monitoring event was completed. Based on the results of the stratification study (as shown in Table 4), PDBs will be deployed in MW-6 and MW-7 for the first quarter 2009 monitoring event at the middle of the screen.

### **Groundwater Elevations and Flow Conditions**

Table 2 summarizes groundwater elevations measured during this and previous sampling events. Groundwater in the A Zone (MW-1 through MW-4) beneath the Site was encountered between 16.24 and 18.41 feet bgs, which is between 309.45 and 307.86 feet above Mean Sea Level (MSL). Groundwater in the B Zone was encountered between 31.14 and 33.67 feet bgs, which corresponds to groundwater elevations ranging from 293.34 to 293.52 feet MSL.

Water levels measured during the fourth quarter 2008 event were used to construct groundwater elevation contours for the A Zone and B Zone, as shown in Figure 3 and 4, respectively. Table 3 summarizes groundwater gradients and flow directions for this and previous monitoring events. The fourth quarter 2008 A Zone groundwater contours indicate a general groundwater flow to the west-northwest with an average gradient of 0.0068 feet per foot (ft/ft) (36.1 feet per mile (ft/mi)). This gradient and flow direction is consistent with previous monitoring events, as shown on Table 3. The B Zone groundwater contours indicate general groundwater flow to the southwest under a gradient of approximately 0.0012 ft/ft (6.1 ft/mi).

### **Data QA/QC**

Geosyntec performed a quality assurance/quality control (QA/QC) review of the analytical data. Data were reviewed for completeness, accuracy, precision, sample contamination, conformance with holding times, and detection limits within acceptable ranges. Based on this review, the data are acceptable.

### **Analytical Results**

Laboratory analytical reports are provided in Attachment 2. Table 4 summarizes analytical results for groundwater samples collected during the fourth quarter 2008 event together with historical results. Analytical results for the current sampling event are also shown on Figures 3 and 4 for the A Zone and B Zone, respectively. Isoconcentration contour maps for PCE and

TCE are shown on Figures 5 through 7. The isoconcentration contours were drawn using current data from monitoring wells along with results from grab groundwater samples previously collected at the Site.

Analytical results for samples taken from the four A Zone monitoring wells show the highest VOC concentrations at MW-2. During the fourth quarter 2008, the PCE concentration in both the original and duplicate samples collected from MW-2 was 15,000 micrograms per liter ( $\mu\text{g/L}$ ). The 15,000  $\mu\text{g/L}$  result is above historical PCE concentrations, which have ranged from 4,700 to 9,500  $\mu\text{g/L}$ . This increase in PCE concentration with respect to previous monitoring events is consistent with the seasonal fluctuations in concentration that have been observed in this well over the past two years (i.e. PCE concentration in MW-2 is generally observed to be inversely proportional to groundwater elevation). VOC concentrations observed during the fourth quarter 2008 in the other A Zone wells (MW-1, MW-3, and MW-4) were consistent with historical results.

PCE is the only VOC detected in the B Zone groundwater. The highest detection of PCE was at the closest B Zone monitoring well to the Site, MW-5, and was at a concentration of 49  $\mu\text{g/L}$ . Farther downgradient of the Site, PCE was detected at MW-7 at 9.8 and 10  $\mu\text{g/L}$  in the shallow and deep PDBs, respectively, and was not detected at MW-6.

As shown on Table 4, the results of the stratification study conducted in MW-6 and MW-7 indicate there is no stratification in the wells, as VOC concentrations in the shallow and deep PDBs were similar in both wells. For future monitoring events, one PDB will be deployed in the center of both the MW-6 and MW-7 well screens.

## **SVE PERFORMANCE MONITORING**

Startup monitoring of the SVE system was performed on day 1 through 5, day 7, and day 9 of system startup to evaluate system performance and air emissions for the Bay Area Air Quality Management District Permit to Operate (BAAQMD PTO). Monitoring was performed weekly for the first month and monthly thereafter. SVE monitoring has been conducted by Geosyntec and Mako Industries (Mako) of Livermore, California. Monthly monitoring during the fourth quarter 2008 was conducted on 8 October, 17 November, and 5 December 2008. The SVE system layout is shown on Figure 2. The SVE well locations and piping layout inside the dry cleaners is shown on Figure 8.

### **SVE Monitoring Procedures**

SVE monitoring includes the following procedures:

- Perform photoionization detector (PID) screening via Tedlar<sup>®</sup> bags of:
  - Samples collected from the system influent, mid-point between the two granular activated carbon (GAC) vessels, and the system effluent to evaluate air emissions, and
  - Samples collected at each SVE wellhead (shown on Figure 2).
- Record vacuum response at each SVE wellhead;
- Record flow rate and vacuum response at the manifold;
- Record vacuum, temperature, and flow rate readings at system influent;
- Record hour meter;
- Inspect the moisture separator water level and drain into 55-gallon drums, if necessary; and
- Record the electrical meter reading.

As discussed in the *SVE System Installation and Pilot Test Report* and subsequent *Addendum SVE System Installation and Pilot Test Report*, influent SVE samples were collected in 1-liter Summa canisters for laboratory analysis by TO-15 during start-up testing and on a quarterly basis to correlate VOC concentrations with monthly PID readings. The laboratory analytical results from the sample collected during start-up testing indicated that PCE is the primary constituent of concern being removed from the target remediation zone. The analytical results showed similar VOC concentrations to PID reading collected at the same time, indicating that PID screening is effective at monitoring SVE performance.

### **SVE Monitoring Results**

Influent concentrations of VOCs into the SVE system have ranged from 0.7 to 13.0 parts per million by volume (ppmv) with the highest concentrations detected during system startup (Table 5 and Figure 9). During the fourth quarter 2008, influent VOCs concentrations averaged 0.8 ppmv. After four months of operations, the SVE system has removed approximately 7.83 pounds (lbs) (0.58 gallons) of VOCs as equivalent PCE (Table 5 and Figure 10).

The laboratory analytical results indicate that PCE is the primary COC being removed from the target remediation zone, as shown in Table 6 and in the laboratory analytical report provided in Attachment 2. The PID reading of the sample collected on 21 August 2008 was significantly higher than the analytical result due to the time lapse between the PID measurement and sample collection. The laboratory samples collected on 2 September 2008 and 5 December 2008 were collected right after the PID measurements and the analytical results indicate similar VOC concentrations.

PID screening of the SVE wells indicate that the highest concentrations of VOCs are consistently being extracted from SVE-1, while the lowest concentrations are being extracted from SVE-3 and SVE-5 (Table 7).

### **SVE Operations and Maintenance**

The system has been under continuous operation since startup on 21 August 2008, except for an approximately 2-hour time period on 29 August 2008 when the blower shut-off switch was tripped.

During the first month of operation, maintenance on the system has been performed to reduce the noise from the effluent discharger pipe and blower, including installation of a larger muffler on the system effluent, splitting the effluent into two discharge pipes, and installing foam around the blower box and along the southwest fence of the compound. Although these measures reduced the noise, Geosyntec received complaints concerning the noise at night from residents in the vicinity of the dry cleaners (both across Hopyard Road and Valley Road). In response to these complaints, the SVE system operation schedule was modified on 3 September 2008. A timer was installed by Mako to have the system run from the hours of 8 am to 10 pm.

No maintenance activities were performed during the fourth quarter 2008.

### **FUTURE WORK**

The following work will be completed during the first quarter 2009:

- The *Revised Remedial Action Plan*, including a human health risk assessment will be submitted to the RWQCB during the first quarter 2009.
- The next quarterly groundwater monitoring event will be performed in January 2009. PBD will be deployed in the center of MW-6 and MW-7 well screens at least two weeks



prior to sampling. Results of the first quarter 2009 monitoring report will be submitted to the RWQCB by 30 April 2009.

- During the first quarter 2009, Geosyntec will begin cyclic operation on the SVE wells and optimization to enhance VOC removal rates:
  - SVE extraction wells with the lowest VOC concentrations (SVE-3 and SVE-5) will be turned off for a two week period in January 2009. SVE monitoring will be conducted after the two week period. After monitoring, these two wells will be turned back on and the three wells with the highest VOC concentrations (SVE-1, SVE-2, and SVE-4) will then be turned off for two weeks.
  - Based on the monitoring results of the cyclic operations in January 2009, SVE system operations will be modified to optimally extract VOCs.
- SVE monitoring will continue on a monthly basis at a minimum with one sample being collected for TO-15 analysis during the first quarter 2009. Results of the monitoring will be presented in the first quarter 2009 monitoring report due to the RWQCB on 30 April 2009.
- The soil and groundwater sampling detailed in the RAP Addendum will be conducted in January 2009.



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If you have any questions or comments, please contact Angela Liang at (510) 285-2700.



Sincerely,

Melissa Asher, P.E.  
Engineer

Hanchih (Angela) Liang, Ph.D., P.E.  
Senior Engineer

Attachments:	Table 1	Well Construction Summary
	Table 2	Groundwater Elevations
	Table 3	Groundwater Gradient Summary – A Zone
	Table 4	Groundwater Analytical Summary
	Table 5	SVE System Performance Monitoring Results
	Table 6	SVE Influent Analytical Summary
	Table 7	SVE Well Monitoring Results
	Figure 1	Site Location
	Figure 2	Site Layout and Vicinity Map
	Figure 3	A Zone Groundwater Elevation Contours and Analytical Results – Fourth Quarter 2008
	Figure 4	B Zone Groundwater Elevation Contours and Analytical Results – Fourth Quarter 2008
	Figure 5	PCE Isoconcentration Contours in A Zone Groundwater (20 to 35 ft bgs) – Fourth Quarter 2008
	Figure 6	PCE Isoconcentration Contours in B Zone Groundwater (40 to 60 ft bgs) – Fourth Quarter 2008

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Figure 7 TCE Isoconcentration Contours in A Zone  
Groundwater (20 to 35 ft bgs) – Fourth Quarter  
2008  
Figure 8 Soil Vapor Extraction Well Locations and Piping  
Layout  
Figure 9 SVE Influent Concentrations Over Time  
Figure 10 SVE Cumulative Mass Removal  
  
Attachment 1 Environmental Sampling Services Field Report  
Attachment 2 Laboratory Analytical Reports

Copy with Attachments: Ms. Clare Leung, Hopyard Cleaners  
Ms. Joy Ricigliano, Zurich Insurance  
Mr. Mark Peterson, GES  
Mr. Wyman Hong, Zone 7 Water Agency  
Mr. Jerry Wickham, Alameda County Environmental Health  
Ms. Danielle Stefani, City of Pleasanton Fire Department  
Mr. William Henderlong, Town & Country Properties

## **TABLES**

**Table 1**  
**Monitoring Well Construction Summary**  
**Hopyard Cleaners**  
**Pleasanton, California**

Well I.D.	Date of Completion	Northing	Easting	TOC Elevation (MSL)	Total Depth (ft bgs)		Screen Interval Depth (ft bgs)		Well Casing Material	Well Diameter (inches)
					Borehole	Well	Top	Bottom		
<b>A Zone Monitoring Wells</b>										
MW-1	9/29/2006	2071427.29	6157712.24	325.77	30	30	20.00	30.00	SCH 40 PVC	2
MW-2	9/26/2006	2071357.03	6157791.18	325.69	30	30	20.00	30.00	SCH 40 PVC	2
MW-3	9/27/2006	2071461.21	6157787.94	326.27	30	30	20.00	30.00	SCH 40 PVC	2
MW-4	7/20/2007	2071382.30	6157557.57	326.27	36.5	35	25.00	35.00	SCH 40 PVC	2
<b>B Zone Monitoring Wells</b>										
MW-5*	7/19/2007	2071292.25	6157654.24	327.19	60	60	50.00	60.00	SCH 40 PVC	2
MW-6	8/19/2008	2071280.12	6157384.43	324.48	59	59	49.00	59.00	SCH 40 PVC	2
MW-7	8/20/2008	2071076.06	6157645.52	324.55	56	55	45.00	55.00	SCH 40 PVC	2

**Notes:**

ft bgs = feet below ground surface

MSL = mean sea level

TOC = Top of Casing

Elevations are based on NAVD 88 Datum

\* Conductor casing was installed from 0 to 40 ft bgs.

**Table 2**  
**Groundwater Elevations**  
**Hopyard Cleaners**  
**Pleasanton, California**

Well I.D. (Screen Interval)	TOC Elevation (ft MSL)	Sample Date	Depth to Groundwater Below TOC (ft)	Groundwater Elevation (ft MSL)
<b>A Zone Monitoring Wells</b>				
MW-1 (20-30 ft bgs)	325.77	12/10/2008	16.78	308.99
		7/14/2008	13.79	311.98
		5/16/2008	11.70	314.07
		2/15/2008	11.38	314.39
		1/3/2008	13.63	312.14
		8/3/2007	14.40	311.37
		5/11/2007	12.27	313.50
		2/9/2007	13.98	311.79
		11/20/2006	14.88	310.89
MW-2 (20-30 ft bgs)	325.69	12/10/2008	16.24	309.45
		7/14/2008	13.23	312.46
		5/16/2008	11.30	314.39
		2/15/2008	10.87	314.82
		1/3/2008	13.21	312.48
		8/3/2007	13.72	311.97
		5/11/2007	11.87	313.82
		2/9/2007	13.55	312.14
		11/20/2006	14.36	311.33
MW-3 (20-30 ft bgs)	326.27	12/10/2008	17.17	309.10
		7/14/2008	14.21	312.06
		5/16/2008	12.18	314.09
		2/15/2008	11.68	314.59
		1/3/2008	14.02	312.25
		8/3/2007	14.68	311.59
		5/11/2007	12.72	313.55
		2/9/2007	14.41	311.86
		11/20/2006	15.28	310.99
MW-4 (25-35 ft bgs)	326.27	12/10/2008	18.41	307.86
		7/14/2008	13.81	312.46
		5/16/2008	12.12	314.15
		2/15/2008	12.05	314.22
		1/3/2008	14.73	311.54
		8/3/2007	15.85	310.42

**Table 2**  
**Groundwater Elevations**  
**Hopyard Cleaners**  
**Pleasanton, California**

Well I.D. (Screen Interval)	TOC Elevation (ft MSL)	Sample Date	Depth to Groundwater Below TOC (ft)	Groundwater Elevation (ft MSL)
<b>B Zone Monitoring Wells</b>				
MW-5 (50-60 ft bgs)	327.19	12/10/2008	33.67	293.52
		7/14/2008	32.16	295.03
		5/16/2008	23.06	304.13
		2/15/2008	19.74	307.45
		1/3/2008	22.65	304.54
		8/3/2007	30.51	296.68
MW-6 (49-59 ft bgs)	324.48	12/10/2008	31.14	293.34
MW-7 (45-55 ft bgs)	324.55	12/10/2008	31.21	293.34

**Notes:**

ft MSL = feet above mean sea level

TOC = Top of Casing

ft bgs = feet below ground surface

Elevations are based on NAVD 88 Datum

**Table 3**  
**Groundwater Gradient Summary - A Zone**  
**Hopyard Cleaners**  
**Pleasanton, California**

Date	Gradient		General Flow Direction
	ft/ft	ft/mi	
<b>A Zone</b>			
7/14/2008	0.0048	25.5	North
5/16/2008	0.0031	16.5	North-Northwest
2/15/2008	0.0038	20.5	Northwest
1/3/2008	0.0025	13.2	Northwest
8/3/2007	0.0070	37.0	West-Northwest
5/11/2007	0.0030	15.8	North-Northwest
2/9/2007	0.0010	5.3	North-Northwest
11/20/2006	0.0040	22.0	Northwest
12/10/2008	0.0068	36.1	West-Northwest
<b>B Zone</b>			
12/10/2008	0.0012	6.1	Southwest

Notes:

ft/ft = feet per feet

ft/mi = feet per mile



**Table 4**  
**Groundwater Analytical Summary**  
**Hopyard Cleaners**  
**Pleasanton, California**

Well I.D. (Screen Interval)	Sample Date	Sampling Method	Volatile Organic Compounds - EPA Method 8260B (ug/L)		
			cis-1,2-DCE	PCE	TCE
<b>A Zone Monitoring Wells</b>					
MW-1 (20-30 ft bgs)	12/10/2008	PDB Sampler	250	1,900	350
	7/14/2008	PDB Sampler	230	1,700	250
	5/16/2008	Purge and Sample	250	1,600	280
	5/16/2008	PDB Sampler*	260	1,900	310
	2/29/2008	PDB Sampler*	330	2,000	330
	2/15/2008	Purge and Sample	230	1,400	250
	1/2/2008	Purge and Sample	230	1,600	270
	8/3/2007	Purge and Sample	260	1,600	270
	5/11/2007	Purge and Sample	310	2,500	310
	2/9/2007	Purge and Sample	270 / 270	2,400 / 2,300	290 / 290
	11/20/2006	Purge and Sample	370	3,100	370
MW-2 (20-30 ft bgs)	12/10/2008	PDB Sampler	840 / 770	15,000 / 15,000	790 / 740
	7/14/2008	PDB Sampler	820 / 830	9,500 / 8,100	530 / 500
	5/16/2008	Purge and Sample	900 / 930	5,800 / 5,900	460 / 450
	5/16/2008	PDB Sampler*	940	6,700	480
	2/29/2008	PDB Sampler*	780	5,300	360
	2/15/2008	Purge and Sample	690 / 690	4,100 / 4,000	320 / 300
	1/2/2008	Purge and Sample	940 / 890	8,200 / 8,200	560 / 580
	8/3/2007	Purge and Sample	1,200 / 1,100	8,000 / 8,100	590 / 570
	5/11/2007	Purge and Sample	1,000 / 980	7,200 / 7,300	490 / 450
	2/9/2007	Purge and Sample	760	4,700	350
	11/20/2006	Purge and Sample	800 / 800	5,700 / 5,800	370 / 360
MW-3 (20-30 ft bgs)	12/10/2008	PDB Sampler	5.6	60	5.5
	7/14/2008	PDB Sampler	4.3	43	4.0
	5/16/2008	Purge and Sample	5.0	39	4.3
	5/16/2008	PDB Sampler*	5.4	46	4.4
	2/29/2008	PDB Sampler*	6.9	58	5.9
	2/15/2008	Purge and Sample	6.2	44	5.1
	1/2/2008	Purge and Sample	5.2	46	4.6
	8/3/2007	Purge and Sample	4.7	37	4.2
	5/11/2007	Purge and Sample	5.5	43	4.4
	2/9/2007	Purge and Sample	5.3	42	4.2
	11/20/2006	Purge and Sample	10	93	7.2
MW-4 (25-35 ft bgs)	12/10/2008	PDB Sampler	4.0	<0.50	3.7
	7/14/2008	PDB Sampler	4.7	<0.50	4.0
	5/16/2008	Purge and Sample	3.7	<0.50	2.6
	5/16/2008	PDB Sampler*	3.6	<0.50	2.7
	2/29/2008	PDB Sampler*	3.4	<0.50	3.0
	2/15/2008	Purge and Sample	4.2	<0.50	4.0
	1/3/2008	Purge and Sample	4.2	<0.50	3.5
	8/3/2007	Purge and Sample	4.6	<0.50	3.5

**Table 4**  
**Groundwater Analytical Summary**  
**Hopyard Cleaners**  
**Pleasanton, California**

Well I.D. (Screen Interval)	Sample Date	Sampling Method	Volatile Organic Compounds - EPA Method 8260B (ug/L)		
			cis-1,2-DCE	PCE	TCE
<b>B Zone Monitoring Wells</b>					
MW-5 (50-60 ft bgs)	12/10/2008	PDB Sampler	<0.50	49	<0.50
	7/14/2008	PDB Sampler	<0.50	31	<0.50
	5/16/2008	Purge and Sample	<0.50	24	<0.50
	5/16/2008	PDB Sampler*	<0.50	34	<0.50
	2/29/2008	PDB Sampler (52.5 ft bgs)*	<0.50	41	<0.50
	2/29/2008	PDB Sampler (57.5 ft bgs)*	<0.50	33	<0.50
	2/15/2008	Purge and Sample	<0.50	26	<0.50
	1/3/2008	Purge and Sample	<0.50	38	<0.50
MW-6 (49-59 ft bgs)	8/3/2007	Purge and Sample	<0.50	37	<0.50
	12/10/2008	PDB Sampler (51.5 ft bgs)*	<0.50	<0.50	<0.50
MW-7 (45-55 ft bgs)	12/10/2008	PDB Sampler (56.5 ft bgs)*	<0.50	<0.50	<0.50
	12/10/2008	PDB Sampler (47.5 ft bgs)*	<0.50	9.8	<0.50
	12/10/2008	PDB Sampler (52.5 ft bgs)*	<0.50	10	<0.50

**Notes:**

Table shows only compounds detected above the laboratory reporting limit.

cis-1,2-DCE = cis-1,2-dichloroethene

PCE = tetrachloroethene

TCE = trichloroethene

"-- / --" = result on right represents duplicate sample

ft bgs = feet below ground surface

PDB = Passive Diffusion Bag Sampler

\* Samples collected as part of the PDB comparison study. PDBs were deployed at two depths in the following wells to evaluate stratification: at 52.5 and 57.5 ft bgs in MW-5 for the 1st Quarter 2008 event, at 51.5 and 56.5 ft bgs in MW-6 for the 4th Quarter 2008 event, and at 47.5 and 52.5 ft bgs in MW-7 for the 4th Quarter 2008 event.

**Table 5  
SVE System Performance Monitoring Results  
Hopyard Cleaners  
2771 Hopyard Road, Pleasanton, California**

Sample Date	SYSTEM MEASUREMENTS								MASS REMOVAL CALCULATIONS							
	Time	Operation Time (Hour)	Influent Flow Rate (ft/min)	System Temp. (°F)	Influent Vacuum (in Hg)	Influent Conc. (ppmv)	Mid-Point Conc. (ppmv)	Effluent Conc. (ppmv)	Vacuum (in water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	PCE Conc. (mg/m <sup>3</sup> )	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
21-Aug-08	9:15	7,569.2	--	--	10.0	13.0	0.2	0.1	136	--	--	--	89.70	--	0.00	0.00
22-Aug-08	9:25	7,593.3	4,590	83.5	10.0	5.5	0.3	0.0	136	210.54	136.22	24.17	37.95	0.7817	0.79	0.79
23-Aug-08	10:00	7,618.0	4,690	78.3	9.5	0.7	0.2	0.1	129	215.13	144.06	48.75	4.83	0.2770	0.28	1.07
24-Aug-08	14:02	7,646.0	4,550	79.5	10.0	0.9	0.3	0.0	136	208.71	136.04	76.78	6.21	0.0675	0.08	1.15
25-Aug-08	16:22	7,672.4	4,450	87.2	10.0	1.1	0.3	0.1	136	204.12	131.17	103.12	7.59	0.0814	0.09	1.24
27-Aug-08	8:14	7,712.1	4,520	74.0	10.0	6.6	0.1	0.0	136	207.33	136.53	142.98	45.54	0.3261	0.54	1.78
29-Aug-08	8:02	7,757.7	4,380	77.9	9.5	1.8	--	--	129	200.91	134.64	190.78	12.42	0.3508	0.70	2.48
2-Sep-08	9:14	7,853.3	4,250	77.5	10.0	1.8	0.1	0.0	136	194.95	127.54	287.98	12.42	0.1424	0.58	3.06
8-Sep-08	8:40	7,996.2	4,290	76.8	8.5	2.1	0.1	0	116	196.78	138.60	379.14	14.49	0.1677	0.64	3.69
18-Sep-08	10:40	8,238.2	4,300	79.0	8.0	0.7	0.0	0.0	109	197.24	141.59	520.31	4.83	0.1230	0.72	4.42
8-Oct-08	10:00	8,715.1	4,300	83.8	8.0	0.8	0.0	0.0	109	197.24	140.34	799.92	5.52	0.0653	0.76	5.18
17-Nov-08	9:30	9,675.1	4,300	66	8.0	0.9	0.0	0.0	109	197.24	145.09	1359.63	6.21	0.0765	1.78	6.96
5-Dec-08	9:26	10,107.1	4,775	49.8	8.0	0.7	0.2	0.0	109	219.03	166.23	1611.59	4.83	0.0825	0.87	7.83

**Notes/Assumptions:**

- Inlet pipe diameter is 3".
  - SVE operations were reduced from 24 hours per day to 14 hours (8 am to 10 pm) per day on 3 September 2008.
  - Vapor density of PCE is estimated to be 6,900 g/m<sup>3</sup> at 20C.
  - SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])
  - Mass removal calculated as mass PCE
- ft/min = feet per minute  
oF = degrees fahrenheit  
in Hg = inches mercury  
in water = inches water  
cfm = cubic feet per minute  
scfm = standard cubic feet per minute  
hr = hour  
ppmv = volumetric parts per million  
yr = year  
lbs = pounds

**Table 6**  
**SVE Influent Sample Analytical Summary**  
**Hopyard Cleaners**  
**Pleasanton, California**

VOC (ppmv)	Sample Date		
	21-Aug-08	2-Sep-08	5-Dec-08
PCE	3.600	1.200	0.340
TCE	0.051	0.029	0.012
Other <sup>1</sup>	0.022	0.0075	0.043
<i>Total</i>	<i>3.651</i>	<i>1.237</i>	<i>0.395</i>
<i>Influent PID Reading<sup>2</sup></i>	<i>13.8</i>	<i>1.8</i>	<i>0.7</i>

**Notes:**

Table shows only compounds detected above the laboratory reporting limit

VOC - Volatile Organic Compound; analyzed by TO-15

ppmv - parts per million by volume

cis-1,2-DCE - cis-1,2-dichloroethene

PCE - tetrachloroethene

TCE - trichloroethene

PID - Photoionization Detector

(1) Tetrahydrofuran was detected at a concentration of 0.022 ppmv on 21 August 2008; 2-butanone was detected at a concentration of 0.0075 ppmv on 2 September 2008; and freon 12 was detected at a concentration of 0.0014 ppmv, ethanol was detected at 0.0082 ppmv, acetone was detected at 0.0099 ppmv, carbon disulfide was detected at 0.0025 ppmv, methylene chloride was detected at 0.0014 ppmv, 2-butanone was detected at 0.0025 ppmv, tetrahydrofuran was detected at 0.0014 ppmv, benzene was detected at 0.0045 ppmv, and toluene was detected at 0.0076 ppmv on 5 December 2008.

(2) PID screening results from the date sampling was conducted, as presented on Table 5.

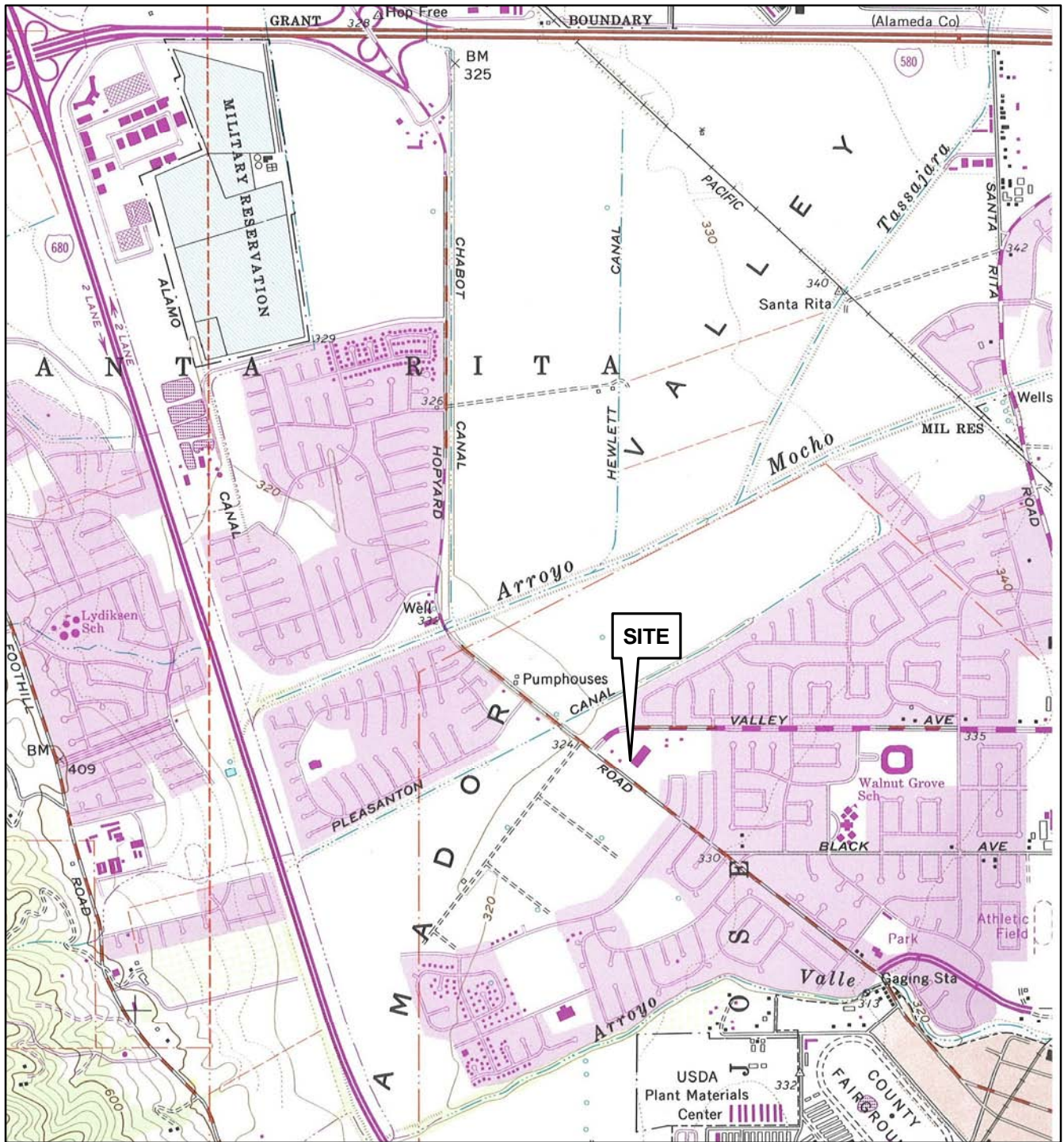
**Table 7**  
**SVE Well Monitoring Results**  
**Hopyard Cleaners**  
**2771 Hopyard Road, Pleasanton, California**

Date	Monitoring Event	MANIFOLD			SVE-1			SVE-2			SVE-3			SVE-4			SVE-5		
		Time	Flow Rate (scfm)	Vacuum (in Hg)	Time	Vacuum (in Hg)	PID (ppmv)	Time	Vacuum (in Hg)	PID (ppmv)	Time	Vacuum (in Hg)	PID (ppmv)	Time	Vacuum (in Hg)	PID (ppmv)	Time	Vacuum (in Hg)	PID (ppmv)
21-Aug-08	Start up Day 1	9:22	240	--	9:24	0	46.8	9:22	1.5	23.8	9:21	2.0	5.0	9:25	1.5	24.3	9:20	2.0	8.8
22-Aug-08	Start-up Day 2	9:41	240	--	9:42	0	20.5	9:40	1.75	12.0	9:38	2.0	2.1	9:44	1.5	8.4	9:37	2.0	4.2
23-Aug-08	Start-up Day 3	10:35	240	--	10:38	0	12.5	10:34	1.5	7.8	10:28	0	2.3	10:26	1.0	6.4	10:31	2.0	3.6
25-Aug-08	Start-up Day 5	16:52	235	--	16:50	0	9.3	16:58	0	4.9	16:55	1.0	1.6	4:46	1.0	4.8	16:53	2.0	2.6
27-Aug-08	Start-up Day 7	8:36	240	--	8:38	0	7.2	8:36	1.5	3.6	8:35	2.0	0.6	8:39	1.5	8.9	8:34	2.0	1.5
2-Sep-08	Start-up Day 13/Week 2	9:43	230	3.5	9:44	0	3.5	9:42	1.5	2.2	9:40	1.75	0.7	9:45	1.5	1.9	9:36	1.5	1.2
8-Sep-08	Start-up Week 3	8:58	230	3.75	9:01	0	2.6	8:59	1.25	2.8	8:58	1.5	2.4	9:02	1.25	1.2	8:57	1.5	2.1
18-Sep-08	1st Month	11:14	235	4	11:16	1.2	1.8	11:14	1.5	0.8	11:12	1.5	0.0	11:17	1.3	0.8	11:10	1.5	0.5
8-Oct-08	2nd Month	10:40	235	3.75	11:04	1.2	1.3	11:00	1.5	1.1	10:57	1.4	0.5	11:07	1.3	1.0	10:51	1.5	0.8
17-Nov-08	3rd Month	9:45	235	3.5	9:48	1.1	1.0	9:46	1.4	0.7	9:44	1.3	0.5	9:50	1.2	0.7	9:42	1.4	0.8
5-Dec-08	4th Month	11:20	240	3.5	11:21	1.1	0.7	11:19	1.3	0.5	11:18	1.3	0.3	11:22	1.1	0.5	11:17	1.4	0.5

## Notes:

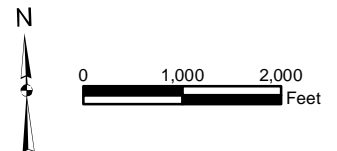
ft = feet  
min = minute  
in Hg = inches of mercury  
ppmv = parts per million volume  
scfm = standard cubic feet per minute

## **FIGURES**



Topo Source: U.S.G.S 7.5 Minute Series,  
 Dublin, CA Quadrangle (1980)  
 Contour Interval = 40 Feet

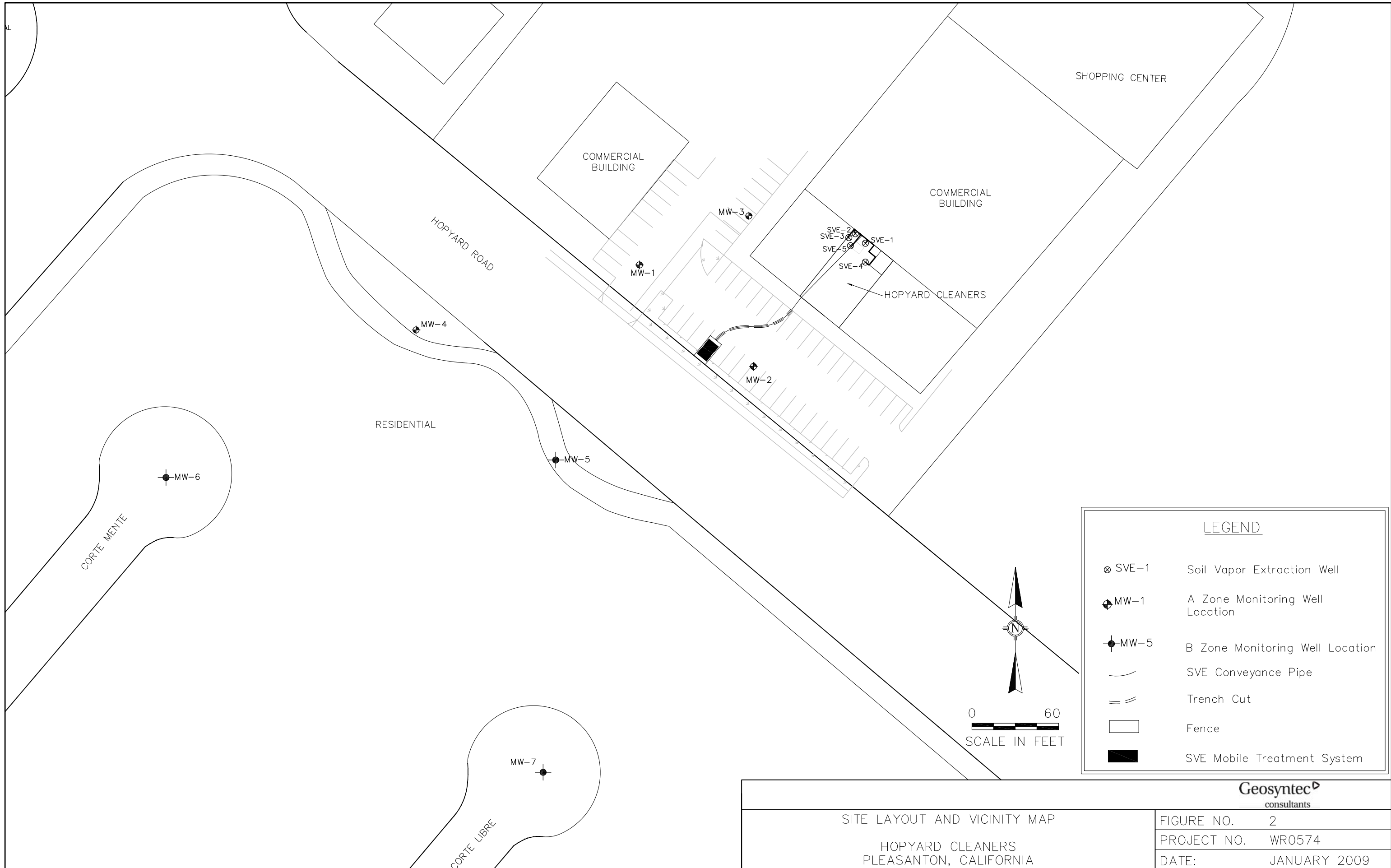
**SITE LOCATION MAP  
 HOPYARD CLEANERS  
 2771 HOPYARD ROAD  
 PLEASANTON, CALIFORNIA**



**Geosyntec**  
 consultants

FIGURE NO.	1
PROJECT NO.	WR0574
DATE:	JANUARY 2009





**LEGEND**

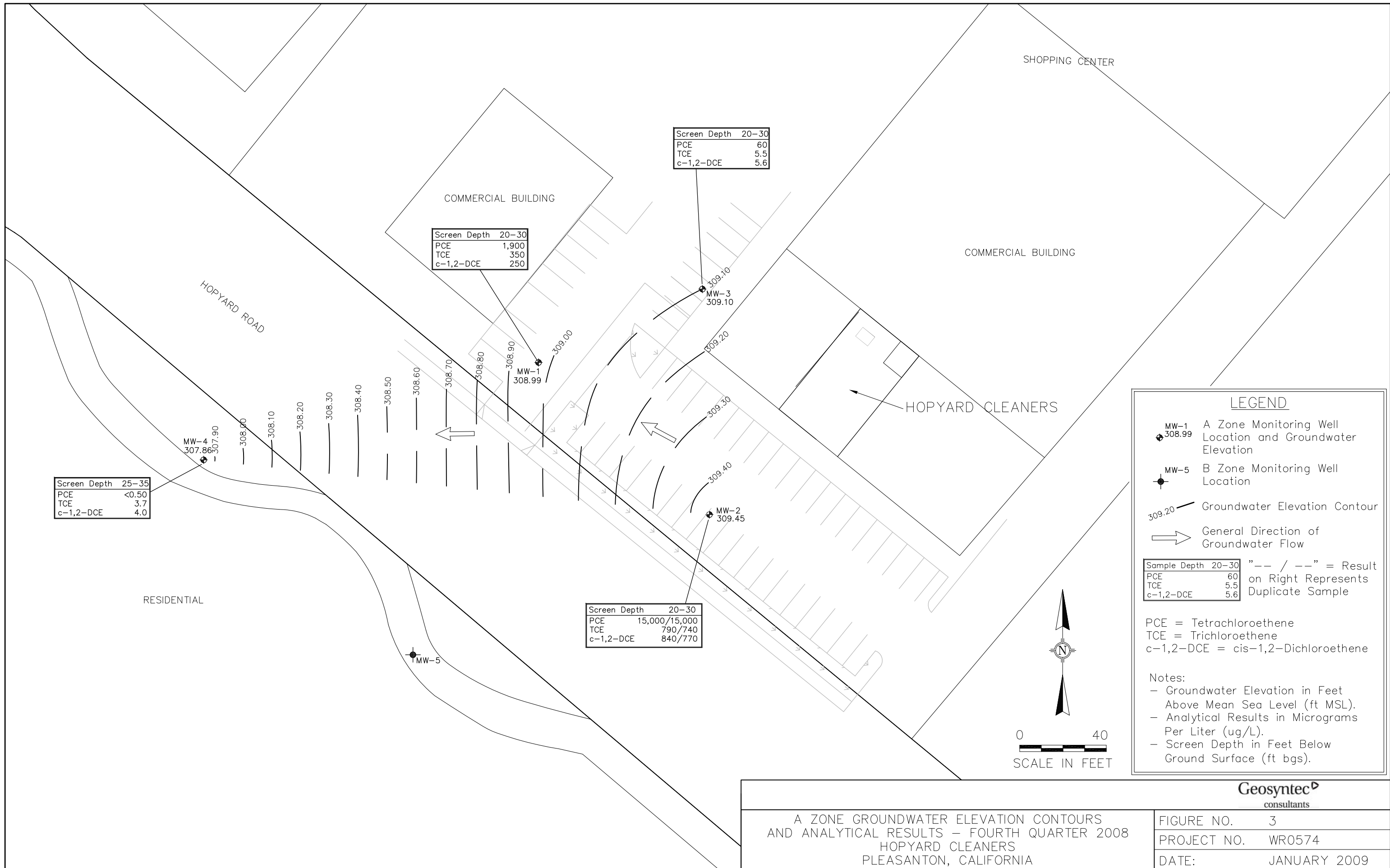
- ⊗ SVE-1 Soil Vapor Extraction Well
- ⊕ MW-1 A Zone Monitoring Well Location
- ⊙ MW-5 B Zone Monitoring Well Location
- SVE Conveyance Pipe
- == Trench Cut
- Fence
- SVE Mobile Treatment System

**Geosyntec**  
consultants

SITE LAYOUT AND VICINITY MAP

HOPYARD CLEANERS  
PLEASANTON, CALIFORNIA

FIGURE NO.	2
PROJECT NO.	WR0574
DATE:	JANUARY 2009



Screen Depth	25-35
PCE	<0.50
TCE	3.7
c-1,2-DCE	4.0

Screen Depth	20-30
PCE	1,900
TCE	350
c-1,2-DCE	250

Screen Depth	20-30
PCE	60
TCE	5.5
c-1,2-DCE	5.6

Screen Depth	20-30
PCE	15,000/15,000
TCE	790/740
c-1,2-DCE	840/770

**LEGEND**

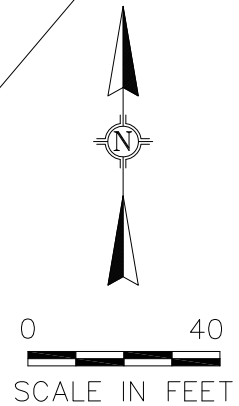
- MW-1 A Zone Monitoring Well Location and Groundwater Elevation
- MW-5 B Zone Monitoring Well Location
- 309.20 Groundwater Elevation Contour
- ➔ General Direction of Groundwater Flow

Sample Depth	20-30	"-- / --" = Result on Right Represents Duplicate Sample
PCE	60	
TCE	5.5	
c-1,2-DCE	5.6	

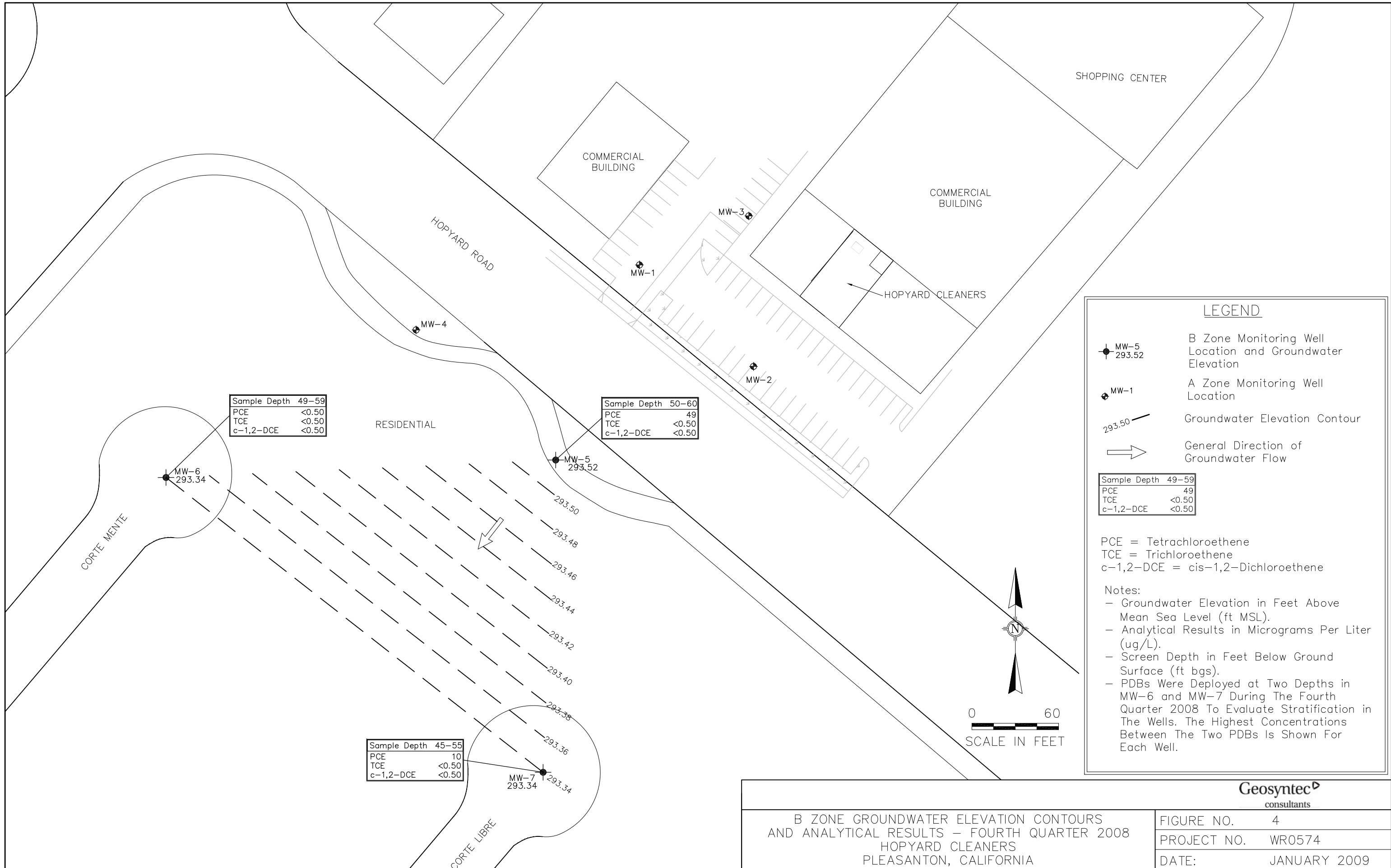
PCE = Tetrachloroethene  
TCE = Trichloroethene  
c-1,2-DCE = cis-1,2-Dichloroethene

Notes:

- Groundwater Elevation in Feet Above Mean Sea Level (ft MSL).
- Analytical Results in Micrograms Per Liter (ug/L).
- Screen Depth in Feet Below Ground Surface (ft bgs).



<b>Geosyntec</b> consultants	
A ZONE GROUNDWATER ELEVATION CONTOURS AND ANALYTICAL RESULTS – FOURTH QUARTER 2008 HOPYARD CLEANERS PLEASANTON, CALIFORNIA	FIGURE NO. 3
	PROJECT NO. WR0574
	DATE: JANUARY 2009



Sample Depth	49-59
PCE	<0.50
TCE	<0.50
c-1,2-DCE	<0.50

Sample Depth	50-60
PCE	49
TCE	<0.50
c-1,2-DCE	<0.50

Sample Depth	45-55
PCE	10
TCE	<0.50
c-1,2-DCE	<0.50

**LEGEND**

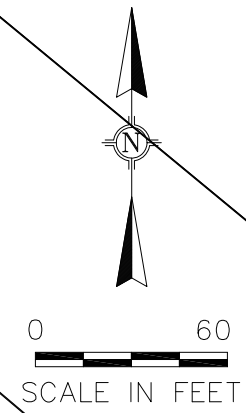
- MW-5 293.52 B Zone Monitoring Well Location and Groundwater Elevation
- MW-1 A Zone Monitoring Well Location
- 293.50 Groundwater Elevation Contour
- General Direction of Groundwater Flow

Sample Depth	49-59
PCE	49
TCE	<0.50
c-1,2-DCE	<0.50

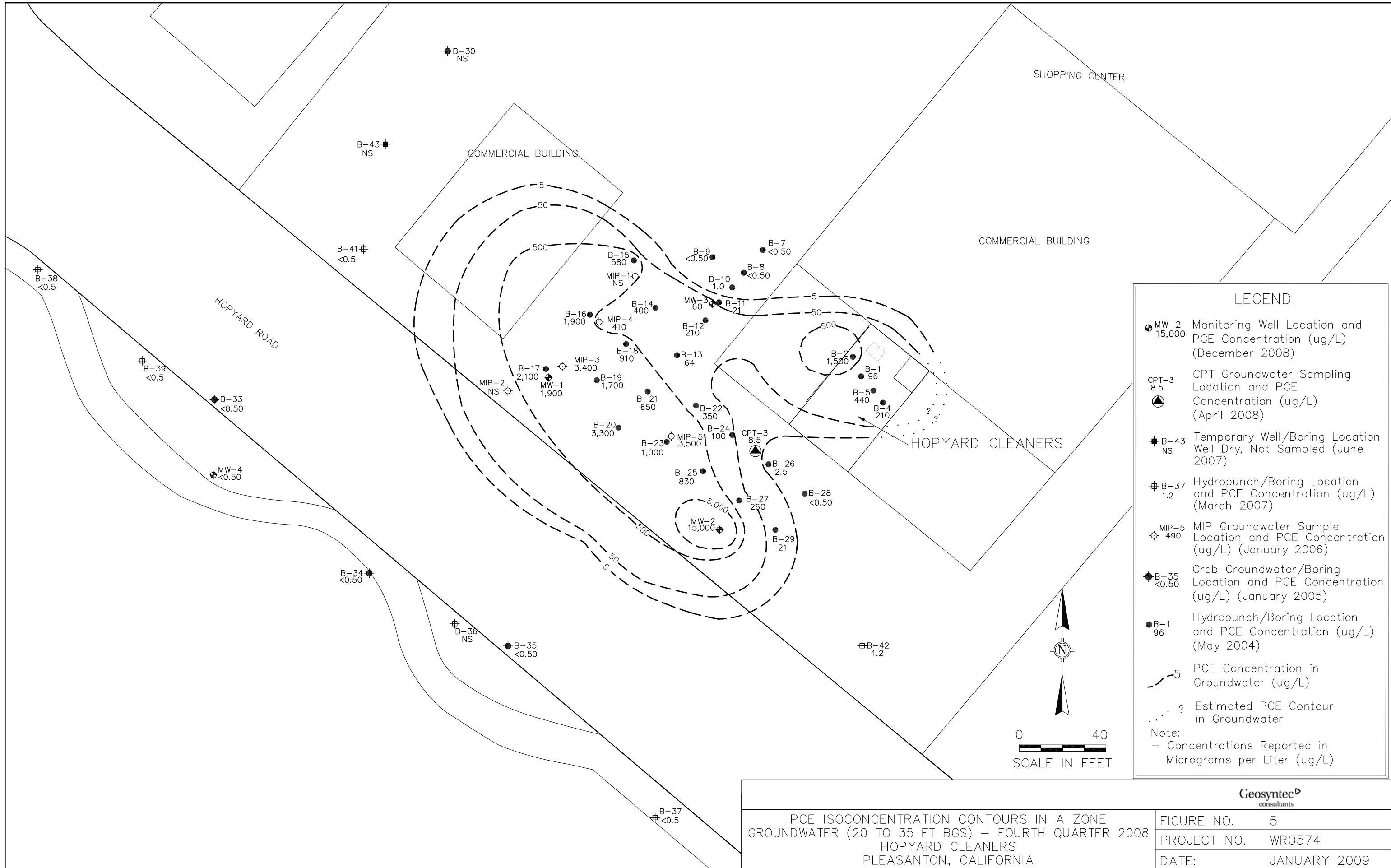
PCE = Tetrachloroethene  
TCE = Trichloroethene  
c-1,2-DCE = cis-1,2-Dichloroethene

Notes:

- Groundwater Elevation in Feet Above Mean Sea Level (ft MSL).
- Analytical Results in Micrograms Per Liter (ug/L).
- Screen Depth in Feet Below Ground Surface (ft bgs).
- PDBs Were Deployed at Two Depths in MW-6 and MW-7 During The Fourth Quarter 2008 To Evaluate Stratification in The Wells. The Highest Concentrations Between The Two PDBs Is Shown For Each Well.



<b>B ZONE GROUNDWATER ELEVATION CONTOURS  AND ANALYTICAL RESULTS – FOURTH QUARTER 2008  HOPYARD CLEANERS  PLEASANTON, CALIFORNIA</b>		<b>Geosyntec</b> consultants
FIGURE NO.	4	
PROJECT NO.	WR0574	
DATE:	JANUARY 2009	

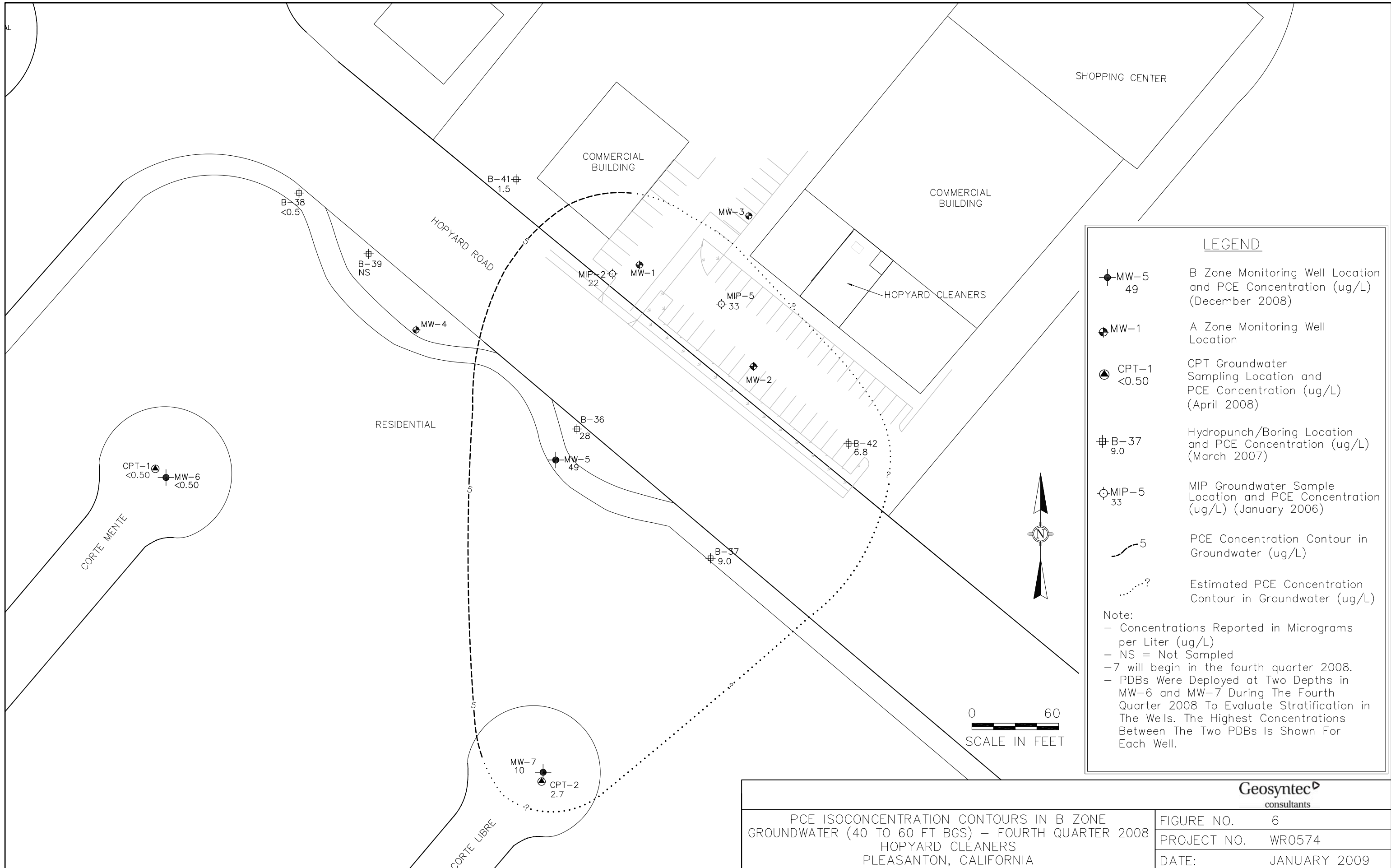


**LEGEND**

- MW-2  
 15,000  
 Monitoring Well Location and PCE Concentration (ug/L) (December 2008)
- CPT-3  
 8.5  
 CPT Groundwater Sampling Location and PCE Concentration (ug/L) (April 2008)
- B-43  
 NS  
 Temporary Well/Boring Location. Well Dry, Not Sampled (June 2007)
- B-37  
 1.2  
 Hydropunch/Boring Location and PCE Concentration (ug/L) (March 2007)
- MIP-5  
 490  
 MIP Groundwater Sample Location and PCE Concentration (ug/L) (January 2006)
- B-35  
 <0.50  
 Grab Groundwater/Boring Location and PCE Concentration (ug/L) (January 2005)
- B-1  
 96  
 Hydropunch/Boring Location and PCE Concentration (ug/L) (May 2004)
- 5  
 PCE Concentration in Groundwater (ug/L)
- ?  
 Estimated PCE Contour in Groundwater

Note:  
 - Concentrations Reported in Micrograms per Liter (ug/L)

<b>Geosyntec</b> consultants	
PCE ISOCONCENTRATION CONTOURS IN A ZONE GROUNDWATER (20 TO 35 FT BGS) – FOURTH QUARTER 2008 HOPYARD CLEANERS PLEASANTON, CALIFORNIA	FIGURE NO. 5
	PROJECT NO. WR0574
	DATE: JANUARY 2009



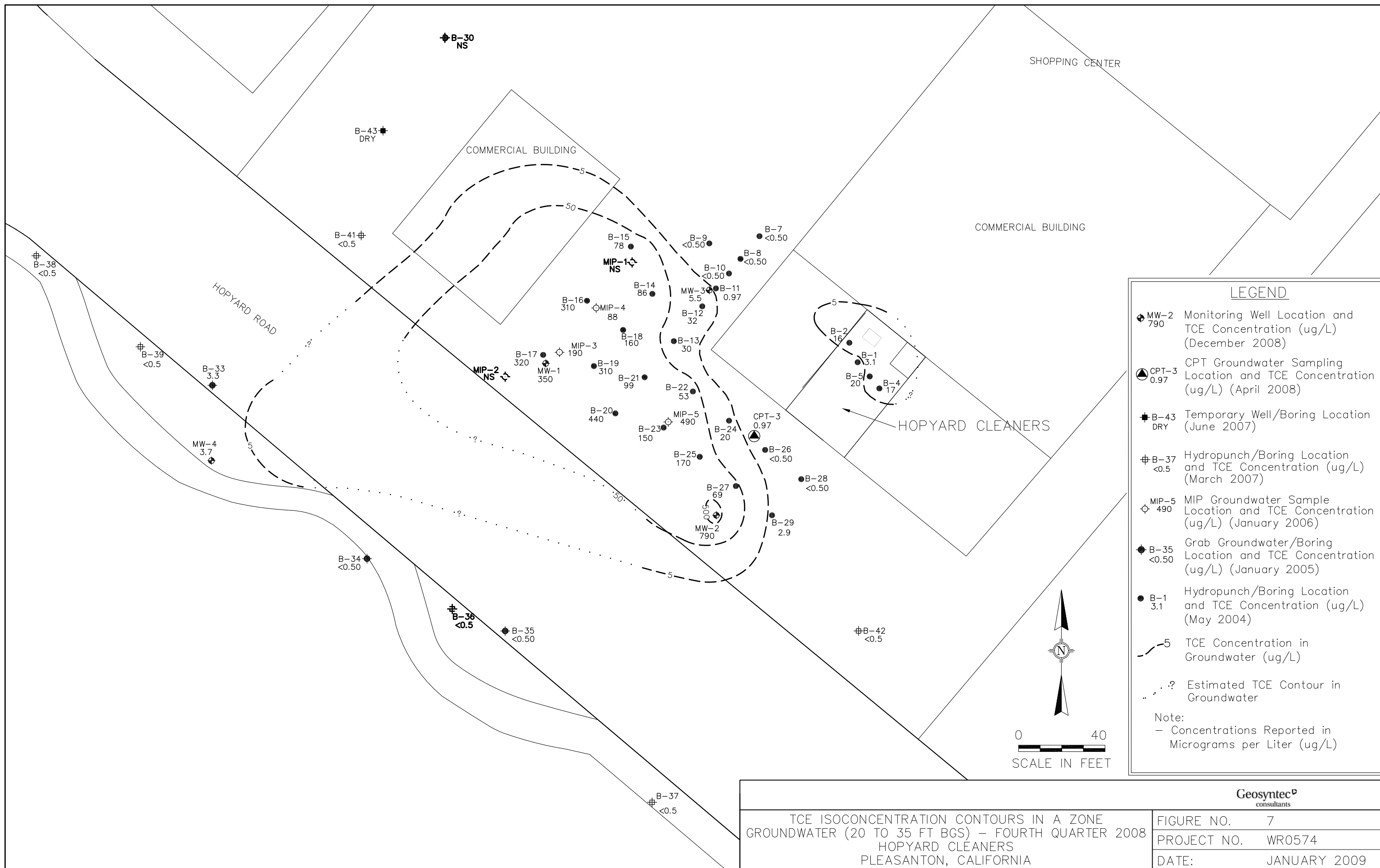
**LEGEND**

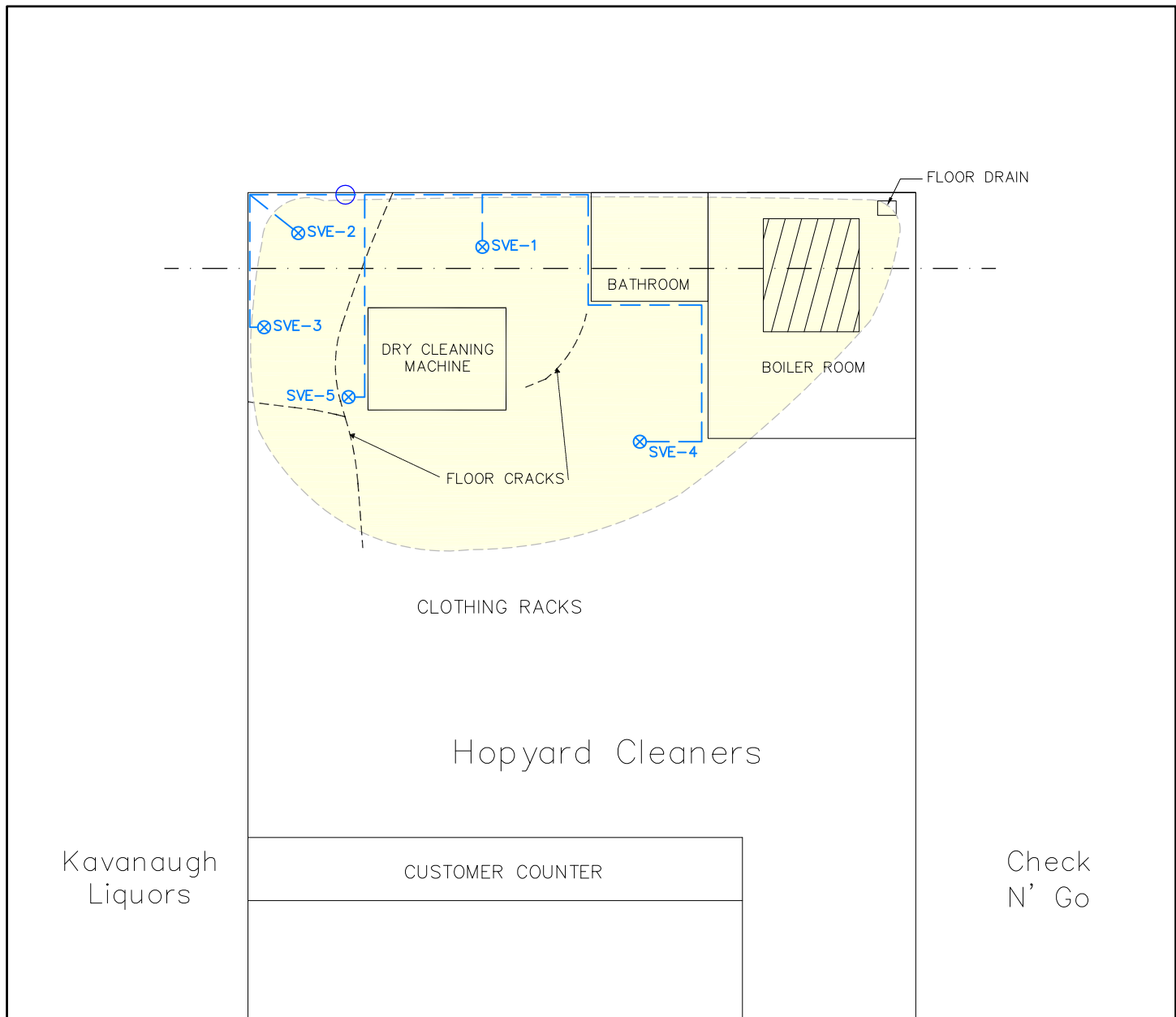
- MW-5 49 B Zone Monitoring Well Location and PCE Concentration (ug/L) (December 2008)
- MW-1 A Zone Monitoring Well Location
- CPT-1 <0.50 CPT Groundwater Sampling Location and PCE Concentration (ug/L) (April 2008)
- B-37 9.0 Hydropunch/Boring Location and PCE Concentration (ug/L) (March 2007)
- MIP-5 33 MIP Groundwater Sample Location and PCE Concentration (ug/L) (January 2006)
- 5 PCE Concentration Contour in Groundwater (ug/L)
- ? Estimated PCE Concentration Contour in Groundwater (ug/L)

Note:

- Concentrations Reported in Micrograms per Liter (ug/L)
- NS = Not Sampled
- 7 will begin in the fourth quarter 2008.
- PDBs Were Deployed at Two Depths in MW-6 and MW-7 During The Fourth Quarter 2008 To Evaluate Stratification in The Wells. The Highest Concentrations Between The Two PDBs Is Shown For Each Well.

<b>Geosyntec</b> consultants	
PCE ISOCONCENTRATION CONTOURS IN B ZONE GROUNDWATER (40 TO 60 FT BGS) – FOURTH QUARTER 2008 HOPYARD CLEANERS PLEASANTON, CALIFORNIA	FIGURE NO. 6
	PROJECT NO. WR0574
	DATE: JANUARY 2009





**LEGEND**

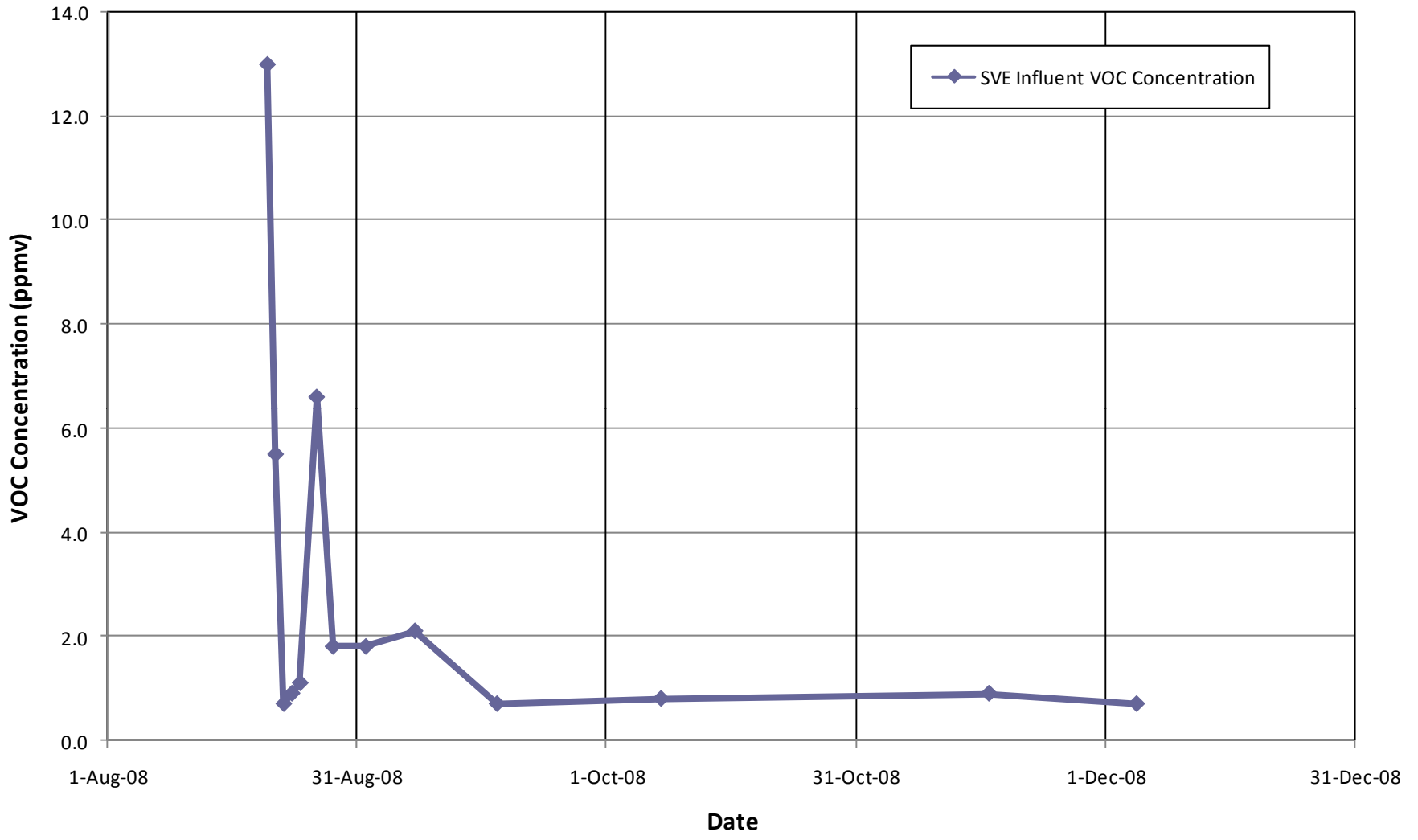
Soil Vapor Extraction Well	Approximate Sewer Location
Approximate SVE Conveyance Piping Location	Approximate Floor Crack Location
Approximate SVE Manifold Location	On-Site Soil Target Remedial Area

APPROX.  
SCALE IN FEET

**Geosyntec**  
consultants

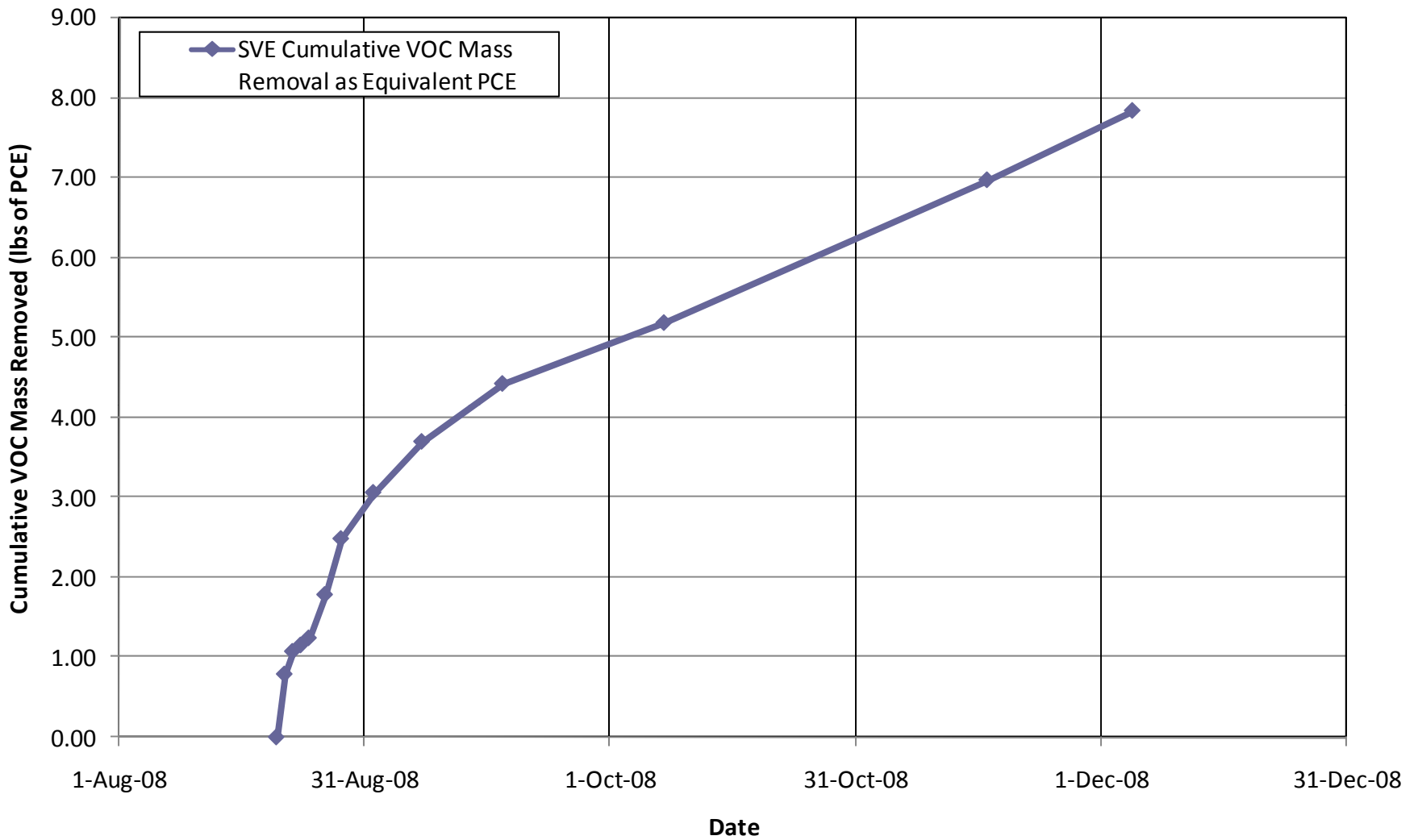
<b>SOIL VAPOR EXTRACTION WELL LOCATIONS AND PIPING LAYOUT HOPYARD CLEANERS PLEASANTON, CALIFORNIA</b>	FIGURE NO. 8
	PROJECT NO. WR0574
	DATE: JANUARY 2009





ppmv = parts per million by volume

<b>SVE Influent Concentrations Over Time</b> Hopyard Cleaners, Pleasanton, California		
January 2009	Figure: 9	<b>Geosyntec</b> <sup>®</sup> consultants



lbs = pounds

Date

**SVE Cumulative Mass Removal**  
 Hopyard Cleaners, Pleasanton, California

January 2009

Figure: 10

**Geosyntec**<sup>®</sup>  
 consultants

**ATTACHMENT 1**  
**ESS FIELD REPORT**



December 12, 2008

Ms. Melissa Asher  
Senior Staff Engineer  
GeoSyntec Consultants  
475-14<sup>th</sup> Street, Suite 450  
Oakland, California 94612

**SUBJECT: December 2008 Quarterly Groundwater Monitoring Event for Hopyard Cleaners, Pleasanton, California**

Dear Ms. Asher,

Please find enclosed the Field Activity Report for the quarterly groundwater monitoring event at 2771 Hopyard Road that occurred December 10, 2008.

If you have any questions or concerns regarding this Field Activity Report, please do not hesitate to call me.

Sincerely,  
**Environmental Sampling Services, LLC**

A handwritten signature in blue ink, appearing to read "J. Lee", is written over a horizontal line.

Jacqueline Lee  
Manager

Enclosure

**FIELD ACTIVITY REPORT  
FOR**

**DECEMBER 2008  
QUARTER GROUNDWATER  
MONITORING EVENT**

**HOPYARD CLEANERS  
2771 HOPYARD ROAD  
PLEASANTON, CALIFORNIA**

Prepared for: GeoSyntec Consultants  
475-14<sup>th</sup> Street, Suite 450  
Oakland, California 94612

Date Prepared: December 12, 2008



## **FIELD ACTIVITY REPORT FOR**

**DECEMBER 2008  
QUARTERLY GROUNDWATER  
MONITORING EVENT**

**HOPYARD CLEANERS  
2771 HOPYARD ROAD  
PLEASANTON, CALIFORNIA**

Task: Quarterly Groundwater Sampling Event  
ESS Personnel: Jacqueline Lee  
Date of Activities: December 10, 2008

### ***Decontamination Procedures***

All downhole equipment was cleaned with Liqui-Nox® laboratory-grade soap, potable water, and rinsed with distilled water prior to use and between each monitoring well.

### ***Groundwater Level Measurements***

Depth to groundwater for five monitoring wells were measured and recorded following atmospheric equilibration of approximately thirty minutes. All readings were performed with a Solinst® Water Level Meter, Serial Number 49914, and referenced to the surveyor's mark or north rim at the top of PVC well casing (Table 1). Three successive readings that agreed to within one-hundredth of a foot determined depth to groundwater.

Organic vapor readings were not required.

### ***Passive Diffusion Bag Sampling***

Groundwater samples for Volatile Organic analyses were obtained from each Passive Diffusion Bag Sampler (PDBS). Volatile Organic samples were contained in 40-ml, clear glass, VOAs preserved with hydrochloric acid.

All sample labels were completed with waterproof ink and affixed to sample containers. All sample containers were wiped dry, sealed in Ziploc® bags, and placed a chilled cooler for storage and shipment to the laboratory.

Following completion of low-flow groundwater sampling, a new Passive Diffusion Bag was installed in wells MW-1 through MW-5.

### ***Laboratory***

TestAmerica of Pleasanton, California provided Trip Blank, sample containers with appropriate preservative, and conducted all laboratory analyses.

All wells were sampled for Volatile Organic Compounds (VOC) by EPA Method 8260B.  
**6680 Alhambra Ave., #102 • Martinez, CA 94553-6105 • (925) 372-8108 • Fax: (925) 372-6705**  
**[www.envsampling.com](http://www.envsampling.com)**





### ***Sample Containers /Sample Handling***

Each VOC sample set was contained in two or three, 40-ml VOA clear glass containers preserved with Hydrochloric Acid.

All samples were placed in the cooler containing the Trip Blank for storage and transportation.

### ***Quality Assurance /Quality Control Samples***

All QA/QC samples were submitted to TestAmerica for analysis.

#### **Trip Blank**

One Trip Blank set, labeled Trip Blank, was stored in a chilled cooler throughout the sampling event and submitted for analysis.

#### **Duplicate**

One blind duplicate was collected from MW-2 and labeled "MW-DUP @ 14:10". Each VOA duplicate sample container was collected in immediate succession by alternating between each VOA primary sample container. A total of three VOAs were collected from MW-2. One VOA container was submitted as the blind duplicate.

No other QA/QC samples were requested.

### ***Chain of Custody (COC) Form***

Standard chain of custody procedures were used to documentation purposes. The COC included: sampler's name and signature, sample identification, sample date and time, and analysis request section. Electronic Data Format (EDF) and standard turnaround time was requested.

### ***Shipment of Samples***

All groundwater samples were relinquished directly to TestAmerica December 10, 2008.

### ***Storage of Investigative Derived Wastewater (IDW)***

Approximately 4 gallons of purged groundwater and decontamination water generated from this sampling event were stored in one of the three empty 55-gallon drums. It was labeled and is stored inside the treatment system enclosure. The treatment enclosure was secured upon completion of task.

### ***Comments***

Two new and unused PDBs for MW-6 and MW-7 and nylon ties were sealed in a cardboard box and placed in the plastic box kept stored inside the treatment system enclosure.

All work was performed in accordance with Geosyntec's directive for Hopyard Cleaners, dated November 18, 2008 and subsequent directives.

**Environmental Sampling Services, LLC**

A handwritten signature in blue ink, appearing to read "J. Lee", is written over a horizontal line.

Jacqueline Lee  
Manager

Attachments:

Table 1: Summary of Groundwater Monitoring Event  
Water Sample Log Sheet  
Chain of Custody



**Table 1: December 2008 Quarterly Groundwater Monitoring Event**

**Project Name: Hopyard Cleaners**

**Project Location: 2771 Hopyard Road, Pleasanton, California**

Well/Sample Identification	Date of Measurement	Time of Measurement	Depth to Groundwater (Ft., TOC)	Well Depth (Ft., TOC)	Sample Date	Sample Time	QA/QC Type	QA/QC Sample Identification
MW-1	12/10/2008	12:34	16.78	30.27	12/10/2008	13:45	None	NA
MW-2	12/10/2008	12:32	16.24	30.31	12/10/2008	14:05	Duplicate	MW-DUP
MW-3	12/10/2008	12:30	17.17	30.29	12/10/2008	13:55	None	NA
MW-4	12/10/2008	12:03	18.41	34.56	12/10/2008	12:05	None	NA
MW-5	12/10/2008	12:15	33.67	59.96	12/10/2008	12:20	None	NA
MW-6 PDB-S	12/10/2008	12:42	31.14	NM	12/10/2008	13:25	None	NA
MW-6 PDB-D	12/10/2008	12:42	31.14	NM	12/10/2008	13:35	None	NA
MW-7 PDB-S	12/10/2008	12:49	31.21	NM	12/10/2008	13:00	None	NA
MW-7 PDB-D	12/10/2008	12:49	31.21	NM	12/10/2008	13:10	None	NA

Legend:

TOC = Top of Well Casing

NA = Not Applicable

NM = Not Measured, PDBs in well





**WATER QUALITY SAMPLE LOG SHEET**

WELL IDENTIFICATION: **MW-1** DATE: **12/10/08**

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574

Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny

Well Description: (2") 3.5" 4" 5" 6" Other: \_\_\_\_\_ Well Type: (PVC) Stainless Steel Other: \_\_\_\_\_

Is Well Secured? (Yes) / No Bolt Size: 9/16" Type of lock / Lock number: Master P288

Observations / Comments: \_\_\_\_\_ Screen Interval: 20' to 30'

Purge Method: (NA) Teflon / PE Disposable Bailer Centrifugal Pump Peristaltic Pump Other: \_\_\_\_\_

Pump Lines: (NA) New / Cleaned / Dedicated Bailer Line: (NA) New / Cleaned / Dedicated

Method of Cleaning Pump: (NA) Alconox Liqui-nox Tap Water DI Rinse Other: \_\_\_\_\_

Method of Cleaning Bailer: NA

Sampling Method: Passive Disposable Sampler Bag

YSI Muti-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522

Equipment Calibration: See Daily Equipment Calibration Sheet

Method to Measure Water Level: Slope (Solinst) Indicator Serial No.: 21758 / 25742 P.I.D. Reading: NA ppm

Water Level at Start (DTW): 16.78 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)

TD = 30.27' - 16.78 (DTW) = 13.49 (ft. of water) x "K" = 2.19 (Gals./CV) x NA (No. of CV) = NA (Gals.)

"K" = 0.163 (2" well) "K" = 0.50 (3.5" well) "K" = .653 (4" well) "K" = 1.02 (5" well) "k" = 1.46 (6" well)

**FIELD WATER QUALITY PARAMETERS**

Date	Time	Discharge (Liters)	pH +/- 0.1	Temp. (°C)	Specific Conductance µS +/- 3%	Turbidity (NTU's) +/- 10	Redox (mV) +/- 10	Dissolved Oxygen (mg/L) +/- 10%	Water Level (BTOC)	Color
		Initial								
		0.5								
		1.0								
		1.5								
		2.0								
		2.5								
		3.0								
		3.5								
		4.0								

Total Discharge: 0 Liters

Casing Volumes Removed: NA

Method of disposal of discharged water: (55 Gallon Drum(s)) Poly Tank Treatment System Other: \_\_\_\_\_

Date/Time Sampled: 12/10/08 @ 13:45 Analysis: VOCs (8260B) - 3 VOAs w/HCl

QA/QC: None @ - Duplicate MS/MSD Equipment Rinseate Field Blank Lab Split

Comments: \_\_\_\_\_

Recorded by: Stephen Penman / Jacqueline Lee Signature: [Signature]



**WATER QUALITY SAMPLE LOG SHEET**

WELL IDENTIFICATION: **MW-2** DATE: **12/10/08**

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574

Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny

Well Description: 2" 3.5" 4" 5" 6" Other: \_\_\_\_\_ Well Type: PVC Stainless Steel Other: \_\_\_\_\_

Is Well Secured? Yes/ No Bolt Size: 9/16" Type of lock / Lock number: Master P288

Observations / Comments: \_\_\_\_\_ Screen Interval: 20' to 30'

Purge Method: NA Teflon / PE Disposable Bailer Centrifugal Pump Peristaltic Pump Other: \_\_\_\_\_

Pump Lines: NA New / Cleaned / Dedicated Bailer Line: NA New / Cleaned / Dedicated

Method of Cleaning Pump: NA Alconox Liqui-nox Tap Water DI Rinse Other: \_\_\_\_\_

Method of Cleaning Bailer: NA

Sampling Method: Passive Disposable Sampler Bag

YSI Multi-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522

Equipment Calibration: See Daily Equipment Calibration Sheet

Method to Measure Water Level: Slope Solins Indicator Serial No.: 21758 / 25742 P.I.D. Reading: NA ppm

Water Level at Start (DTW): 16.24 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)

TD = 30.31' - 16.24 (DTW) = 14.07 (ft. of water) x "K" = 2.29 (Gals./CV) x NA (No. of CV) = NA (Gals.)

"k" = 0.163 (2" well) "K" = 0.50 (3.5" well) "K" = .653 (4" well) "K" = 1.02 (5" well) "k" = 1.46 (6" well)

**FIELD WATER QUALITY PARAMETERS**

Date	Time	Discharge (Liters)	pH +/- 0.1	Temp. (°C)	Specific Conductance µS +/- 3%	Turbidity (NTU's) +/- 10	Redox (mV) +/- 10	Dissolved Oxygen (mg/L) +/- 10%	Water Level (BTOC)	Color
		Initial								
		0.5								
		1.0								
		1.5								
		2.0								
		2.5								
		3.0								
		3.5								
		4.0								

Total Discharge: 0 Liters

Casing Volumes Removed: NA

Method of disposal of discharged water: 55 Gallon Drum(s) Poly Tank Treatment System Other: \_\_\_\_\_

Date/Time Sampled: 12/10/08 @ 14:05 Analysis: VOCs (8260B) - 3 VOAs w/HCl

QA/QC: MW-DUP @ 14:10 Duplicate MS/MSD Equipment Rinseate Field Blank Lab Split

Comments: Only able to collect 3 VOAs total; submitting 1VOA for Duplicate

Recorded by: Stephen Penman Jacqueline Lee

Signature: [Signature]





**Environmental  
Sampling Services**

**WATER QUALITY SAMPLE LOG SHEET** WELL IDENTIFICATION: **MW-3** DATE: **12/10/08**

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574  
 Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny  
 Well Description: 2" 3.5" 4" 5" 6" Other: \_\_\_\_\_ Well Type: (PVC) Stainless Steel Other: \_\_\_\_\_  
 Is Well Secured? Yes / No Bolt Size: 9/16" Type of lock / Lock number: Master P288  
 Observations / Comments: \_\_\_\_\_ Screen Interval: 20' to 30'  
 Purge Method: (NA) Teflon / PE Disposable Bailer Centrifugal Pump Peristaltic Pump Other: \_\_\_\_\_  
 Pump Lines: (NA) New / Cleaned / Dedicated Bailer Line: (NA) New / Cleaned / Dedicated  
 Method of Cleaning Pump: (NA) Alconox Liqui-nox Tap Water DI Rinse Other: \_\_\_\_\_  
 Method of Cleaning Bailer: NA  
 Sampling Method: Passive Disposable Sampler Bag  
 YSI Multi-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522  
 Equipment Calibration: See Daily Equipment Calibration Sheet  
 Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 21758 / 25742 <sup>49914</sup> <sub>9/12/10/08</sub> P.I.D. Reading: NA ppm  
 Water Level at Start (DTW): 17.17 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)  
 TD = 30.29' - 17.17 (DTW) = 13.12 (ft. of water) x "K" = 2.13 (Gals./CV) x NA (No. of CV) = NA (Gals.)  
 "k" = 0.163 (2" well) "K" = 0.50 (3.5" well) "K" = .653 (4" well) "K" = 1.02 (5" well) "k" = 1.46 (6" well)

**FIELD WATER QUALITY PARAMETERS**

Date	Time	Discharge (Liters)	pH +/- 0.1	Temp. (°C)	Specific Conductance µS +/- 3%	Turbidity (NTU's) +/- 10	Redox (mV) +/- 10	Dissolved Oxygen (mg/L) +/- 10%	Water Level (BTOC)	Color
		Initial								
		0.5								
		1.0								
		1.5								
		2.0								
		2.5								
		3.0								
		3.5								
		4.0								

Total Discharge: \_\_\_\_\_ Liters Casing Volumes Removed: NA  
 Method of disposal of discharged water: 55 Gallon Drum(s) Poly Tank Treatment System Other: \_\_\_\_\_  
 Date/Time Sampled: 12/10/08 @ 13:55 Analysis: VOCs (8260B) - 3 VOAs w/HCl  
 QA/QC: None @ \_\_\_\_\_ Duplicate MS/MSD Equipment Rinseate Field Blank Lab Split  
 Comments: \_\_\_\_\_

Recorded by: Stephen Penman / Jacqueline Lee Signature: [Signature] Page 1 of 1



**Environmental  
Sampling Services**

**WATER QUALITY SAMPLE LOG SHEET**

WELL IDENTIFICATION: **MW-4** DATE: **12/10/08**

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574

Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny

Well Description: 2" 3.5" 4" 5" 6" Other: \_\_\_\_\_ Well Type: PVC Stainless Steel Other: \_\_\_\_\_

Is Well Secured? Yes No Bolt Size: 9/16" Type of lock / Lock number: Master P288

Observations / Comments: water inside monument Screen Interval: 20' to 30'

Purge Method: NA Teflon / PE Disposable Bailer Centrifugal Pump Peristaltic Pump Other: PDSB

Pump Lines: NA New / Cleaned / Dedicated Bailer Line: NA New / Cleaned / Dedicated

Method of Cleaning Pump: NA Alconox Liqui-nox Tap Water DI Rinse Other: \_\_\_\_\_

Method of Cleaning Bailer: NA

Sampling Method: Passive Disposable Sampler Bag

YSI Multi-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522

Equipment Calibration: See Daily Equipment Calibration Sheet

Method to Measure Water Level: Slope Solinst Indicator Serial No.: 21758 / <sup>49914</sup> ~~25742~~ <sup>9/12/10/08</sup> P.I.D. Reading: NA ppm

Water Level at Start (DTW): 18.14 @ 12:03 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)

TD = 34.56' - 18.14 (DTW) = 16.42 (ft. of water) x "K" = 2.67 (Gals./CV) x NA (No. of CV) = NA (Gals.)

"K" = 0.163 (2" well) "K" = 0.50 (3.5" well) "K" = .653 (4" well) "K" = 1.02 (5" well) "K" = 1.46 (6" well)

**FIELD WATER QUALITY PARAMETERS**

Date	Time	Discharge (Liters)	pH +/- 0.1	Temp. (°C)	Specific Conductance µS +/- 3%	Turbidity (NTU's) +/- 10	Redox (mV) +/- 10	Dissolved Oxygen (mg/L) +/- 10%	Water Level (BTOC)	Color
		Initial								
		0.5								
		1.0								
		1.5								
		2.0								
		2.5								
		3.0								
		3.5								
		4.0								

Total Discharge: 0 Liters

Casing Volumes Removed: NA

Method of disposal of discharged water: 55 Gallon Drum(s) Poly Tank Treatment System Other: \_\_\_\_\_

Date/Time Sampled: 12/10/08 @ 12:05 12:05 Analysis: VOCs (8260B) - 3 VOAs w/HCl

QA/QC: None @ \_\_\_\_\_ Duplicate MS/MSD Equipment Rinseate Field Blank Lab Split

Comments: \_\_\_\_\_

Recorded by: Stephen Penman / Jacqueline Lee Signature:





**WATER QUALITY SAMPLE LOG SHEET**

WELL IDENTIFICATION: **MW-5** DATE: **12/10/08**

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574

Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny

Well Description: (2") 3.5" 4" 5" 6" Other: Well Type: (PVC) Stainless Steel Other:

Is Well Secured? (Yes) No Bolt Size: 15/16" Type of lock / Lock number: Master

Observations / Comments: Screen Interval:

Purge Method: (NA) Teflon / PE Disposable Bailer Centrifugal Pump Peristaltic Pump Other:

Pump Lines: (NA) New / Cleaned / Dedicated Bailer Line: (NA) New / Cleaned / Dedicated

Method of Cleaning Pump: (NA) Alconox Liqui-nox Tap Water DI Rinse Other:

Method of Cleaning Bailer: NA

Sampling Method: Passive Disposable Sampler Bag

YSI Multi-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522

Equipment Calibration: See Daily Equipment Calibration Sheet

Method to Measure Water Level: Slope (Solinst) Indicator Serial No.: 21758 / 25742<sup>49914</sup> 12/10/08 P.I.D. Reading: NA ppm

Water Level at Start (DTW): 33.67 @ 12:15 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)

TD = 59.96' - 33.67 (DTW) = 26.29 (ft. of water) x "K" = 4.28 (Gals./CV) x NA (No. of CV) = NA (Gals.)

"k" = 0.163 (2" well) "K" = 0.50 (3.5" well) "K" = .653 (4" well) "K" = 1.02 (5" well) "k" = 1.46 (6" well)

**FIELD WATER QUALITY PARAMETERS**

Date	Time	Discharge (Liters)	pH +/- 0.1	Temp. (°C)	Specific Conductance µS +/- 3%	Turbidity (NTU's) +/- 10	Redox (mV) +/- 10	Dissolved Oxygen (mg/L) +/- 10%	Water Level (BTOC)	Color
		Initial								
		0.5								
		1.0								
		1.5								
		2.0								
		2.5								
		3.0								
		3.5								
		4.0								

Total Discharge: 0 Liters

Casing Volumes Removed: NA

Method of disposal of discharged water: 55 Gallon Drum(s) Poly Tank Treatment System Other:

Date/Time Sampled: 12/10/08 @ 12:45 12:20 Analysis: VOCs (8260B) - 3 VOAs w/HCl

QA/QC: None @ — Duplicate MS/MSD Equipment Rinseate Field Blank Lab Split

Comments:

Recorded by: Stephen Penman / Jacqueline Lee Signature: [Signature]



**WATER QUALITY SAMPLE LOG SHEET** WELL IDENTIFICATION: **MW-6** DATE: **12/10/08**

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574

Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny

Well Description: (2") 3.5" 4" 5" 6" Other: \_\_\_\_\_ Well Type: PVC Stainless Steel Other: \_\_\_\_\_

Is Well Secured? Yes / No Bolt Size: 9/16" Type of lock / Lock number: Dolphin

Observations / Comments: Under Press. during Initial opening. Screen Interval: \_\_\_\_\_

Purge Method: (NA) Teflon / PE Disposable Bailer Centrifugal Pump Peristaltic Pump Other: \_\_\_\_\_

Pump Lines: (NA) New / Cleaned / Dedicated Bailer Line: (NA) New / Cleaned / Dedicated

Method of Cleaning Pump: (NA) Alconox Liqui-nox Tap Water DI Rinse Other: \_\_\_\_\_

Method of Cleaning Bailer: NA

Sampling Method: Passive Disposable Sampler Bag

YSI Multi-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522

Equipment Calibration: See Daily Equipment Calibration Sheet

Method to Measure Water Level: Slope (Solinst) Indicator Serial No.: 21758 / 25742 P.I.D. Reading: NA ppm

Water Level at Start (DTW): 31.14 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)

TD = \_\_\_\_\_ (DTW) = \_\_\_\_\_ (ft. of water) x "K" = \_\_\_\_\_ (Gals./CV) x NA (No. of CV) = NA (Gals.)

"K" = 0.163 (2" well) "K" = 0.50 (3.5" well) "K" = .653 (4" well) "K" = 1.02 (5" well) "k" = 1.46 (6" well)

**FIELD WATER QUALITY PARAMETERS**

Date	Time	Discharge (Liters)	pH +/- 0.1	Temp. (°C)	Specific Conductance $\mu$ S +/- 3%	Turbidity (NTU's) +/- 10	Redox (mV) +/- 10	Dissolved Oxygen (mg/L) +/- 10%	Water Level (BTOC)	Color
		Initial								
		0.5								
		1.0								
		1.5								
		2.0								
		2.5								
		3.0								
		3.5								
		4.0								

Total Discharge: \_\_\_\_\_ Liters Casing Volumes Removed: NA

Method of disposal of discharged water: (55 Gallon Drum(s)) Poly Tank Treatment System Other: \_\_\_\_\_

Date/Time Sampled: 12/10/08 @ 13:25+13:35 Analysis: VOCs (8260B) - 3 VOAs w/HCl

QA/QC: None @ 13:25+13:35 Duplicate MS/MSD Equipment Rinseate Field Blank Lab Split

Comments: Didn't take TD readings, PDBs in well.

Sample ID: MW-6 PDB S & MW-6 PDB D.

Recorded by: Stephen Penman / Jacqueline Lee Signature: [Signature]





**WATER QUALITY SAMPLE LOG SHEET**

WELL IDENTIFICATION: **MW-7** DATE: **12/10/08**

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574

Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: SUNNY

Well Description: (2) 3.5" 4" 5" 6" Other: Well Type: (PVC) Stainless Steel Other: \_\_\_\_\_

Is Well Secured? (Yes) No Bolt Size: 1/4" 1/2" Type of lock / Lock number: Dolphin

Observations / Comments: \_\_\_\_\_ Screen Interval: \_\_\_\_\_

Purge Method: (NA) Teflon / PE Disposable Bailer Centrifugal Pump Peristaltic Pump Other: \_\_\_\_\_

Pump Lines: (NA) New / Cleaned / Dedicated Bailer Line: NA New / Cleaned / Dedicated

Method of Cleaning Pump: (NA) Alconox Liqui-nox Tap Water DI Rinse Other: \_\_\_\_\_

Method of Cleaning Bailer: NA

Sampling Method: Passive Disposable Sampler Bag

YSI Multi-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522

Equipment Calibration: See Daily Equipment Calibration Sheet

Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 21758 / ~~25742~~ 49914 9/11/08 P.I.D. Reading: NA ppm

Water Level at Start (DTW): 31.21 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)

TD = \_\_\_\_\_ (DTW) = \_\_\_\_\_ (ft.of water) x "K" = \_\_\_\_\_ (Gals./CV) x NA (No. of CV) = NA (Gals.)

"K" = 0.163 (2" well) "K" = 0.50 (3.5" well) "K" = .653 (4" well) "K" = 1.02 (5" well) "k" = 1.46 (6" well)

**FIELD WATER QUALITY PARAMETERS**

Date	Time	Discharge (Liters)	pH +/- 0.1	Temp. (°C)	Specific Conductance µS +/- 3%	Turbidity (NTU's) +/- 10	Redox (mV) +/- 10	Dissolved Oxygen (mg/L) +/- 10%	Water Level (BTOC)	Color
		Initial								
		0.5								
		1.0								
		1.5								
		2.0								
		2.5								
		3.0								
		3.5								
		4.0								

Total Discharge: \_\_\_\_\_ Liters Casing Volumes Removed: NA

Method of disposal of discharged water: 55 Gallon Drum(s) Poly Tank Treatment System Other: \_\_\_\_\_

Date/Time Sampled: 12/10/08 @ 13:00 + 13:10 Analysis: VOCs (8260B) - 3 VOAs w/HCl

QA/QC: None @ \_\_\_\_\_ Duplicate MS/MSD Equipment Rinseate Field Blank Lab Split

Comments: Didn't take TD reading; PDBs in well.

Sample ID: MW-7 PDB S & MW-7 PDB D.

13:00 ← → 13:10

Recorded by: Stephen Penman / Jacqueline Lee Signature: [Signature]

**Report To**  
 Attn: Melissa Asher  
 Company: Geosyntec Consultants  
 Address: 475. 14th st. Suite 400, Oakland, CA 94612  
 Phone: (510) 836-3034 Email: \_\_\_\_\_  
 Bill To: same Sampled By: ESS (J. Lee)  
 Attn: \_\_\_\_\_ Phone: \_\_\_\_\_

Sample ID	Date	Time	Mat rix	Pres erv.	TPH EPA - 8015/8021 <input type="checkbox"/> 8260B <input type="checkbox"/> Gas w/ <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE	Purgeable Aromatics BTEX EPA - 8021 <input type="checkbox"/> 8260B	TEPH EPA 8015M* <input type="checkbox"/> Silica Gel <input type="checkbox"/> Diesel <input type="checkbox"/> Motor Oil <input type="checkbox"/> Other	Fuel Tests EPA 8260B: <input checked="" type="checkbox"/> Gas <input type="checkbox"/> BTEX <input type="checkbox"/> Five Oxygenates <input type="checkbox"/> DCA, EDB <input type="checkbox"/> Ethanol	Purgeable Halocarbons (HVOCS) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) EPA 8260B <input type="checkbox"/> 624	Semivolatiles GC/MS EPA 8270 <input type="checkbox"/> 625	Oil and Grease <input type="checkbox"/> Petroleum (EPA 1664) <input type="checkbox"/> Total	Pesticides <input type="checkbox"/> EPA 8081 <input type="checkbox"/> 608 PCBs <input type="checkbox"/> EPA 8082 <input type="checkbox"/> 608	PNAs by <input type="checkbox"/> 8270 <input type="checkbox"/> 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: <input type="checkbox"/> Lead <input type="checkbox"/> LUFT <input type="checkbox"/> RCRA <input type="checkbox"/> Other: _____	Low Level Metals by EPA 200.8/6020 (ICP-MS): _____	W.E.T (STLC) TCLP	Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	Spec Cond. <input type="checkbox"/> Alkalinity TSS <input type="checkbox"/> TDS <input type="checkbox"/>	Anions: <input type="checkbox"/> Cl <input type="checkbox"/> SO <sub>4</sub> <input type="checkbox"/> NO <sub>3</sub> <input type="checkbox"/> F <input type="checkbox"/> Br <input type="checkbox"/> NO <sub>2</sub> <input type="checkbox"/> PO <sub>4</sub>
Trip Blank	12/10/08	11:15	W	HCl																	
MW-4		12:05	WG	HCl																	
MW-5		12:20	WG	HCl																	
MW-7-PDB-S		13:00	WG	HCl																	
MW-7-PDB-D		13:10	WG	HCl																	
MW-6-PDB-S		13:25	WG	HCl																	
MW-6-PDB-D		13:35	WG	HCl																	
MW-1		13:45	WG	HCl																	
MW-3		13:55	WG	HCl																	
MW-2		14:05	WG	HCl																	

**Project Info.**  
 Project Name: Hopyard  
 Project#: WR0574  
 PO#: \_\_\_\_\_  
 Credit Card#: \_\_\_\_\_

**Sample Receipt**  
 # of Containers: \_\_\_\_\_  
 Head Space: \_\_\_\_\_  
 Temp: 3.0°C  
 Conforms to record: \_\_\_\_\_  
 Other: \_\_\_\_\_

1) Relinquished by:  
 Signature: [Signature] Time: 15:00  
 Printed Name: Jacqueline Lee Date: 12/10/08  
 Company: Env. Sampling Services, LLC

2) Relinquished by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

3) Relinquished by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

Report:  Routine  Level 3  Level 4  EDD  State Tank Fund EDF  Global ID \_\_\_\_\_  
 Special Instructions / Comments:  
EDF Please

See Terms and Conditions on reverse  
 \*TestAmerica SF reports 8015M from C<sub>9</sub>-C<sub>24</sub> (industry norm). Default for 8015B is C<sub>10</sub>-C<sub>28</sub>

1) Received by:  
 Signature: [Signature] Time: 15:00  
 Printed Name: J Bullock Date: 12/10/08  
 Company: TEST AMERICA

2) Received by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

3) Received by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_



**Report To**  
 Attn: Melissa Asher  
 Company: GeoSyntec Consultants  
 Address: 475-14th St. Suite 400 Oakland, CA 94612  
 Phone: (510) 836-3034 Email: \_\_\_\_\_  
 Bill To: same Sampled By: ESS (J. Lee)  
 Attn: \_\_\_\_\_ Phone: \_\_\_\_\_

Sample ID	Date	Time	Mat fix	Pres erv.	TPH EPA - <input type="checkbox"/> 8015/8021 <input type="checkbox"/> 8260B <input type="checkbox"/> Gas w/ <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE	Purgeable Aromatics BTEX EPA - <input type="checkbox"/> 8021 <input type="checkbox"/> 8260B	TEPH EPA 8015M* <input type="checkbox"/> Silica Gel <input type="checkbox"/> Diesel <input type="checkbox"/> Motor Oil <input type="checkbox"/> Other	Fuel Tests EPA 8260B: <input type="checkbox"/> Gas <input type="checkbox"/> BTEX <input type="checkbox"/> Five Oxynates <input type="checkbox"/> DCA, EDB <input type="checkbox"/> Etaband	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) EPA 8260B <input type="checkbox"/> 624	Semivolatiles GC/MS EPA 8270 <input type="checkbox"/> 625	Oil and Grease <input type="checkbox"/> Petroleum (EPA 1664) <input type="checkbox"/> Total	Pesticides <input type="checkbox"/> EPA 8081 <input type="checkbox"/> 608 <input type="checkbox"/> EPA 8082 <input type="checkbox"/> 608	PCBs	PNAs by <input type="checkbox"/> 8270 <input type="checkbox"/> 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: <input type="checkbox"/> Lead <input type="checkbox"/> LUFT <input type="checkbox"/> RCRA <input type="checkbox"/> Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS):	W.E.T (STLC) TCLP	Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	Spec Cond. <input type="checkbox"/> Alkalinity TSS <input type="checkbox"/> TDS <input type="checkbox"/>	Anions: <input type="checkbox"/> Cl <input type="checkbox"/> SO <sub>4</sub> <input type="checkbox"/> NO <sub>3</sub> <input type="checkbox"/> F <input type="checkbox"/> Br <input type="checkbox"/> NO <sub>2</sub> <input type="checkbox"/> PO <sub>4</sub>	Temperature Check	
<u>MW-DUP</u>	<u>12/10/08</u>	<u>14:10</u>	<u>WG</u>	<u>HCl</u>						<input checked="" type="checkbox"/>														
<u>Temp. Blank</u>		<u>-</u>	<u>-</u>	<u>W None</u>																				

**Project Info.**  
 Project Name: Hopyard  
 Project#: WRO574  
 PO#: \_\_\_\_\_  
 Credit Card#: \_\_\_\_\_

**Sample Receipt**  
 # of Containers: \_\_\_\_\_  
 Head Space: \_\_\_\_\_  
 Temp: \_\_\_\_\_  
 Conforms to record: \_\_\_\_\_  
 Other: \_\_\_\_\_

TAT 5 Day 72h 48h 24h

1) Relinquished by:  
 Signature: [Signature] Time: 15:00  
 Printed Name: Jacqueline Lee Date: 12/10/08  
 Company: Env. Sampling Services, LLC

2) Relinquished by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

3) Relinquished by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

Report:  Routine  Level 3  Level 4  EDD  State Tank Fund EDF  
 Special Instructions / Comments: EDF Please  
 Global ID: \_\_\_\_\_

See Terms and Conditions on reverse  
 \*TestAmerica SF reports 8015M from C<sub>9</sub>-C<sub>24</sub> (industry norm). Default for 8015B is C<sub>10</sub>-C<sub>28</sub>

1) Received by:  
 Signature: [Signature] Time: 15:00  
 Printed Name: J Bullock Date: 12/10/08  
 Company: TEST America

2) Received by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

3) Received by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

**ATTACHMENT 2**  
**LABORATORY ANALYTICAL REPORTS**

## ANALYTICAL REPORT

Job Number: 720-17258-1

Job Description: Hopyard Cleaners

For:

Geosyntec Consultants, Inc..  
475 14th Street, Suite 450  
Oakland, CA 94612

Attention: Ms. Melissa Asher



Approved for release.  
Melissa Brewer  
Project Manager I  
12/17/2008 12:55 PM

---

Melissa Brewer  
Project Manager I  
melissa.brewer@testamericainc.com  
12/17/2008

cc: Ms. Angela Liang

**Job Narrative**  
**720-J17258-1**

**Comments**

No additional comments.

**Receipt**

All samples were received in good condition within temperature requirements.

**GC/MS VOA**

No analytical or quality issues were noted.

## EXECUTIVE SUMMARY - Detections

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
<b>720-17258-2</b>	<b>MW-4</b>				
cis-1,2-Dichloroethene		4.0	0.50	ug/L	8260B
Trichloroethene		3.7	0.50	ug/L	8260B
<b>720-17258-3</b>	<b>MW-5</b>				
Tetrachloroethene		49	0.50	ug/L	8260B
<b>720-17258-4</b>	<b>MW-7-PDB-S</b>				
Tetrachloroethene		9.8	0.50	ug/L	8260B
<b>720-17258-5</b>	<b>MW-7-PDB-D</b>				
Tetrachloroethene		10	0.50	ug/L	8260B
<b>720-17258-8</b>	<b>MW-1</b>				
cis-1,2-Dichloroethene		250	20	ug/L	8260B
Tetrachloroethene		1900	20	ug/L	8260B
Trichloroethene		350	20	ug/L	8260B
<b>720-17258-9</b>	<b>MW-3</b>				
cis-1,2-Dichloroethene		5.6	0.50	ug/L	8260B
Tetrachloroethene		60	0.50	ug/L	8260B
Trichloroethene		5.5	0.50	ug/L	8260B
<b>720-17258-10</b>	<b>MW-2</b>				
cis-1,2-Dichloroethene		840	100	ug/L	8260B
Tetrachloroethene		15000	100	ug/L	8260B
Trichloroethene		790	100	ug/L	8260B
<b>720-17258-11</b>	<b>MW-DUP</b>				
cis-1,2-Dichloroethene		770	100	ug/L	8260B
Tetrachloroethene		15000	100	ug/L	8260B
Trichloroethene		740	100	ug/L	8260B

## METHOD SUMMARY

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
<b>Matrix: Water</b>			
Volatile Organic Compounds (GC/MS)	TAL SF	SW846 8260B	
Purge and Trap	TAL SF		SW846 5030B

### Lab References:

TAL SF = TestAmerica San Francisco

### Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## SAMPLE SUMMARY

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
720-17258-1TB	TRIP BLANK	Water	12/10/2008 1115	12/10/2008 1500
720-17258-2	MW-4	Water	12/10/2008 1205	12/10/2008 1500
720-17258-3	MW-5	Water	12/10/2008 1220	12/10/2008 1500
720-17258-4	MW-7-PDB-S	Water	12/10/2008 1300	12/10/2008 1500
720-17258-5	MW-7-PDB-D	Water	12/10/2008 1310	12/10/2008 1500
720-17258-6	MW-6-PDB-S	Water	12/10/2008 1325	12/10/2008 1500
720-17258-7	MW-6-PDB-D	Water	12/10/2008 1335	12/10/2008 1500
720-17258-8	MW-1	Water	12/10/2008 1345	12/10/2008 1500
720-17258-9	MW-3	Water	12/10/2008 1355	12/10/2008 1500
720-17258-10	MW-2	Water	12/10/2008 1405	12/10/2008 1500
720-17258-11	MW-DUP	Water	12/10/2008 1410	12/10/2008 1500

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: TRIP BLANK**

Lab Sample ID: 720-17258-1TB  
 Client Matrix: Water

Date Sampled: 12/10/2008 1115  
 Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44880	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121108\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/11/2008 1613		Final Weight/Volume: 40 mL
Date Prepared:	12/11/2008 1613		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0





## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-4**

Lab Sample ID: 720-17258-2  
Client Matrix: Water

Date Sampled: 12/10/2008 1205  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44880	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121108\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/11/2008 2005		Final Weight/Volume: 40 mL
Date Prepared:	12/11/2008 2005		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	4.0		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0

# Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

Client Sample ID: MW-4

Lab Sample ID: 720-17258-2

Date Sampled: 12/10/2008 1205

Client Matrix: Water

Date Received: 12/10/2008 1500

## 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 720-44880 Instrument ID: Varian 3900F  
Preparation: 5030B Lab File ID: e:\200812\121108\SA-WA  
Dilution: 1.0 Initial Weight/Volume: 40 mL  
Date Analyzed: 12/11/2008 2005 Final Weight/Volume: 40 mL  
Date Prepared: 12/11/2008 2005

Analyte	Result (ug/L)	Qualifier	RL
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	3.7		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		50
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	99	74 - 131
1,2-Dichloroethane-d4 (Surr)	102	76 - 132
Toluene-d8 (Surr)	102	82 - 120

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-5**

Lab Sample ID: 720-17258-3  
Client Matrix: Water

Date Sampled: 12/10/2008 1220  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1644		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1644		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-5**

Lab Sample ID: 720-17258-3  
Client Matrix: Water

Date Sampled: 12/10/2008 1220  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1644		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1644		

Analyte	Result (ug/L)	Qualifier	RL
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	49		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		50
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	97		74 - 131
1,2-Dichloroethane-d4 (Surr)	104		76 - 132
Toluene-d8 (Surr)	99		82 - 120

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-7-PDB-S**

Lab Sample ID: 720-17258-4  
Client Matrix: Water

Date Sampled: 12/10/2008 1300  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1717		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1717		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-7-PDB-S**

Lab Sample ID: 720-17258-4  
Client Matrix: Water

Date Sampled: 12/10/2008 1300  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1717		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1717		

Analyte	Result (ug/L)	Qualifier	RL
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	9.8		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		50
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	101	74 - 131
1,2-Dichloroethane-d4 (Surr)	108	76 - 132
Toluene-d8 (Surr)	107	82 - 120

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-7-PDB-D**

Lab Sample ID: 720-17258-5  
Client Matrix: Water

Date Sampled: 12/10/2008 1310  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1751		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1751		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0



## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-7-PDB-D**

Lab Sample ID: 720-17258-5  
Client Matrix: Water

Date Sampled: 12/10/2008 1310  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1751		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1751		

Analyte	Result (ug/L)	Qualifier	RL
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	10		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		50
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	%Rec	Acceptance Limits	
4-Bromofluorobenzene	103	74 - 131	
1,2-Dichloroethane-d4 (Surr)	105	76 - 132	
Toluene-d8 (Surr)	106	82 - 120	

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-6-PDB-S**

Lab Sample ID: 720-17258-6  
Client Matrix: Water

Date Sampled: 12/10/2008 1325  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1823		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1823		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0



## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-6-PDB-D**

Lab Sample ID: 720-17258-7  
Client Matrix: Water

Date Sampled: 12/10/2008 1335  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	1.0		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1856		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1856		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0



## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-1**

Lab Sample ID: 720-17258-8  
 Client Matrix: Water

Date Sampled: 12/10/2008 1345  
 Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	40		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1144		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1144		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		200
Acetone	ND		2000
Benzene	ND		20
Dichlorobromomethane	ND		20
Bromobenzene	ND		40
Chlorobromomethane	ND		40
Bromoform	ND		40
Bromomethane	ND		40
2-Butanone (MEK)	ND		2000
n-Butylbenzene	ND		40
sec-Butylbenzene	ND		40
tert-Butylbenzene	ND		40
Carbon disulfide	ND		200
Carbon tetrachloride	ND		20
Chlorobenzene	ND		20
Chloroethane	ND		40
Chloroform	ND		40
Chloromethane	ND		40
2-Chlorotoluene	ND		20
4-Chlorotoluene	ND		20
Chlorodibromomethane	ND		20
1,2-Dichlorobenzene	ND		20
1,3-Dichlorobenzene	ND		20
1,4-Dichlorobenzene	ND		20
1,3-Dichloropropane	ND		40
1,1-Dichloropropene	ND		20
1,2-Dibromo-3-Chloropropane	ND		40
Ethylene Dibromide	ND		20
Dibromomethane	ND		20
Dichlorodifluoromethane	ND		20
1,1-Dichloroethane	ND		20
1,2-Dichloroethane	ND		20
1,1-Dichloroethene	ND		20
cis-1,2-Dichloroethene	250		20
trans-1,2-Dichloroethene	ND		20
1,2-Dichloropropane	ND		20
cis-1,3-Dichloropropene	ND		20
trans-1,3-Dichloropropene	ND		20
Ethylbenzene	ND		20
Hexachlorobutadiene	ND		40
2-Hexanone	ND		2000
Isopropylbenzene	ND		20
4-Isopropyltoluene	ND		40
Methylene Chloride	ND		200

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-1**

Lab Sample ID: 720-17258-8  
Client Matrix: Water

Date Sampled: 12/10/2008 1345  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	40		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1144		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1144		

Analyte	Result (ug/L)	Qualifier	RL
4-Methyl-2-pentanone (MIBK)	ND		2000
Naphthalene	ND		40
N-Propylbenzene	ND		40
Styrene	ND		20
1,1,1,2-Tetrachloroethane	ND		20
1,1,2,2-Tetrachloroethane	ND		20
Tetrachloroethene	1900		20
Toluene	ND		20
1,2,3-Trichlorobenzene	ND		40
1,2,4-Trichlorobenzene	ND		40
1,1,1-Trichloroethane	ND		20
1,1,2-Trichloroethane	ND		20
Trichloroethene	350		20
Trichlorofluoromethane	ND		40
1,2,3-Trichloropropane	ND		20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		20
1,2,4-Trimethylbenzene	ND		20
1,3,5-Trimethylbenzene	ND		20
Vinyl acetate	ND		2000
Vinyl chloride	ND		20
Xylenes, Total	ND		40
2,2-Dichloropropane	ND		20
Surrogate	%Rec	Acceptance Limits	
4-Bromofluorobenzene	101	74 - 131	
1,2-Dichloroethane-d4 (Surr)	106	76 - 132	
Toluene-d8 (Surr)	104	82 - 120	





# Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

Client Sample ID: MW-3

Lab Sample ID: 720-17258-9

Date Sampled: 12/10/2008 1355

Client Matrix: Water

Date Received: 12/10/2008 1500

## 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 720-44905 Instrument ID: Varian 3900F  
Preparation: 5030B Lab File ID: e:\200812\121208\SA-WA  
Dilution: 1.0 Initial Weight/Volume: 40 mL  
Date Analyzed: 12/12/2008 1251 Final Weight/Volume: 40 mL  
Date Prepared: 12/12/2008 1251

Analyte	Result (ug/L)	Qualifier	RL
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	60		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	5.5		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		50
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50

Surrogate	%Rec	Acceptance Limits
4-Bromofluorobenzene	101	74 - 131
1,2-Dichloroethane-d4 (Surr)	103	76 - 132
Toluene-d8 (Surr)	105	82 - 120

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-2**

Lab Sample ID: 720-17258-10  
Client Matrix: Water

Date Sampled: 12/10/2008 1405  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation:	5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution:	200		Initial Weight/Volume: 40 mL
Date Analyzed:	12/12/2008 1217		Final Weight/Volume: 40 mL
Date Prepared:	12/12/2008 1217		

Analyte	Result (ug/L)	Qualifier	RL
Methyl tert-butyl ether	ND		1000
Acetone	ND		10000
Benzene	ND		100
Dichlorobromomethane	ND		100
Bromobenzene	ND		200
Chlorobromomethane	ND		200
Bromoform	ND		200
Bromomethane	ND		200
2-Butanone (MEK)	ND		10000
n-Butylbenzene	ND		200
sec-Butylbenzene	ND		200
tert-Butylbenzene	ND		200
Carbon disulfide	ND		1000
Carbon tetrachloride	ND		100
Chlorobenzene	ND		100
Chloroethane	ND		200
Chloroform	ND		200
Chloromethane	ND		200
2-Chlorotoluene	ND		100
4-Chlorotoluene	ND		100
Chlorodibromomethane	ND		100
1,2-Dichlorobenzene	ND		100
1,3-Dichlorobenzene	ND		100
1,4-Dichlorobenzene	ND		100
1,3-Dichloropropane	ND		200
1,1-Dichloropropene	ND		100
1,2-Dibromo-3-Chloropropane	ND		200
Ethylene Dibromide	ND		100
Dibromomethane	ND		100
Dichlorodifluoromethane	ND		100
1,1-Dichloroethane	ND		100
1,2-Dichloroethane	ND		100
1,1-Dichloroethene	ND		100
cis-1,2-Dichloroethene	840		100
trans-1,2-Dichloroethene	ND		100
1,2-Dichloropropane	ND		100
cis-1,3-Dichloropropene	ND		100
trans-1,3-Dichloropropene	ND		100
Ethylbenzene	ND		100
Hexachlorobutadiene	ND		200
2-Hexanone	ND		10000
Isopropylbenzene	ND		100
4-Isopropyltoluene	ND		200
Methylene Chloride	ND		1000

## Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Client Sample ID: MW-2**

Lab Sample ID: 720-17258-10  
Client Matrix: Water

Date Sampled: 12/10/2008 1405  
Date Received: 12/10/2008 1500

### 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B	Analysis Batch: 720-44905	Instrument ID: Varian 3900F
Preparation: 5030B		Lab File ID: e:\200812\121208\SA-WA
Dilution: 200		Initial Weight/Volume: 40 mL
Date Analyzed: 12/12/2008 1217		Final Weight/Volume: 40 mL
Date Prepared: 12/12/2008 1217		

Analyte	Result (ug/L)	Qualifier	RL
4-Methyl-2-pentanone (MIBK)	ND		10000
Naphthalene	ND		200
N-Propylbenzene	ND		200
Styrene	ND		100
1,1,1,2-Tetrachloroethane	ND		100
1,1,2,2-Tetrachloroethane	ND		100
Tetrachloroethene	15000		100
Toluene	ND		100
1,2,3-Trichlorobenzene	ND		200
1,2,4-Trichlorobenzene	ND		200
1,1,1-Trichloroethane	ND		100
1,1,2-Trichloroethane	ND		100
Trichloroethene	790		100
Trichlorofluoromethane	ND		200
1,2,3-Trichloropropane	ND		100
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100
1,2,4-Trimethylbenzene	ND		100
1,3,5-Trimethylbenzene	ND		100
Vinyl acetate	ND		10000
Vinyl chloride	ND		100
Xylenes, Total	ND		200
2,2-Dichloropropane	ND		100
Surrogate	%Rec	Acceptance Limits	
4-Bromofluorobenzene	100	74 - 131	
1,2-Dichloroethane-d4 (Surr)	102	76 - 132	
Toluene-d8 (Surr)	103	82 - 120	



# Analytical Data

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

Client Sample ID: MW-DUP

Lab Sample ID: 720-17258-11

Date Sampled: 12/10/2008 1410

Client Matrix: Water

Date Received: 12/10/2008 1500

## 8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 720-44905 Instrument ID: Varian 3900F  
Preparation: 5030B Lab File ID: e:\200812\121208\SA-WA  
Dilution: 200 Initial Weight/Volume: 40 mL  
Date Analyzed: 12/12/2008 1324 Final Weight/Volume: 40 mL  
Date Prepared: 12/12/2008 1324

Analyte	Result (ug/L)	Qualifier	RL
4-Methyl-2-pentanone (MIBK)	ND		10000
Naphthalene	ND		200
N-Propylbenzene	ND		200
Styrene	ND		100
1,1,1,2-Tetrachloroethane	ND		100
1,1,2,2-Tetrachloroethane	ND		100
Tetrachloroethene	15000		100
Toluene	ND		100
1,2,3-Trichlorobenzene	ND		200
1,2,4-Trichlorobenzene	ND		200
1,1,1-Trichloroethane	ND		100
1,1,2-Trichloroethane	ND		100
Trichloroethene	740		100
Trichlorofluoromethane	ND		200
1,2,3-Trichloropropane	ND		100
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100
1,2,4-Trimethylbenzene	ND		100
1,3,5-Trimethylbenzene	ND		100
Vinyl acetate	ND		10000
Vinyl chloride	ND		100
Xylenes, Total	ND		200
2,2-Dichloropropane	ND		100
Surrogate	%Rec		Acceptance Limits
4-Bromofluorobenzene	104		74 - 131
1,2-Dichloroethane-d4 (Surr)	103		76 - 132
Toluene-d8 (Surr)	103		82 - 120

## DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description
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## Quality Control Results

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>GC/MS VOA</b>					
<b>Analysis Batch:720-44880</b>					
LCS 720-44880/2	Lab Control Spike	T	Water	8260B	
LCSD 720-44880/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-44880/3	Method Blank	T	Water	8260B	
720-17258-1TB	TRIP BLANK	T	Water	8260B	
720-17258-2	MW-4	T	Water	8260B	
<b>Analysis Batch:720-44905</b>					
LCS 720-44905/2	Lab Control Spike	T	Water	8260B	
LCSD 720-44905/1	Lab Control Spike Duplicate	T	Water	8260B	
MB 720-44905/3	Method Blank	T	Water	8260B	
720-17258-3	MW-5	T	Water	8260B	
720-17258-4	MW-7-PDB-S	T	Water	8260B	
720-17258-5	MW-7-PDB-D	T	Water	8260B	
720-17258-6	MW-6-PDB-S	T	Water	8260B	
720-17258-7	MW-6-PDB-D	T	Water	8260B	
720-17258-8	MW-1	T	Water	8260B	
720-17258-9	MW-3	T	Water	8260B	
720-17258-9MS	Matrix Spike	T	Water	8260B	
720-17258-9MSD	Matrix Spike Duplicate	T	Water	8260B	
720-17258-10	MW-2	T	Water	8260B	
720-17258-11	MW-DUP	T	Water	8260B	

#### Report Basis

T = Total

# Quality Control Results

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

## Method Blank - Batch: 720-44880

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 720-44880/3  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/11/2008 1035  
Date Prepared: 12/11/2008 1035

Analysis Batch: 720-44880  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121108\MB-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.



## Quality Control Results

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Method Blank - Batch: 720-44880**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 720-44880/3  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/11/2008 1035  
Date Prepared: 12/11/2008 1035

Analysis Batch: 720-44880  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121108\MB-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		50
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	% Rec	Acceptance Limits	
4-Bromofluorobenzene	105	74 - 131	
1,2-Dichloroethane-d4 (Surr)	97	76 - 132	
Toluene-d8 (Surr)	104	82 - 120	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Lab Control Spike/  
Lab Control Spike Duplicate Recovery Report - Batch: 720-44880**

**Method: 8260B  
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-44880/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/11/2008 0928  
Date Prepared: 12/11/2008 0928

Analysis Batch: 720-44880  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121108\LS-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-44880/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/11/2008 1001  
Date Prepared: 12/11/2008 1001

Analysis Batch: 720-44880  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121108\LD-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	97	103	70 - 130	6	20		
Chlorobenzene	106	111	70 - 130	4	20		
1,1-Dichloroethene	91	98	70 - 130	7	20		
Toluene	100	100	70 - 130	0	20		
Trichloroethene	95	98	70 - 130	3	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
4-Bromofluorobenzene	100		99		74 - 131		
1,2-Dichloroethane-d4 (Surr)	94		95		76 - 132		
Toluene-d8 (Surr)	101		98		82 - 120		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

### Method Blank - Batch: 720-44905

Method: 8260B

Preparation: 5030B

Lab Sample ID: MB 720-44905/3

Analysis Batch: 720-44905

Instrument ID: Varian 3900F

Client Matrix: Water

Prep Batch: N/A

Lab File ID: e:\200812\121208\MB-WA

Dilution: 1.0

Units: ug/L

Initial Weight/Volume: 40 mL

Date Analyzed: 12/12/2008 1038

Final Weight/Volume: 40 mL

Date Prepared: 12/12/2008 1038

Analyte	Result	Qual	RL
Methyl tert-butyl ether	ND		5.0
Acetone	ND		50
Benzene	ND		0.50
Dichlorobromomethane	ND		0.50
Bromobenzene	ND		1.0
Chlorobromomethane	ND		1.0
Bromoform	ND		1.0
Bromomethane	ND		1.0
2-Butanone (MEK)	ND		50
n-Butylbenzene	ND		1.0
sec-Butylbenzene	ND		1.0
tert-Butylbenzene	ND		1.0
Carbon disulfide	ND		5.0
Carbon tetrachloride	ND		0.50
Chlorobenzene	ND		0.50
Chloroethane	ND		1.0
Chloroform	ND		1.0
Chloromethane	ND		1.0
2-Chlorotoluene	ND		0.50
4-Chlorotoluene	ND		0.50
Chlorodibromomethane	ND		0.50
1,2-Dichlorobenzene	ND		0.50
1,3-Dichlorobenzene	ND		0.50
1,4-Dichlorobenzene	ND		0.50
1,3-Dichloropropane	ND		1.0
1,1-Dichloropropene	ND		0.50
1,2-Dibromo-3-Chloropropane	ND		1.0
Ethylene Dibromide	ND		0.50
Dibromomethane	ND		0.50
Dichlorodifluoromethane	ND		0.50
1,1-Dichloroethane	ND		0.50
1,2-Dichloroethane	ND		0.50
1,1-Dichloroethene	ND		0.50
cis-1,2-Dichloroethene	ND		0.50
trans-1,2-Dichloroethene	ND		0.50
1,2-Dichloropropane	ND		0.50
cis-1,3-Dichloropropene	ND		0.50
trans-1,3-Dichloropropene	ND		0.50
Ethylbenzene	ND		0.50
Hexachlorobutadiene	ND		1.0
2-Hexanone	ND		50

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Method Blank - Batch: 720-44905**

**Method: 8260B**  
**Preparation: 5030B**

Lab Sample ID: MB 720-44905/3  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/12/2008 1038  
Date Prepared: 12/12/2008 1038

Analysis Batch: 720-44905  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121208\MB-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

Analyte	Result	Qual	RL
Isopropylbenzene	ND		0.50
4-Isopropyltoluene	ND		1.0
Methylene Chloride	ND		5.0
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0
N-Propylbenzene	ND		1.0
Styrene	ND		0.50
1,1,1,2-Tetrachloroethane	ND		0.50
1,1,2,2-Tetrachloroethane	ND		0.50
Tetrachloroethene	ND		0.50
Toluene	ND		0.50
1,2,3-Trichlorobenzene	ND		1.0
1,2,4-Trichlorobenzene	ND		1.0
1,1,1-Trichloroethane	ND		0.50
1,1,2-Trichloroethane	ND		0.50
Trichloroethene	ND		0.50
Trichlorofluoromethane	ND		1.0
1,2,3-Trichloropropane	ND		0.50
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50
1,2,4-Trimethylbenzene	ND		0.50
1,3,5-Trimethylbenzene	ND		0.50
Vinyl acetate	ND		50
Vinyl chloride	ND		0.50
Xylenes, Total	ND		1.0
2,2-Dichloropropane	ND		0.50
Surrogate	% Rec	Acceptance Limits	
4-Bromofluorobenzene	104	74 - 131	
1,2-Dichloroethane-d4 (Surr)	103	76 - 132	
Toluene-d8 (Surr)	108	82 - 120	

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Lab Control Spike/  
Lab Control Spike Duplicate Recovery Report - Batch: 720-44905**

**Method: 8260B  
Preparation: 5030B**

LCS Lab Sample ID: LCS 720-44905/2  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/12/2008 0932  
Date Prepared: 12/12/2008 0932

Analysis Batch: 720-44905  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121208\LS-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

LCSD Lab Sample ID: LCSD 720-44905/1  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/12/2008 1005  
Date Prepared: 12/12/2008 1005

Analysis Batch: 720-44905  
Prep Batch: N/A  
Units: ug/L

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121208\LD-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	93	102	70 - 130	9	20		
Chlorobenzene	106	113	70 - 130	6	20		
1,1-Dichloroethene	90	97	70 - 130	8	20		
Toluene	98	105	70 - 130	7	20		
Trichloroethene	90	102	70 - 130	12	20		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
4-Bromofluorobenzene	100		94		74 - 131		
1,2-Dichloroethane-d4 (Surr)	95		94		76 - 132		
Toluene-d8 (Surr)	101		97		82 - 120		

Calculations are performed before rounding to avoid round-off errors in calculated results.

## Quality Control Results

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 720-44905**

**Method: 8260B  
Preparation: 5030B**

MS Lab Sample ID: 720-17258-9  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/12/2008 1537  
Date Prepared: 12/12/2008 1537

Analysis Batch: 720-44905  
Prep Batch: N/A

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121208\SA-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

MSD Lab Sample ID: 720-17258-9  
Client Matrix: Water  
Dilution: 1.0  
Date Analyzed: 12/12/2008 1611  
Date Prepared: 12/12/2008 1611

Analysis Batch: 720-44905  
Prep Batch: N/A

Instrument ID: Varian 3900F  
Lab File ID: e:\200812\121208\SA-WA  
Initial Weight/Volume: 40 mL  
Final Weight/Volume: 40 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Benzene	95	102	70 - 130	8	20		
Chlorobenzene	108	111	70 - 130	3	20		
1,1-Dichloroethene	99	106	70 - 130	6	20		
Toluene	95	101	70 - 130	6	20		
Trichloroethene	96	96	70 - 130	0	20		
Surrogate	MS % Rec		MSD % Rec		Acceptance Limits		
4-Bromofluorobenzene	96		99		74 - 131		
1,2-Dichloroethane-d4 (Surr)	102		101		76 - 132		
Toluene-d8 (Surr)	101		96		82 - 120		

Calculations are performed before rounding to avoid round-off errors in calculated results.

**Report To**

Attn: Melissa Asher  
 Company: Geosyntec Consultants  
 Address: 475. 14th St. Suite 400, Oakland, CA 94612  
 Phone: (510) 836-3034 Email:  
 Bill To: same Sampled By: ESS (J. Lee)  
 Attn: . Phone:

**Analysis Request**

TPH EPA - <input type="checkbox"/> 8015/8021 <input type="checkbox"/> 8260B <input type="checkbox"/> Gas w/ <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE	Purgeable Aromatics BTEX EPA - <input type="checkbox"/> 8021 <input type="checkbox"/> 8260B	TEPH EPA 8015M* <input type="checkbox"/> Silica Gel <input type="checkbox"/> Diesel <input type="checkbox"/> Motor Oil <input type="checkbox"/> Other	Fuel Tests EPA 8260B: <input checked="" type="checkbox"/> Gas <input type="checkbox"/> BTEX <input type="checkbox"/> Five Organics <input type="checkbox"/> DCA, ED6 <input type="checkbox"/> Chloride	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) EPA 82605 <input type="checkbox"/> 624	Semivolatiles GC/MS EPA 8270 <input type="checkbox"/> 625	Oil and Grease <input type="checkbox"/> Petroleum (EPA 1664) <input type="checkbox"/> Total	Pesticides <input type="checkbox"/> EPA 8081 <input type="checkbox"/> 608 <input type="checkbox"/> PCBs <input type="checkbox"/> EPA 8082 <input type="checkbox"/> 608	PMAs by <input type="checkbox"/> 8270 <input type="checkbox"/> 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: <input type="checkbox"/> Lead <input type="checkbox"/> LUFT <input type="checkbox"/> RCRA <input type="checkbox"/> Other:	Low Level Metals by EPA 200.8/6020 (ICP-MS):	W.E.T (STLC) TCLP	Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	Spec Cond. <input type="checkbox"/> Alkalinity TSS <input type="checkbox"/> TDS <input type="checkbox"/>	Anions: <input type="checkbox"/> Cl <input type="checkbox"/> SO <sub>4</sub> <input type="checkbox"/> NO <sub>3</sub> <input type="checkbox"/> F <input type="checkbox"/> Br <input type="checkbox"/> NO <sub>2</sub> <input type="checkbox"/> PO <sub>4</sub>
--	--	--	---	--	--	--	--	---	---	--------------------------------------	--	---	----------------------	--	---	---

Sample ID	Date	Time	Mat rix	Pres erv.
1. Trip Blank	12/10/08	11:15	W	HCl
2. MW-4	↓	12:05	WG	HCl
3. MW-5		12:20	WG	HCl
MW-7-PDB-S		13:00	WG	HCl
MW-7-PDB-D		13:10	WG	HCl
MW-6-PDB-S		13:25	WG	HCl
MW-6-PDB-D		13:35	WG	HCl
MW-1		13:45	WG	HCl
MW-3		13:55	WG	HCl
MW-2		14:05	WG	HCl

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**Project Info.**

Project Name: Hopyard  
 Project#: WR0574  
 PO#: \_\_\_\_\_  
 Credit Card#: \_\_\_\_\_  
 Temp: 3.0°C  
 Conforms to record:  Yes  No  
 Other: \_\_\_\_\_

**Sample Receipt**

1) Relinquished by:  
 Signature: [Signature] Time: 15:00  
 Printed Name: Jacqueline Lee Date: 12/10/08  
 Company: Env. Sampling Services, LLC

2) Relinquished by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

3) Relinquished by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

Report:  Routine  Level 3  Level 4  EDD  State Tank Fund EDF  
 Special Instructions / Comments: EDF Please  
 See Terms and Conditions on reverse  
 \*TestAmerica SF reports 8015M from C<sub>9</sub>-C<sub>24</sub> (Industry norm). Default for 8015B is C<sub>12</sub>-C<sub>24</sub>

1) Received by:  
 Signature: [Signature] Time: 15:00  
 Printed Name: J Bullock Date: 12/10/08  
 Company: TEST AMERICA

2) Received by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

3) Received by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

12/17/2008

**720-17258**

Reference #: 113727

Date Dec. 10, 2008 Page 2 of 2

**Report To**

Attn: Melissa Asher  
 Company: GeoSynTec Consultants  
 Address: 475-14<sup>th</sup> St. Suite 400  
Oakland, CA 94612  
 Phone: (510) 836-3034 Email:  
 Bill To: Same Sampled By: ESS (J. Lee)  
 Alln: Phone:

**Analysis Request**

TPH EPA - <input type="checkbox"/> 8015/8021 <input type="checkbox"/> 8260B <input type="checkbox"/> Gas W/ <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE	Purgeable Aromatics BTEX EPA - <input type="checkbox"/> 8021 <input type="checkbox"/> 8260B	TEPH EPA 8015M* <input type="checkbox"/> Silica Gel <input type="checkbox"/> Diesel <input type="checkbox"/> Motor Oil <input type="checkbox"/> Other	Fuel Tests EPA 8260B: <input type="checkbox"/> Gas <input type="checkbox"/> BTEX <input type="checkbox"/> Five Oxymetals <input type="checkbox"/> DCA, EDB <input type="checkbox"/> Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021 by 8260B	Volatile Organics GC/MS (VOCs) <input checked="" type="checkbox"/> EPA 8260B <input type="checkbox"/> 624	Semivolatiles GC/MS <input type="checkbox"/> EPA 8270 <input type="checkbox"/> 625	Oil and Grease <input type="checkbox"/> Petroleum (EPA 1664) <input type="checkbox"/> Total	Pesticides <input type="checkbox"/> EPA 8061 <input type="checkbox"/> 608 PCBs <input type="checkbox"/> EPA 8052 <input type="checkbox"/> 608	PNAS by <input type="checkbox"/> 8270 <input type="checkbox"/> 8310	CAMM1 Metals (EPA 6010/7470/7471)	Metals: <input type="checkbox"/> Lead <input type="checkbox"/> LUFT <input type="checkbox"/> RCRA <input type="checkbox"/> Other	Low Level Metals by EPA 200.8/6020 (ICP-MS):	W.E.T (STLC) TCLP	Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	Spec. Cond. <input type="checkbox"/> Alkalinity TSS <input type="checkbox"/> TDS <input type="checkbox"/>	Anions: <input type="checkbox"/> Cl <input type="checkbox"/> SO <sub>4</sub> <input type="checkbox"/> NO <sub>3</sub> <input type="checkbox"/> F <input type="checkbox"/> Br <input type="checkbox"/> NO <sub>2</sub> <input type="checkbox"/> PO <sub>4</sub>	<b>Temperature Check</b>
Sample ID	Date	Time	Mat rix	Pres erv.													
<u>MW-DVP</u>	<u>12/10/08</u>	<u>14:10</u>	<u>WG</u>	<u>HCl</u>													

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Temp. Blank - - W None

**Project Info. Sample Receipt**

Project Name: Hopyard  
 Project#: WRO574  
 PO#:   
 Credit Card#:   
 # of Containers:   
 Head Space:   
 Temp:   
 Conforms to record:   
 Other:   
 T A T 5 Day 72h 48h 24h

1) Relinquished by:  
 Signature: [Signature] Time: 15:00  
 Printed Name: Jacqueline Lee Date: 12/10/08  
 Company: Env. Sampling Services, LLC

2) Relinquished by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

3) Relinquished by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

1) Received by:  
 Signature: [Signature] Time: 15:00  
 Printed Name: T Bullock Date: 12/10/08  
 Company: TEST America

2) Received by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

3) Received by:  
 Signature: \_\_\_\_\_ Time: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Company: \_\_\_\_\_

Report:  Routine  Level 3  Level 4  EDD  State Tank Fund EDF  
 Special Instructions / Comments: EDF Please  
 See Terms and Conditions on reverse  
 \*TestAmerica SF reports 8015M from C<sub>F</sub>-C<sub>24</sub> (industry norm). Default for 8015B is C<sub>12</sub>-C<sub>24</sub>



## Login Sample Receipt Check List

Client: Geosyntec Consultants, Inc..

Job Number: 720-17258-1

**Login Number: 17258**  
**Creator: Bullock, Tracy**  
**List Number: 1**

**List Source: TestAmerica San Francisco**

<b>Question</b>	<b>T / F / NA</b>	<b>Comment</b>
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	



AN ENVIRONMENTAL ANALYTICAL LABORATORY

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12/19/2008

Ms. Angela Liang  
GeoSyntec Consultants  
475 14th Street  
Suite 400  
Oakland CA 94612

Project Name: Hopyard Cleaners  
Project #: WR0574

Dear Ms. Angela Liang

The following report includes the data for the above referenced project for sample(s) received on 12/6/2008 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for you air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

A handwritten signature in black ink that reads 'Kyle Vagadori'.

Kyle Vagadori  
Project Manager



AN ENVIRONMENTAL ANALYTICAL LABORATORY

**WORK ORDER #: 0812184**

Work Order Summary

<b>CLIENT:</b>	Ms. Angela Liang GeoSyntec Consultants 475 14th Street Suite 400 Oakland, CA 94612	<b>BILL TO:</b>	Ms. Angela Liang GeoSyntec Consultants 475 14th Street Suite 400 Oakland, CA 94612
<b>PHONE:</b>	510-836-3034	<b>P.O. #</b>	WR0574
<b>FAX:</b>	510-836-3036	<b>PROJECT #</b>	WR0574 Hopyard Cleaners
<b>DATE RECEIVED:</b>	12/06/2008	<b>CONTACT:</b>	Kyle Vagadori
<b>DATE COMPLETED:</b>	12/19/2008		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVE INFL	Modified TO-15	1.0 "Hg	15 psi
02A	Lab Blank	Modified TO-15	NA	NA
03A	CCV	Modified TO-15	NA	NA
04A	LCS	Modified TO-15	NA	NA

CERTIFIED BY: 

DATE: 12/19/08

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/08, Expiration date: 06/30/09

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**GeoSyntec Consultants**  
**Workorder# 0812184**

One 1 Liter Summa Canister sample was received on December 06, 2008. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	<= 30% Difference	<= 30% Difference; Compounds exceeding this criterion and associated data are flagged and narrated.
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV  
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



AN ENVIRONMENTAL ANALYTICAL LABORATORY

## Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE INFL

Lab ID#: 0812184-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.4	1.4	6.9	7.2
Ethanol	5.6	8.2	10	15
Acetone	5.6	9.9	13	23
Carbon Disulfide	1.4	2.5	4.3	7.8
Methylene Chloride	1.4	1.4	4.8	4.9
2-Butanone (Methyl Ethyl Ketone)	1.4	2.5	4.1	7.5
Tetrahydrofuran	1.4	1.4	4.1	4.2
Benzene	1.4	4.5	4.4	14
Trichloroethene	1.4	12	7.5	64
Toluene	1.4	7.6	5.2	29
Tetrachloroethene	1.4	340	9.5	2300



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE INFL

Lab ID#: 0812184-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	5121711	Date of Collection:	12/5/08
Dil. Factor:	2.79	Date of Analysis:	12/17/08 05:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.4	1.4	6.9	7.2
Freon 114	1.4	Not Detected	9.8	Not Detected
Chloromethane	5.6	Not Detected	12	Not Detected
Vinyl Chloride	1.4	Not Detected	3.6	Not Detected
1,3-Butadiene	1.4	Not Detected	3.1	Not Detected
Bromomethane	1.4	Not Detected	5.4	Not Detected
Chloroethane	1.4	Not Detected	3.7	Not Detected
Freon 11	1.4	Not Detected	7.8	Not Detected
Ethanol	5.6	8.2	10	15
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Acetone	5.6	9.9	13	23
2-Propanol	5.6	Not Detected	14	Not Detected
Carbon Disulfide	1.4	2.5	4.3	7.8
3-Chloropropene	5.6	Not Detected	17	Not Detected
Methylene Chloride	1.4	1.4	4.8	4.9
Methyl tert-butyl ether	1.4	Not Detected	5.0	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Hexane	1.4	Not Detected	4.9	Not Detected
1,1-Dichloroethane	1.4	Not Detected	5.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	2.5	4.1	7.5
cis-1,2-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Tetrahydrofuran	1.4	1.4	4.1	4.2
Chloroform	1.4	Not Detected	6.8	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.6	Not Detected
Cyclohexane	1.4	Not Detected	4.8	Not Detected
Carbon Tetrachloride	1.4	Not Detected	8.8	Not Detected
2,2,4-Trimethylpentane	1.4	Not Detected	6.5	Not Detected
Benzene	1.4	4.5	4.4	14
1,2-Dichloroethane	1.4	Not Detected	5.6	Not Detected
Heptane	1.4	Not Detected	5.7	Not Detected
Trichloroethene	1.4	12	7.5	64
1,2-Dichloropropane	1.4	Not Detected	6.4	Not Detected
1,4-Dioxane	5.6	Not Detected	20	Not Detected
Bromodichloromethane	1.4	Not Detected	9.3	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.3	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.7	Not Detected
Toluene	1.4	7.6	5.2	29
trans-1,3-Dichloropropene	1.4	Not Detected	6.3	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SVE INFL

Lab ID#: 0812184-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	5121711	Date of Collection:	12/5/08
Dil. Factor:	2.79	Date of Analysis:	12/17/08 05:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.4	Not Detected	7.6	Not Detected
Tetrachloroethene	1.4	340	9.5	2300
2-Hexanone	5.6	Not Detected	23	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	Not Detected	6.4	Not Detected
Ethyl Benzene	1.4	Not Detected	6.0	Not Detected
m,p-Xylene	1.4	Not Detected	6.0	Not Detected
o-Xylene	1.4	Not Detected	6.0	Not Detected
Styrene	1.4	Not Detected	5.9	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	Not Detected	6.8	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.6	Not Detected
Propylbenzene	1.4	Not Detected	6.8	Not Detected
4-Ethyltoluene	1.4	Not Detected	6.8	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	6.8	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	6.8	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.4	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.4	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.2	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.4	Not Detected
1,2,4-Trichlorobenzene	5.6	Not Detected	41	Not Detected
Hexachlorobutadiene	5.6	Not Detected	60	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	100	70-130





AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0812184-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	5121705	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/17/08 11:26 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0812184-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	5121705	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/17/08 11:26 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	100	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0812184-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	5121702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/17/08 09:09 AM

Compound	%Recovery
Freon 12	114
Freon 114	111
Chloromethane	109
Vinyl Chloride	114
1,3-Butadiene	105
Bromomethane	125
Chloroethane	124
Freon 11	108
Ethanol	102
Freon 113	112
1,1-Dichloroethene	111
Acetone	109
2-Propanol	109
Carbon Disulfide	109
3-Chloropropene	107
Methylene Chloride	100
Methyl tert-butyl ether	124
trans-1,2-Dichloroethene	106
Hexane	119
1,1-Dichloroethane	111
2-Butanone (Methyl Ethyl Ketone)	122
cis-1,2-Dichloroethene	110
Tetrahydrofuran	110
Chloroform	103
1,1,1-Trichloroethane	110
Cyclohexane	111
Carbon Tetrachloride	112
2,2,4-Trimethylpentane	112
Benzene	97
1,2-Dichloroethane	104
Heptane	108
Trichloroethene	105
1,2-Dichloropropane	106
1,4-Dioxane	101
Bromodichloromethane	111
cis-1,3-Dichloropropene	109
4-Methyl-2-pentanone	110
Toluene	101
trans-1,3-Dichloropropene	112



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0812184-03A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>5121702</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 12/17/08 09:09 AM</b>

<b>Compound</b>	<b>%Recovery</b>
1,1,2-Trichloroethane	106
Tetrachloroethene	108
2-Hexanone	104
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	105
Chlorobenzene	102
Ethyl Benzene	104
m,p-Xylene	105
o-Xylene	103
Styrene	104
Bromoform	110
Cumene	102
1,1,1,2-Tetrachloroethane	100
Propylbenzene	108
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	89
Hexachlorobutadiene	91

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	100	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0812184-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	5121703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/17/08 09:46 AM

Compound	%Recovery
Freon 12	101
Freon 114	99
Chloromethane	95
Vinyl Chloride	102
1,3-Butadiene	95
Bromomethane	112
Chloroethane	112
Freon 11	102
Ethanol	113
Freon 113	113
1,1-Dichloroethene	116
Acetone	102
2-Propanol	107
Carbon Disulfide	104
3-Chloropropene	103
Methylene Chloride	106
Methyl tert-butyl ether	116
trans-1,2-Dichloroethene	103
Hexane	109
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	116
cis-1,2-Dichloroethene	106
Tetrahydrofuran	104
Chloroform	99
1,1,1-Trichloroethane	106
Cyclohexane	105
Carbon Tetrachloride	104
2,2,4-Trimethylpentane	106
Benzene	97
1,2-Dichloroethane	105
Heptane	108
Trichloroethene	104
1,2-Dichloropropane	106
1,4-Dioxane	104
Bromodichloromethane	110
cis-1,3-Dichloropropene	109
4-Methyl-2-pentanone	115
Toluene	107
trans-1,3-Dichloropropene	110



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0812184-04A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>5121703</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 12/17/08 09:46 AM</b>

<b>Compound</b>	<b>%Recovery</b>
1,1,2-Trichloroethane	106
Tetrachloroethene	107
2-Hexanone	108
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	100
Chlorobenzene	102
Ethyl Benzene	102
m,p-Xylene	104
o-Xylene	103
Styrene	105
Bromoform	110
Cumene	103
1,1,1,2-Tetrachloroethane	102
Propylbenzene	110
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	93

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	99	70-130



**CHAIN-OF-CUSTODY RECORD**

**Sample Transportation Notice**

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B  
FOLSOM, CA 95630-4719  
(916) 985-1000 FAX (916) 985-1020

Project Manager Angela Liang  
 Collected by: (Print and Sign) Melissa Asher Melissa Asher  
 Company Geosynthetic Consultants Email Masha@geosynthetic.com  
 Address 475 14th St Suite 400 Oakland CA 94612  
 Phone 510-285-2700 Fax 510-285-50-836388

**Project Info:**  
 P.O. # WR0574  
 Project # WR0574  
 Project Name Hayward Cleaners

**Turn Around Time:**  
 Normal  
 Rush  
specify  
**Lab Use Only**  
 Pressurized by:  
 Date:  
 Pressurization Gas:  
 N<sub>2</sub> He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (USG)
01A	SVE INFL	1352	12/5/08	11:15	TO-15	-30	-5		

Relinquished by: (signature) Date/Time <u>Melissa Asher 12/5/08 14:20</u>	Received by: (signature) Date/Time <u>C. M. [Signature] 12/6/08 9:15</u>	<b>Notes:</b>
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	

<b>Lab Use Only</b>	Shipper Name: <u>Fedex</u>	Air Bill #	Temp (°C): <u>14</u>	Condition: <u>good</u>	Custody Seals Intact? Yes No <u>None</u>	Work Order #
						<u>0812184</u>