Prepared for

Hopyard Cleaners
2771 Hopyard Road
Pleasanton, California 94612

THIRD QUARTER 2009 GROUNDWATER AND SVE MONITORING REPORT

HOPYARD CLEANERS
2771 Hopyard Road
Pleasanton, California
Self- Monitoring Program No. R2-2006-0059

Prepared by

Geosyntec consultants

engineers | scientists | innovators

475 14th Street, Suite 400
Oakland, California 94612

Project Number: WR0574

30 October 2009

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BAAQMD PTO	Bay Area Air Quality Management District Permit to Operate
cis-1,2-DCE	cis-1,2-dichloroethene
EISB	Enhanced in situ bioremediation
ESS	Environmental Sampling Services, Inc.
feet bgs	feet below ground surface
ft/ft	feet per feet
ft/mi	feet per mile
GAC	Granular activated carbon
Geosyntec	Geosyntec Consultants
lbs	pounds
ISCO	In situ chemical oxidation
MSL	Mean Sea Level
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
PCE	tetrachloroethene
PDBs	Passive diffusion bag samples
PID	Photoionization detector
ppmv	parts per million by volume
QA/QC	Quality assurance/ quality control
RWQCB	California Regional Water Quality Control Board, San Francisco Bay Region
SVE	Soil vapor extraction
TCE	trichloroethene
VOC	Volatile organic compounds

1. INTRODUCTION

On behalf of the property owner, Ms. Clare Leung, Geosyntec Consultants (Geosyntec) prepared this third quarter 2009 groundwater and soil vapor extraction (SVE) monitoring report for the Hopyard Cleaners Site, which is 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.

1.1 Monitoring Well Network

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. Well completion details are summarized in Table 1. Well locations relative to the Site are shown in Figure 2.

1.2 SVE System

The SVE system was installed at the Site in August 2008. The SVE system consists of five SVE wells (SVE-1 through SVE-5) located inside Hopyard Cleaners and a skid-mounted treatment system located in the parking lot approximately 60 feet southwest of the Site. The SVE system layout is shown in Figure 2. 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 volatile organic compounds (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* were approved by the RWQCB on 9 December 2008.

1.3 Work Performed This Quarter (Third Quarter 2009)

The following work was performed in the third quarter 2009:

- The third quarter groundwater monitoring event was performed on 6 July 2009. This work is discussed in detail in this report.
- SVE monitoring was conducted on 7 July, 6 August, 4 September, and 22 September 2009. This work is also discussed in detail in this report.
- Soil and groundwater samples were collected on 26 January 2009 for the enhanced in situ bioremediation (EISB) feasibility study, as described in the *Remedial Action Plan Addendum: Comprehensive Feasibility Study for ISCO & EISB* dated 24 November 2008. Sample collection, analytical methods, and preliminary results were summarized in the *First Quarter 2009 Groundwater and SVE Monitoring Report* dated 30 April 2009. The EISB treatability was completed in May 2009 and detailed results were submitted to the RWQCB in the *Enhanced In Situ Bioremediation Feasibility Study Results Report* on 15 August 2009.

2. QUARTERLY GROUNDWATER MONITORING

Quarterly groundwater monitoring was performed at the Site on 6 July 2009. Passive diffusion bags (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[1] and was verbally approved by the RWQCB in a conference call on 12 March 2008. The PDB study was completed in the first and second quarters 2008. Results of the study showed that 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 peristaltic 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 VOCs at this Site. Therefore, beginning in the third quarter 2008, PDBs have replaced sampling via peristaltic pump.

2.1 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 Appendix A.

The PDBs were deployed on 27 April 2009, during the second quarter 2009 monitoring event, in monitoring wells MW-1 through MW-7. On 6 July 2009, the PDBs were removed from the wells and sampled. Samples were delivered to Test America Laboratory of Pleasanton, California, for analysis under standard chain-of-custody procedures. Groundwater samples from the Site monitoring wells were analyzed for VOCs by Environmental Protection Agency (EPA) Method 8260B. New PDBs for the fourth quarter 2009 sampling event were deployed in wells MW-1 through MW-7 on 6 July 2009 after the third quarter 2009 sampling was completed at each well.

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[1] 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.

2.2 Groundwater Elevations and Flow Conditions

Table 2 summarizes groundwater elevations measured during this and previous sampling events. During the third quarter 2009, groundwater in the A Zone (MW-1 through MW-4) beneath the Site was encountered between 15.03 and 17.16 feet bgs, corresponding to groundwater elevations between 309.11 and 310.66 feet above Mean Sea Level (MSL). Groundwater in the B Zone was encountered between 32.33 and 34.84 feet bgs, which corresponds to groundwater elevations ranging from 292.14 to 292.35 feet MSL.

Water levels measured during the third quarter 2009 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 third quarter 2009 A Zone groundwater contours indicate a general groundwater flow to the west-northwest with an average gradient of 0.0064 feet per feet (ft/ft) (33.8 feet per mile (ft/mi)). 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). The gradients and flow directions for both the A and B Zones are consistent with previous monitoring events, as shown on Table 3.

Groundwater elevations over time are shown in Figure 5. Groundwater in the A Zone monitoring wells has ranged from 307.8 to 314.8 feet MSL, since monitoring began in November 2006. Groundwater elevations in the B Zone are lower than those measured in the A Zone, with elevations ranging from 292.1 to 307.4 feet MSL. Both the A Zone and B Zone groundwater elevations tend to fluctuate seasonally with higher elevations during the winter and spring and lower elevations in the summer and fall.

2.3 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.

2.4 Analytical Results

Laboratory analytical reports for groundwater samples are provided in Appendix B. Table 4 summarizes analytical results for groundwater samples collected during the third quarter 2009 event together with historical results. Analytical results for the third quarter 2009 sampling event are also shown in Figures 3 and 4 for the A Zone and B Zone, respectively. Isoconcentration contour maps for PCE and TCE are shown in Figures 6 through 8. The isoconcentration contours were drawn using current data from monitoring wells along with results from grab groundwater samples previously collected at the Site. Results are summarized below.

2.4.1 A Zone Wells: MW-1 through MW-4

Analytical results for samples taken from the four A Zone monitoring wells consistently show the highest VOC concentrations at MW-2. During the third quarter 2009, the PCE concentrations in original and duplicate samples collected from MW-2 were 17,000 and 18,000 micrograms per liter (µg/L), respectively. PCE concentrations observed in samples collected from MW-2 have historically ranged from 4,700 to 15,000 µg/L with the highest concentrations detected during the past four monitoring events. During the third quarter 2009, TCE and cis-1,2-DCE concentrations in samples collected from MW-2 and VOC concentrations observed in samples collected from the other A Zone wells (MW-1, MW-3, and MW-4) were consistent with historical results.

2.4.2 B Zone Wells: MW-5 through MW-7

PCE is the only VOC detected in the B Zone groundwater. The highest detection of PCE, 34 µg/L, was in the sample collected from the closest B Zone monitoring well to the Site, MW-5. Farther downgradient from the Site, PCE was detected in the sample collected from MW-7 at 5.3 µg/L and was not detected in the sample collected from MW-6.

2.5 Results Discussion

Graphs of PCE and TCE concentrations versus time in all monitoring wells are shown in Figure 9. The highest concentrations of PCE and TCE have historically been detected in A Zone monitoring well MW-2, which shows an increasing trend over the

past year. PCE and TCE concentrations in A Zone wells MW-1, MW-3, and MW-4 and in B Zone wells MW-5 and MW-7 are generally stable or declining.

As shown in Figure 10, concentrations of TCE and PCE in MW-2 generally vary inversely with groundwater elevations measured in this well. The high PCE concentrations observed at MW-2 in the third quarter of 2009 correspond to a relatively low groundwater elevation of 310.66 ft MSL.

3. SVE SYSTEM MONITORING AND PERFORMANCE EVALUATION

The SVE system was installed at the Site in August 2008. The SVE system consists of five SVE wells (SVE-1 through SVE-5) located inside Hopyard Cleaners and a skid-mounted treatment system located in the parking lot about 60 feet southwest of the Site. The full-scale SVE operations began on 21 August 2008. 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, at a minimum, thereafter. During the third quarter 2009, Geosyntec conducted the system monitoring on 7 July, 6 August, 4 September and 22 September 2009. The SVE system layout is shown in Figure 2. The SVE well locations and piping layout inside the dry cleaners is shown in Figure 11, and the process and instrumentation diagram is provided in Figure 12.

3.1 SVE Monitoring Procedures

SVE monitoring includes the following procedures:

- Perform photoionization detector (PID) screening via Tedlar® bags of:
    - Samples collected from the system influent, mid-point between the two granular activated carbon (GAC) vessels, and the system effluent, and
    - Samples collected at each SVE wellhead.
- 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 PID readings and to evaluate the composition of VOCs in the extracted vapors.

3.2 SVE Operation, Monitoring, and Maintenance

The system performance monitoring results are presented in Table 5. The laboratory analytical results for the SVE influent samples are summarized in Table 6, and the laboratory analytical report is provided in Appendix B. The individual SVE well monitoring results are shown in Table 7.

The system was operated continuously 24 hours a day from the startup on 21 August 2008 through 2 September 2008, except for an approximately 2-hour time period on 29 August 2008 when the blower shut-off switch was tripped. During that time, even though measures were taken to reduce the noise from the system blower, Geosyntec received complaints regarding the noise at night from residents in the vicinity of the dry cleaners (both across Hopyard Road and Valley Road). Even though measures were taken to reduce noise from the system blowers, on 3 September 2008, the SVE system was modified to run 14 hours a day from 8 am to 10 pm.

In order to optimize the SVE system performance and efficiency, cycling of the SVE wells was started on 6 January 2009. Based on the results of the well cycling, the SVE system operation was reduced on 26 February 2009 to 2 hours per day with extraction from all five SVE wells.

Due to anomalously high mid-point and effluent concentrations observed during the 5 February 2009 SVE system monitoring, the Operations and Maintenance contractor, Mako, moved the blower from after the carbon vessels to in front of the carbon vessels in the treatment process, on 19 February 2009. The blower increases the temperature of the extracted vapor and therefore decreases the amount of water vapor that condenses in the carbon vessels, which results in an increased efficiency of the carbon. The carbon must remain below 120 degrees Fahrenheit to effectively treat the extracted vapor, therefore the recirculation valve on the system was opened to control (lower) the temperature. Monitoring of the temperature immediately before the carbon vessels was added to the system monitoring program, as shown in Table 5.

When the recirculation valve was opened to control the temperature, the extraction flow rate was reduced. Therefore, SVE operation was increased to 4 hours per day (8 am to 12 pm) on 10 April 2009 to increase the total extracted volume per day.

During the third quarter 2009, the SVE system continued to operate for 4 hours per day with the system timer set to run from 8 am to 12 pm each day. Prior to the September 2009 monthly monitoring event, the timer drifted approximately 45 minutes, and the system ran from approximately 8:45 and to 12:45 pm for period of the third quarter 2009. Due to the drift in the timer, the 4 September 2009 system monitoring was unknowingly conducted less than 20 minutes after startup, resulting in higher influent and SVE well VOC concentrations compared to previous SVE monitoring, which is conducted approximately 1 hour after startup to allow for equilibration of the extracted vapor VOC concentrations. Upon discovery that the timer had drifted, Geosyntec set the timer back to run from 8 am to 12 pm on 22 September 2009 and re-conducted system monitoring approximately 1 hour after startup. The high influent and well concentration from 4 September 2009 are shown on Tables 5 and 7 and on Figure 13. However, to be conservative the 4 September 2009 influent concentration was not used to calculation mass removal for the SVE system.

3.3 SVE Performance Evaluation

During the third quarter 2009, SVE influent VOC concentrations measured in the field ranged from 3,340 to 6,445 micrograms per cubic meter ($\mu g/m^3$) as equivalent PCE (0.484 to 5.882 parts per million by volume (ppmv)), excluding the measurement collected on 4 September 2009 that was elevated due to its close proximity to SVE system startup, as discussed in Section 3.2 above. After thirteen months of operation, the SVE system has removed a total of approximately 10.37 pounds (lbs) (0.77 gallons) of VOCs as equivalent PCE (Table 5 and Figure 14). To be conservative, the 4 September 2009 influent field measurement was not used in the mass removal calculations.

Laboratory analysis of SVE influent samples 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 Appendix B. Observed discrepancies in total VOC concentrations between PID readings and laboratory analytical results on 4 August 2008 were corrected by reducing the time lapse between PID analysis and sample collection. This change in sampling procedure led to greater agreement in VOC

concentrations between PID and analytic results on 2 September 2008, 5 December 2008, 12 March 2009, and 11 June 2009. Although sampling methods were not altered, PID readings on 4 September 2009 were an order of magnitude higher than the VOC concentrations observed in laboratory analytical results. The discrepancy between PID and laboratory readings may be due to the altered startup time of the SVE system. Laboratory influent VOC samples were likely more equilibrated than PID samples, which were taken approximately 30 minutes earlier in the sampling regime.

As shown on Figure 15, PCE concentrations in SVE influent samples analyzed by the laboratory decreased from 24,000 µg/m^3 on 21 August 2008 to 1700 µg/m^3 on 12 March 2009, approaching the soil gas clean up standard for PCE of 1,400 µg/m^3.[2] PCE concentrations have increased slightly the last two quarters to 2000 µg/m^3 and 4,100 µg/m^3 in the samples collected on 11 June 2009 and 4 September 2009, respectively. The increased concentration in the 4 September 2009 sample could be due to the proximity of the sampling to SVE startup on that day. Overall, TCE concentrations have remained below the soil gas cleanup standard for TCE of 4,100 µg/m^3 in all samples and have decreased from 280 µg/m^3 on 21 August 2008 to 36 and 54 µg/m^3 on 12 March 2009 and 11 June 2009, respectively.[2] TCE concentrations were slightly higher in the third quarter at 89 µg/m^3.

Table 7 presents the PID screening results of the SVE wells. Initial cycling of the wells in January and February 2009 demonstrated potential rebound effects. After two months of cycling, the rebound effects significantly decreased and concentrations in all wells but SVE-2 were below the soil gas cleanup standard for PCE (1,400 µg/m^3). During the third quarter 2009 operations, wellhead PID screening results were above the soil gas cleanup standard for PCE from all SVE wells, which is similar to previous results.

[2] Soil Gas Cleanup Standards are 1,400 and 4,100 ug/m3 for PCE and TCE, respectively, and are from the California Regional Water Quality Control Board Order No. R2-2008-0032.

4. FUTURE WORK

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

- Based on the results of the *Enhanced In Situ Bioremediaiton Feasibility Study Results Report,* an *Enhanced In Situ Bioremediation Pilot Study Work Plan* is being prepared. The work plan describes the conceptual design and implementation procedures for pilot study and will be submitted to RWQCB by 31 October 2009.
- The *Revised Remedial Action Plan*, including a human health risk assessment will be submitted to the RWQCB.
- The next quarterly groundwater monitoring event will be performed in October 2009. Results of the fourth quarter 2009 monitoring report will be submitted to the RWQCB by 31 January 2010.
- SVE monitoring will continue on a monthly basis at a minimum with one sample being collected for TO-15 analysis during the fourth quarter 2009. Results of the monitoring will be presented in the fourth quarter 2009 monitoring report due to the RWQCB on 31 January 2010.

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		
A Zone Monitoring Wells										
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 Zone Monitoring Wells										
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)
A Zone Monitoring Wells				
MW-1 (20-30 ft bgs)	325.77	7/6/2009	15.63	310.14
		4/27/2009	13.81	311.96
		1/26/2009	16.71	309.06
		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	7/6/2009	15.03	310.66
		4/27/2009	13.27	312.42
		1/26/2009	16.17	309.52
		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	7/6/2009	15.98	310.29
		4/27/2009	14.02	312.25
		1/26/2009	17.10	309.17
		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	7/6/2009	17.16	309.11
		4/27/2009	14.96	311.31
		1/26/2009	17.86	308.41
		12/10/2008	18.41	307.86
		7/14/2008	13.81	312.46
		5/16/2008	12.12	314.15

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)
MW-4 (25-35 ft bgs)	326.27	2/15/2008	12.05	314.22
		1/3/2008	14.73	311.54
		8/3/2007	15.85	310.42
B Zone Monitoring Wells				
MW-5 (50-60 ft bgs)	327.19	7/6/2009	34.84	292.35
		4/27/2009	28.83	298.36
		1/26/2009	30.61	296.58
		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	7/6/2009	32.33	292.15
		4/27/2009	26.32	298.16
		1/26/2009	28.10	296.38
		12/10/2009	31.14	293.34
MW-7 (45-55 ft bgs)	324.55	7/6/2009	32.41	292.14
		4/27/2009	26.39	298.16
		1/26/2009	28.19	296.36
		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
Hopyard Cleaners
Pleasanton, California

Date	Gradient		General Flow Direction
	ft/ft	ft/mi	
A Zone			
7/6/2009	0.0064	33.8	West-Northwest
4/27/2009	0.0050	26.4	West-Northwest
1/26/2009	0.0045	23.8	West-Northwest
12/10/2008	0.0068	36.1	West-Northwest
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
B Zone			
7/6/2009	0.0012	6.1	Southwest
4/27/2009	0.0011	5.9	Southwest
1/26/2009	0.0012	6.4	Southwest
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
A Zone Monitoring Wells					
MW-1 (20-30 ft bgs)	7/6/2009	PDB Sampler	210	1,700	270
	4/27/2009	PDB Sampler	180	1,500	240
	1/26/2009	PDB Sampler	240	1,700	320
	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)	7/6/2009	PDB Sampler	610 / 650	17,000 / 18,000	880 / 930
	4/27/2009	PDB Sampler	770 / 710	14,000 / 14,000	850 / 850
	1/26/2009	PDB Sampler	760 / 770	12,000 / 12,000	720 / 730
	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)	7/6/2009	PDB Sampler	4.1	47	4.6
	4/27/2009	PDB Sampler	4.4	48	4.7
	1/26/2009	PDB Sampler	4.6	42	4.7
	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	9.5	93	7.2

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
MW-4 (25-35 ft bgs)	7/6/2009	PDB Sampler	3.0	<0.50	3.4
	4/27/2009	PDB Sampler	3.7	<0.50	4.3
	1/26/2009	PDB Sampler	4.3	<0.50	4.9
	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
B Zone Monitoring Wells					
MW-5 (50-60 ft bgs)	7/6/2009	PDB Sampler	<0.50	34	<0.50
	4/27/2009	PDB Sampler	<0.50	35	<0.50
	1/26/2009	PDB Sampler	<0.50	37	<0.50
	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
	8/3/2007	Purge and Sample	<0.50	37	<0.50
MW-6 (49-59 ft bgs)	7/6/2009	PDB Sampler	<0.50	<0.50	<0.50
	4/27/2009	PDB Sampler	<0.50	<0.50	<0.50
	1/26/2009	PDB Sampler	<0.50	<0.50	<0.50
	12/10/2008	PDB Sampler (51.5 ft bgs)*	<0.50	<0.50	<0.50
	12/10/2008	PDB Sampler (56.5 ft bgs)*	<0.50	<0.50	<0.50
MW-7 (45-55 ft bgs)	7/6/2009	PDB Sampler	<0.50	5.3	<0.50
	4/27/2009	PDB Sampler	<0.50	5.7	<0.50
	1/26/2009	PDB Sampler	<0.50	9.9	<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. (^oF)	Influent Vacuum (in Hg)	Influent Conc. (ug/m^3 as PCE)	Mid-Point Conc. (ug/m^3 as PCE)	Effluent Conc. (ug/m^3 as PCE)	Temp. Before GAC Vessels (^oF) (1)	Vacuum (in water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Equivalent PCE Conc. (mg/m^3 as PCE)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removal per Monitoring Event (lbs as PCE)	Cumulative Mass Removal (lbs as PCE)
21-Aug-08	9:15	7,569.2	--	--	10.0	89,700	1,380	690	--	136	--	--	--	89.7	--	--	0.00	0.00
22-Aug-08	9:25	7,593.3	4,590	83.5	10.0	37,950	2,070	0.0	--	136	210.54	136.22	24.17	38.0	0.0326	0.7817	0.79	0.79
23-Aug-08	10:00	7,618.0	4,690	78.3	9.5	4,830	1,380	690	--	129	215.13	144.06	48.75	4.8	0.0115	0.2770	0.28	1.07
24-Aug-08	14:02	7,646.0	4,550	79.5	10.0	6,210	2,070	0.0	--	136	208.71	136.04	76.78	6.2	0.0028	0.0675	0.08	1.15
25-Aug-08	16:22	7,672.4	4,450	87.2	10.0	7,590	2,070	690	--	136	204.12	131.17	103.12	7.6	0.0034	0.0814	0.09	1.24
27-Aug-08	8:14	7,712.1	4,520	74.0	10.0	45,540	690	0.0	--	136	207.33	136.53	142.98	45.5	0.0136	0.3261	0.54	1.78
29-Aug-08	8:02	7,757.7	4,380	77.9	9.5	12,420	--	--	--	129	200.91	134.64	190.78	12.4	0.0146	0.3508	0.70	2.48
2-Sep-08	9:14	7,853.3	4,250	77.5	10.0	12,420	690	0.0	--	136	194.95	127.54	287.98	12.4	0.0059	0.1424	0.58	3.06
8-Sep-08	8:40	7,996.2	4,290	76.8	8.5	14,490	690	0.0	--	116	196.78	138.60	379.14	14.5	0.0070	0.1677	0.64	3.69
18-Sep-08	10:40	8,238.2	4,300	79.0	8.0	4,830	0.0	0.0	--	109	197.24	141.59	520.31	4.8	0.0051	0.1230	0.72	4.42
8-Oct-08	10:00	8,715.1	4,300	83.8	8.0	5,520	0.0	0.0	--	109	197.24	140.34	799.92	5.5	0.0027	0.0653	0.76	5.18
17-Nov-08	9:30	9,675.1	4,300	66	8.0	6,210	0.0	0.0	--	109	197.24	145.09	1359.63	6.2	0.0032	0.0765	1.78	6.96
5-Dec-08	9:26	10,107.1	4,775	49.8	8.0	4,830	1,380	0.0	--	109	219.03	166.23	1611.59	4.8	0.0034	0.0825	0.87	7.83
6-Jan-09	9:10	10,847.7	4,610	53.5	7.5	1,380	0.0	0.0	--	102	211.46	162.96	2059.43	1.4	0.0019	0.0455	0.85	8.68
21-Jan-09	8:25	11,233.5	4,490	51.8	9.0	4,830	3,450	690	--	122	205.95	148.60	2268.99	4.8	0.0017	0.0415	0.36	9.04
21-Jan-09	15:30	11,240.5	3,445	67.8	10.5	3,450	2,070	2,070	--	143	158.02	102.64	2273.13	3.5	0.0016	0.0382	0.01	9.04
5-Feb-09	9:05	11,562.4	4,130	56.6	10.0	6,900 (2)	5,520 (2)	690 (2)	--	136	189.44	128.95	2479.38	6.9 (2)	0.0008	0.0200	0.17	9.22
5-Feb-09	10:30	11,563.8	4,470	59.1	10.0	154,600 (2)	93,840 (2)	104,880 (2)	--	136	205.04	138.90	2480.21	154.56 (2)	0.0009	0.0215	0.00	9.22
19-Feb-09	8:42	11,898.0	4,440	55.1	9.0	0.0	0.0	0.0	--	122	203.66	146.01	2675.16	0.0	0.0009	0.0226	0.18	9.40
19-Feb-09	12:00	11,899.7	3,110	63.8	10.0	0.0	0.0	0.0	102.3	136	142.65	95.77	2675.20	0.0	0.0000	0.0000	0.00	9.40
26-Feb-09	9:15	12,064.9	3,150	60.3	9.0	0.0	0.0	0.0	97.4	122	144.49	102.55	2771.60	0.0	0.0000	0.0000	0.00	9.40
26-Feb-09	10:07	12,068.8	3,500	60.9	8.0	0.0	0.0	0.0	94.8	109	160.54	119.25	2772.10	0.0	0.0000	0.0000	0.00	9.40
12-Mar-09	9:40	12,400.3	3,650	56.1	7.0	1,097	0.0	0.0	77.4	95	167.42	131.24	2800.06	1.097	0.0003	0.0065	0.01	9.41
10-Apr-09	8:43	13,095.4	3,680	62.1	8.0	3,305	1,207.5	248.4	86.5	109	168.80	125.09	2857.98	3.305	0.0010	0.0248	0.06	9.47
6-May-09	9:00	13,719.6	3,570	72.4	11.5	2,870	1,573.2	966.0	109.7	156	163.75	100.02	2962.03	2.870	0.0012	0.0278	0.12	9.59
11-Jun-09	8:43	14,583.4	3,590	72.1	5.0	83	20.7	13.8	99.1	68	164.67	136.11	3105.98	0.083	0.0008	0.0181	0.11	9.70
7-Jul-09	9:00	15,207.7	3,410	79.3	8.0	3,340	483.0	558.9	112.8	109	156.41	112.22	3210.03	3.340	0.0007	0.0173	0.07	9.77
6-Aug-09	8:40	15,927.3	2,750	75.5	7.0	4,485	1,614.6	710.7	101.3	95	126.14	95.30	3329.98	4.485	0.0014	0.0335	0.17	9.94
4-Sep-09	8:55	16,623.6	3,220	80.9	-- (3)	40,586 (4)	0.0	0.0	102.1	95	147.70	110.47	3446.02	40.586 (4)	-- (4)	-- (4)	-- (4)	9.94
22-Sep-09	10:15	17,056.4	-- (5)	-- (5)	-- (3)	6,445	924.6	855.6	118.1	95	147.70	110.47	3518.24	6.44	0.0023	0.0543	0.43	10.37

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

Notes/Assumptions:

A. Inlet pipe diameter is 3".

B. SVE operations were reduced from 24 hours per day to 14 hours (8 am to 10 pm) per day on 3 September 2008; SVE operations were reduced to 2 hours (8 am to 10 am) per day on 26 February 2009; and SVE operations were increased to 4 hours (8 am to 12 pm) per day on 10 April 2009. SVE monitoring is conducted approximately 1 hour after SVE system startup.

C. Vapor density of PCE is estimated to be 6,900 g/m^3 at 20C.

D. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])

E. Concentrations and mass removal are calculated as mass of PCE.

(1) On 19 February 2009, the blower was moved in front of the carbon vessels in the treatment process. Temperature measurement were collected before carbon vessels to confirm that vapor temperatures are below 120^oF prior to entering the carbon vessels.
(2) PID readings from 5 February 2009 were anomolously high, indicating possible instrumentation error. To be conservative, this influent concentration was not included in mass removal calculations.

(3) On 4 September 2009 and 22 September 2009, influent vacuum gauge was malfuncting. Flow rate and mass removal were calculated using the influent vacuum measured on 6 August 2009 (7.0 in Hg).

(4) The timer on the SVE system drifted prior to the 4 Sepember 2009 monitoring event, and SVE system started approximately 45 minutes later than scheduled. Therefore, system monitoring was conducted less than 20 minutes after SVE system startup, resulting in high influent concentations, than those measured 1 hour after startup. To be conservative, the influent concentations from 4 September 2009 were not used in the mass removal calulations and SVE system monitoring was conducted again on 22 September 2009.

(5) On 22 September 2009, influent temperature and flow rate readings could not be obtained due to equiptment problems. These values are assumed to be equivalent to those measured on 4 September 2009 and the 4 September 2009 values were used to flow rate and calculate mass removal.

ft/min = feet per minute
ug/m^3 = micrograms per cubic meter
^oF = degrees Fahrenheit
in Hg = inches mercury
in water = inches water
cfm = cubic feet per minute
scfm = standard cubic feet per minute
hr = hour
mg/m^3 = milligrams per cubic meter
yr = year
lbs = pounds
"--" = not measured or not calculated

Table 6
SVE Influent Analytical Summary
Hopyard Cleaners
Pleasanton, California

VOC	Sample Date											
	21-Aug-08		2-Sep-08		5-Dec-08		12-Mar-09		11-Jun-09		4-Sep-09	
units	**ppmv**	**ug/m^3**	**ppmv**	**ug/m^3**	**ppmv**	**ug/m^3**	**ppmv**	**ug/m^3**	**ppmv**	**ug/m^3**	**ppmv**	**ug/m^3**
PCE	3.600	24,000	1.200	8,500	0.340	2,300	0.250	1,700	0.290	2,000	0.600	4,100
TCE	0.051	280	0.029	160	0.012	64	0.0068	36	0.01	54	0.017	89
Other[1]	0.022	66	0.0075	22	0.043	112.6	0.0134	35.1	0.0207	56.9	0.036	96
Total VOCs	*3.651*	*24,346*	*1.237*	*8,682*	*0.395*	*2,476.6*	*0.270*	*1,771.1*	*0.321*	*2,110.9*	*0.653*	*4,285*
Influent PID Reading[2]	*13.8*	*95,220*	*1.8*	*12,420*	*0.7*	*4,830*	*0.159*	*1,097*	*0.012*	*83*	*5.882*	*40,586*

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

ug/m^3 - micrograms per cubic meter

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; 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; acetone was detected at 0.0079 ppmv, 2-butanone was detected at 0.0026 ppmv, and tetrahydrofuran was detected at 0.0029 ppmv on 12 March 2009; acetone was detected at 0.0075 ppmv, 2-butanone was detected at 0.0021 ppmv, benzene was detected at 0.0035 ppmv, freon 12 was detected at 0.0016 ppmv, ethanol was detected at 4.6 (tr), and toluene was detected at 0.0014 ppmv on 11 June 2009; freon 12 was detected at 0.0025 ppmv, acetone was detected at 0.027 ppmv, and 2-butanone was detected at 0.0065 ppmv on 4 September 2009.

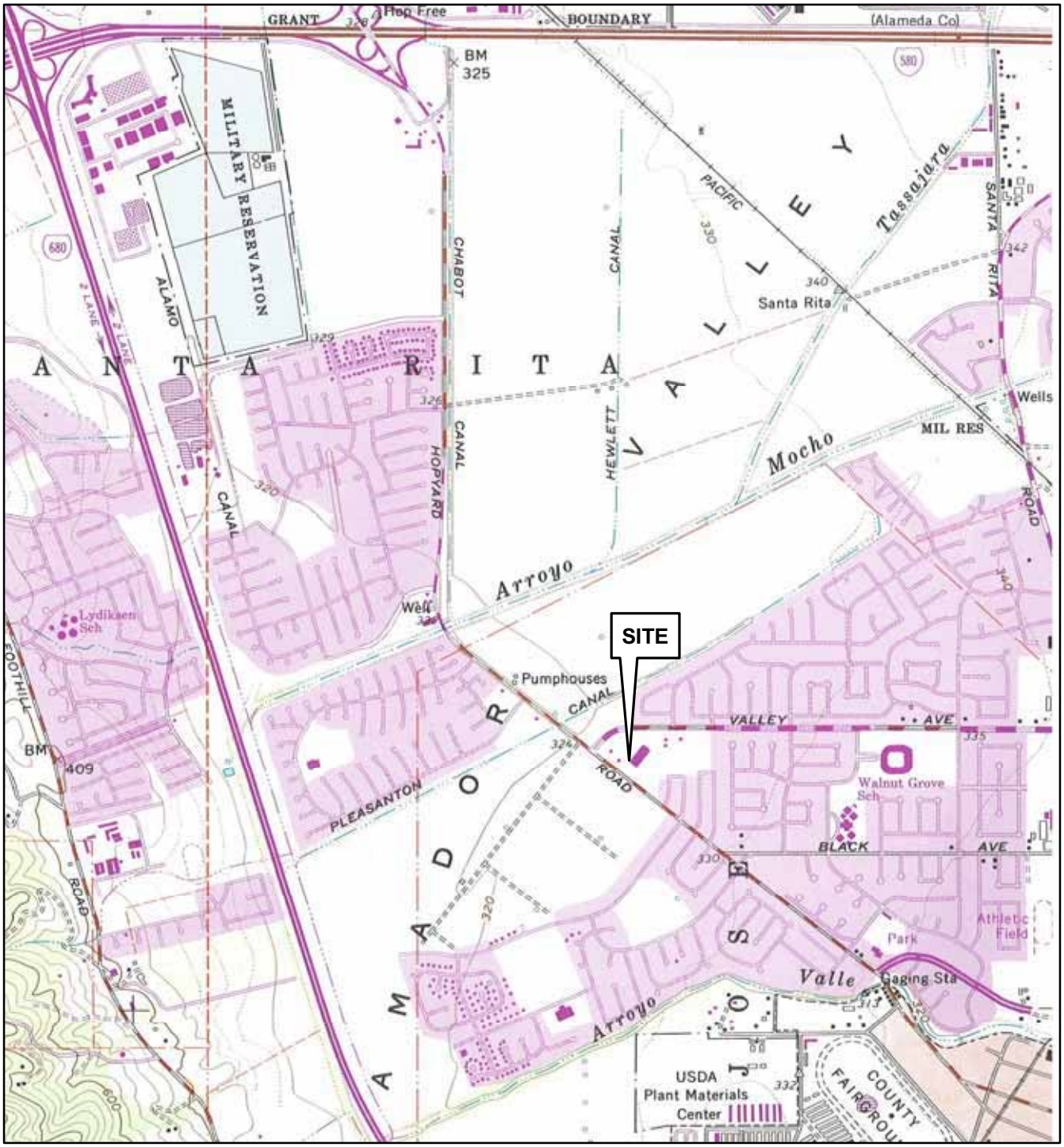
(2) PID screening results from the date sampling was conducted, as presented on Table 5. PID results are calculated as parts per million by volume to ug/m ^{3} as PCE.

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

Monitoring Date	Monitoring Event	Extraction Duration (1) (hr/day)	MANIFOLD			SVE-1				SVE-2				SVE-3				SVE-4				SVE-5			
			Time	Flow Rate (scfm)	Vacuum (in Hg)	Time	Vacuum (in Hg)	PID (2) ug/m^3 as PCE	PID (2) ppmv	Time	Vacuum (in Hg)	PID (2) ug/m^3 as PCE	PID (2) ppmv	Time	Vacuum (in Hg)	PID (2) ug/m^3 as PCE	PID (2) ppmv	Time	Vacuum (in Hg)	PID (2) ug/m^3 as PCE	PID (2) ppmv	Time	Vacuum (in Hg)	PID (2) ug/m^3 as PCE	PID (2) ppmv
21-Aug-08	Start up Day 1	24	9:22	240	--	9:24	0	322,920	46.8	9:22	1.5	164,220	23.8	9:21	2.0	34,500	5.0	9:25	1.5	167,670	24.3	9:20	2.0	60,720	8.8
22-Aug-08	Start-up Day 2	24	9:41	240	--	9:42	0	141,450	20.5	9:40	1.75	82,800	12.0	9:38	2.0	14,490	2.1	9:44	1.5	57,960	8.4	9:37	2.0	28,980	4.2
23-Aug-08	Start-up Day 3	24	10:35	240	--	10:38	0	86,250	12.5	10:34	1.5	53,820	7.8	10:28	0	15,870	2.3	10:26	1.0	44,160	6.4	10:31	2.0	24,840	3.6
25-Aug-08	Start-up Day 5	24	16:52	235	--	16:50	0	64,170	9.3	16:58	0	33,810	4.9	16:55	1.0	11,040	1.6	4:46	1.0	33,120	4.8	16:53	2.0	17,940	2.6
27-Aug-08	Start-up Day 7	24	8:36	240	--	8:38	0	49,680	7.2	8:36	1.5	24,840	3.6	8:35	2.0	4,140	0.6	8:39	1.5	61,410	8.9	8:34	2.0	10,350	1.5
2-Sep-08	Start-up Day 13/Week 2	24	9:43	230	3.5	9:44	0	24,150	3.5	9:42	1.5	15,180	2.2	9:40	1.75	4,830	0.7	9:45	1.5	13,110	1.9	9:36	1.5	8,280	1.2
8-Sep-08	Start-up Week 3	14	8:58	230	3.75	9:01	0	17,940	2.6	8:59	1.25	19,320	2.8	8:58	1.5	16,560	2.4	9:02	1.25	8,280	1.2	8:57	1.5	14,490	2.1
18-Sep-08	1st Month	14	11:14	235	4	11:16	1.2	12,420	1.8	11:14	1.5	5,520	0.8	11:12	1.5	0	0.0	11:17	1.3	5,520	0.8	11:10	1.5	3,450	0.5
8-Oct-08	2nd Month	14	10:40	235	3.75	11:04	1.2	8,970	1.3	11:00	1.5	7,590	1.1	10:57	1.4	3,450	0.5	11:07	1.3	6,900	1.0	10:51	1.5	5,520	0.8
17-Nov-08	3rd Month	14	9:45	235	3.5	9:48	1.1	6,900	1.0	9:46	1.4	4,830	0.7	9:44	1.3	3,450	0.5	9:50	1.2	4,830	0.7	9:42	1.4	5,520	0.8
5-Dec-08	4th Month	14	11:20	240	3.5	11:21	1.1	4,830	0.7	11:19	1.3	3,450	0.5	11:18	1.3	2,070	0.3	11:22	1.1	3,450	0.5	11:17	1.4	3,450	0.5
6-Jan-09	5th Month	14	9:44	240	3.5	9:45	1.0	690	0.1	9:43	1.3	0	0	9:42	1.2	0	0.0	9:46	1.1	690	0.1	9:40	1.3	0	0.0
21-Jan-09	Cycle Wells (3)	14	9:02	235	4.5	9:03	1.5	10,350	1.5	9:00	2.4	11,730	1.7	10:06	OFF	115,230	16.7	9:06	1.7	44,850	6.5	10:05	OFF	124,890	18.1
21-Jan-09	Cycle Wells (3)	14	15:47	220	5.5	15:49	OFF	4,140	0.6	15:46	OFF	2,760	0.4	15:45	3.1	2,760	0.4	15:50	OFF	6,210	0.9	15:43	3.2	690	0.1
5-Feb-09	6th Month/Cycle Wells (3)	14	9:27	230	5.0	9:28	OFF	84,180 (4)	12.2 (4)	9:26	OFF	73,830 (4)	10.7(4)	9:24	2.9	74,520 (4)	10.8 (4)	9:29	OFF	178,710 (4)	25.9 (4)	9:40	2.9	252,540 (4)	36.6 (4)
5-Feb-09	Cycle Wells (3)	14	10:41	230	4.5	10:43	1.5	189,750 (4)	27.5 (4)	10:42	1.2	158,700 (4)	23.0 (4)	10:40	OFF	107,640 (4)	15.6 (4)	10:45	1.5	230,460 (4)	33.4 (4)	10:39	OFF	142,830 (4)	20.7 (4)
19-Feb-09	Cycle Wells (3)	14	9:02	235	4.5	9:03	1.5	0	0.0	9:02	2.3	0	0.0	9:00	OFF	40,710	5.9	9:04	1.5	0	0.0	8:59	OFF	15,180	2.2
19-Feb-09	Cycle Wells (3)	14	12:10	165	3.0	12:10	OFF	0	0.0	12:09	OFF	0	0.0	12:07	2.0	0	0.0	12:12	OFF	0	0.0	12:06	2.1	0	0.0
26-Feb-09	Cycle Wells (3)	2	9:29	165	3.0	9:31	OFF	21,390	3.1	9:28	OFF	17,940	2.6	9:27	2.0	0	0.0	9:32	OFF	65,550	9.5	9:26	2.1	0	0.0
26-Feb-09	Cycle Wells (3)	2	10:19	230	2.0	10:19	0.7	690	0.1	10:18	0.7	0	0.0	10:17	0.7	0	0.0	10:20	0.8	690	0.1	10:16	0.9	0	0.0
12-Mar-09	7th Month	2	9:21	180	2.0	9:23	0.7	497	0.072	9:22	0.8	1,780	0.258	9:20	0.8	276	0.040	9:24	0.8	373	0.054	9:19	0.8	573	0.083
10-Apr-09	8th Month	4	9:08	180	2.0	9:09	0.7	4,733	0.686	9:07	0.9	4,099	0.594	9:05	0.8	2,125	0.308	9:10	0.9	5,058	0.733	9:04	0.9	2,829	0.410
6-May-09	9th Month	4	9:27	180	2.0	9:28	0.7	3,471	0.503	9:26	0.8	3,160	0.458	9:24	0.8	1,746	0.253	9:30	0.9	2,691	0.390	9:21	0.9	4,133	0.599
11-Jun-09	10th Month	4	9:09	180	2.0	9:13	0.7	90	0.013	9:10	0.9	76	0.011	9:07	0.8	62	0.009	9:15	0.9	90	0.013	9:05	0.9	76	0.011
7-Jul-09	11th Month	4	9:28	180	2.0	9:29	0.7	2,670	0.387	9:26	0.8	1,953	0.283	9:24	0.7	2,857	0.414	9:31	0.9	2,691	0.390	9:22	0.9	3,567	0.517
6-Aug-09	12th Month	4	9:34	170	1.5	9:35	0.6	3,968	0.575	9:33	0.7	4,513	0.654	9:31	0.7	5,610	0.813	9:37	0.7	4,230	0.613	9:28	0.7	6,969	1.01
4-Sep-09	13th Month	4	9:37	165	2.0	9:38	0.6	140,139 (5)	20.31 (5)	9:36	0.7	5,203 (5)	0.754 (5)	9:33	0.7	7,349 (5)	1.065 (5)	9:39	0.7	15,560 (5)	2.255 (5)	9:31	0.7	13,379 (5)	1.939 (5)
22-Sep-09	13th Month	4	10:40	160	2.0	10:43	0.6	10,702	1.551	10:46	0.7	5,603	0.812	10:42	0.7	7,638	1.107	10:44	0.7	10,633	1.541	10:41	0.7	8,694	1.260

Notes:
(1) A timer was installed on the system and was set to run from 8 am to 10 pm (14 hrs/day) on 3 September 2008. Operation was then reduced to 8 am to 10 am (2 hrs/day) on 26 February 2009 to optimize the system. Operation was increased to 8 am to 12 pm (4 hrs/day) on 10 April 2009.
(2) PID screening was conducted using a MiniRae 2000 capable of detecting VOCs in the ppmv range. Beginning on 12 March 2009, a ppbRae was used to detect concentrations at lower levels, in the parts per billion.
(3) On 21 January, 5 February, 19 February, and 26 February 2009, monitoring was conducted twice: before cycling the SVE wells and approximately 30 minutes after cycling the SVE wells.
(4) PID readings from 5 February 2009 were anomolously high, indicating possible instrumentation error.
(5) The timer on the SVE system drifted prior to the 4 Sepember 2009 monitoring event, and SVE system started approximately 45 minutes later than scheduled. Therefore, system monitoring was conducted in closer proximitey to SVE system startup than other monitoring events, resulting in higher measured concentations.
ft = feet
min = minute
in Hg = inches of mercury
ug/m^3 as PCE= micrograms per cubic meter as equivalent tetrachloroethene
ppmv = parts per million volume
scfm = standard cubic feet per minute
OFF = well turned off during well cycling

FIGURES



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

0 1,000 2,000 Feet

N

Figure 1
Site Location Map

Hopyard Cleaners
2771 Hopyard Road
Pleasanton, California

Project: WR0574	October 2009	Geosyntec consultants

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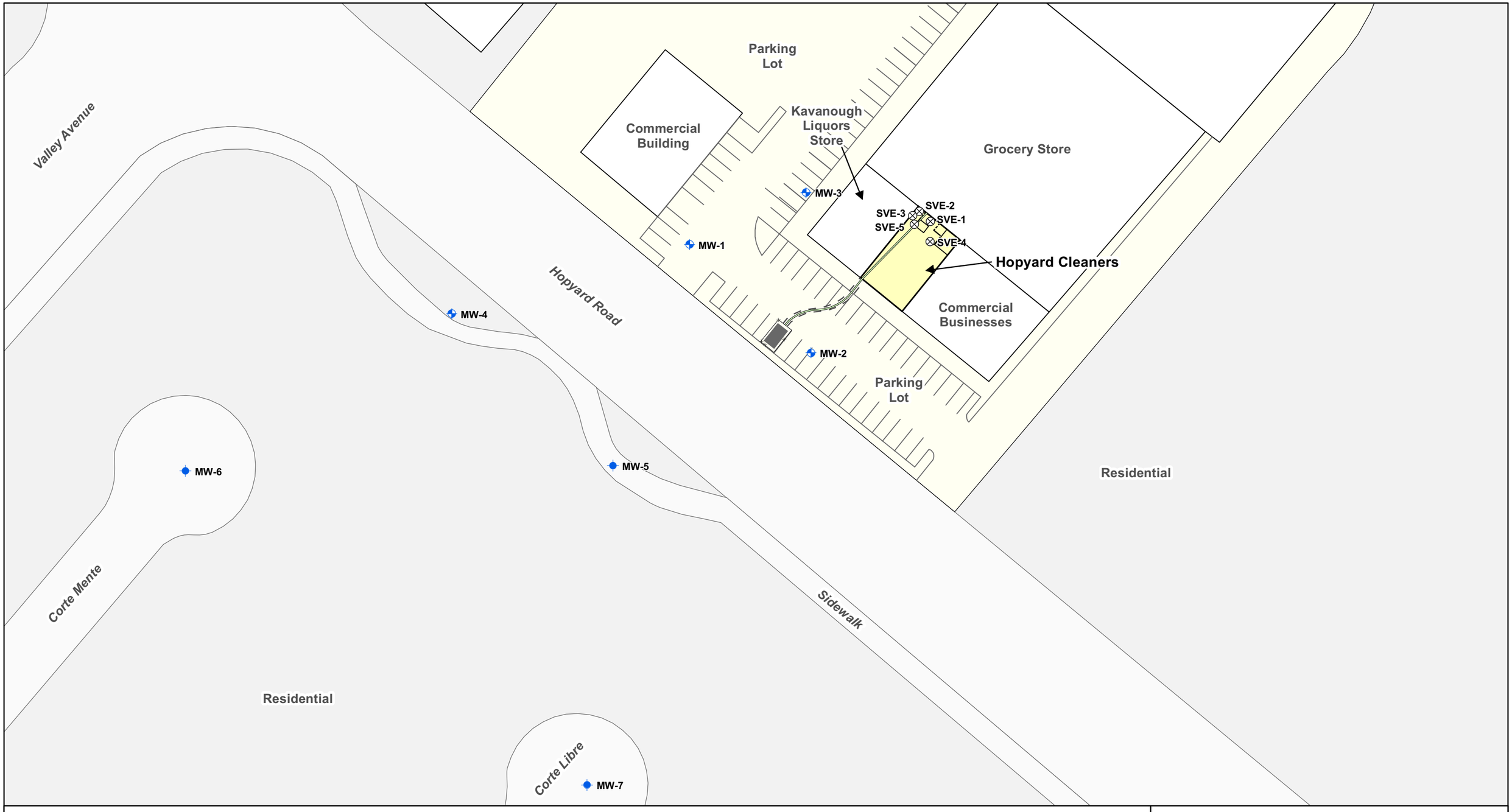

Legend

Sample Locations

- A Zone Groundwater Monitoring Well
- B Zone Groundwater Monitoring Well
- Soil Vapor Extraction Well
- SVE Conveyance Piping
- SVE Piping
- Trench Cut
- SVE Mobile Treatment System
- Fence

N

0 Feet 60

Figure 2

Site Layout and Vicinity Map

Project: WR0574
Date: October 2009

Hopyard Cleaners
2771 Hopyard Road
Pleasanton, California

Geosyntec consultants

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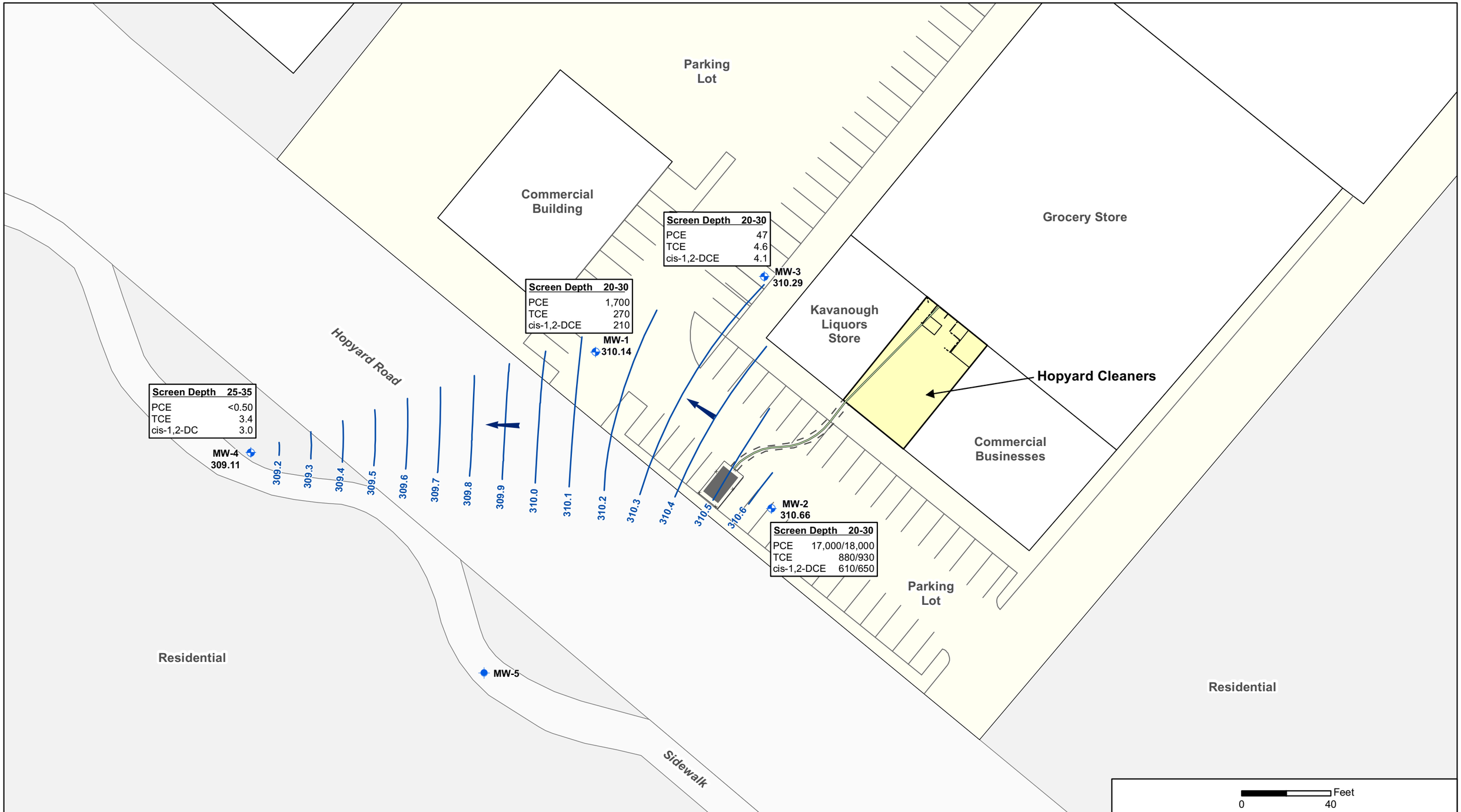

Legend

- MW-1 A Zone Groundwater Monitoring Well
- 310.14 and Groundwater Elevation
- MW-5 B Zone Groundwater Monitoring Well
- General Direction of Groundwater Flow
- Groundwater Elevation Contour
- SVE Conveyance Piping
- SVE Piping
- Trench Cut
- SVE Mobile Treatment System
- Fence

Screen Depth	25-35
PCE	<0.50
TCE	3.4
cis-1,2-DCE	3.0

Notes:
PCE = Tetrachloroethene
TCE = Trichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
" / " Indicates primary sample result / duplicate sample result.
Groundwater elevations 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).

N

Feet
0 40

Figure 3
A Zone Groundwater Elevation Contours and Analytical Results
Third Quarter 2009

Project: WR0574
Date: October 2009

Hopyard Cleaners
2771 Hopyard Road
Pleasanton, California

Geosyntec consultants

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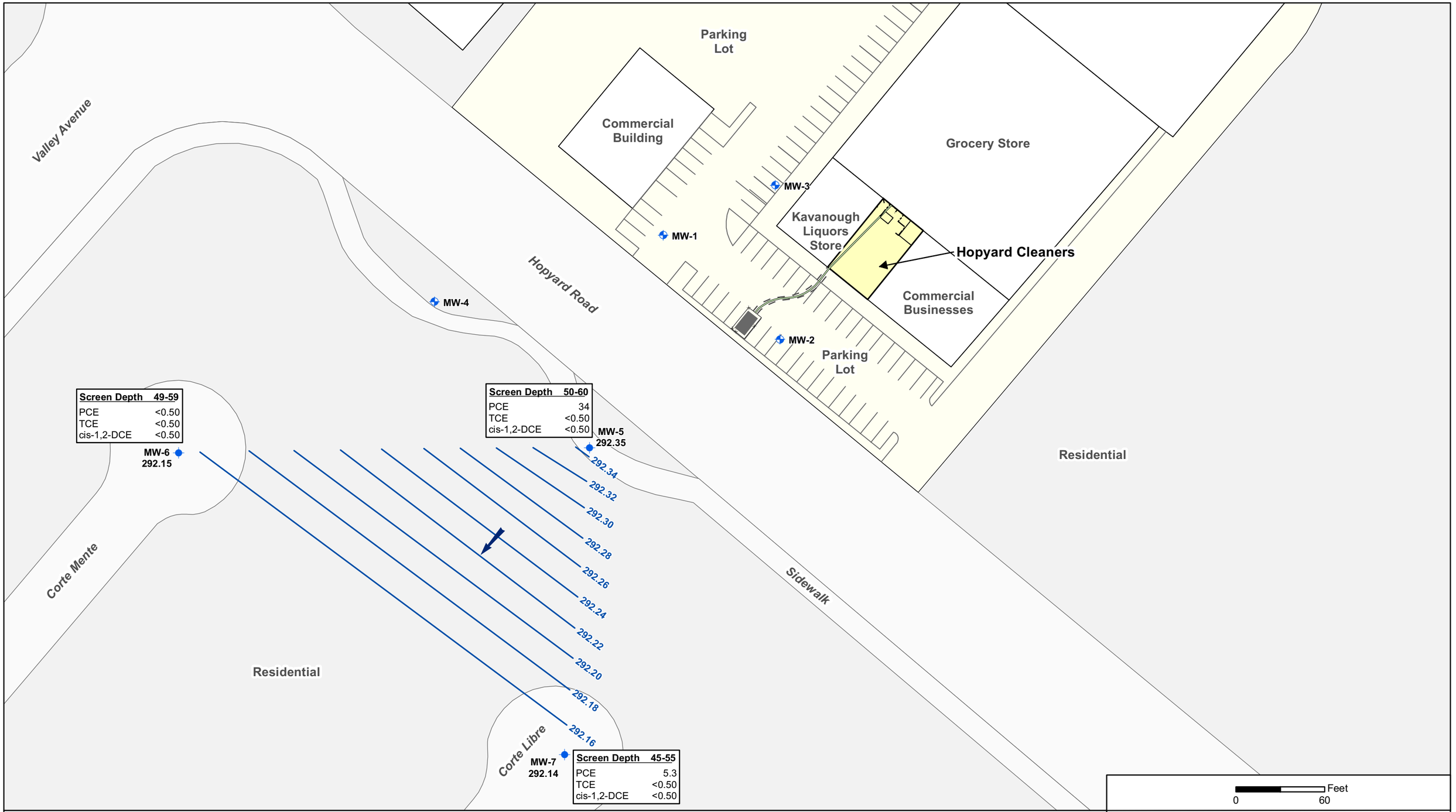

Legend

- MW-5 292.35 — B Zone Groundwater Monitoring Well and Groundwater Elevation
- MW-1 — A Zone Groundwater Monitoring Well
- General Direction of Groundwater Flow
- Groundwater Elevation Contour
- SVE Conveyance Piping
- SVE Piping
- Trench Cut
- SVE Mobile Treatment System
- Fence

Screen Depth	45-55
PCE	5.3
TCE	<0.50
cis-1,2-DCE	<0.50

Notes:
PCE = Tetrachloroethene
TCE = Trichloroethene
cis-1,2-DCE = cis-1,2-Dichloroethene
" / " Indicates primary sample result / duplicate sample result.
Groundwater elevations 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).

N

Figure 4
B Zone Groundwater Elevation Contours and Analytical Results
Third Quarter 2009

Project: WR0574
Date: October 2009

Hopyard Cleaners
2771 Hopyard Road
Pleasanton, California

Geosyntec consultants

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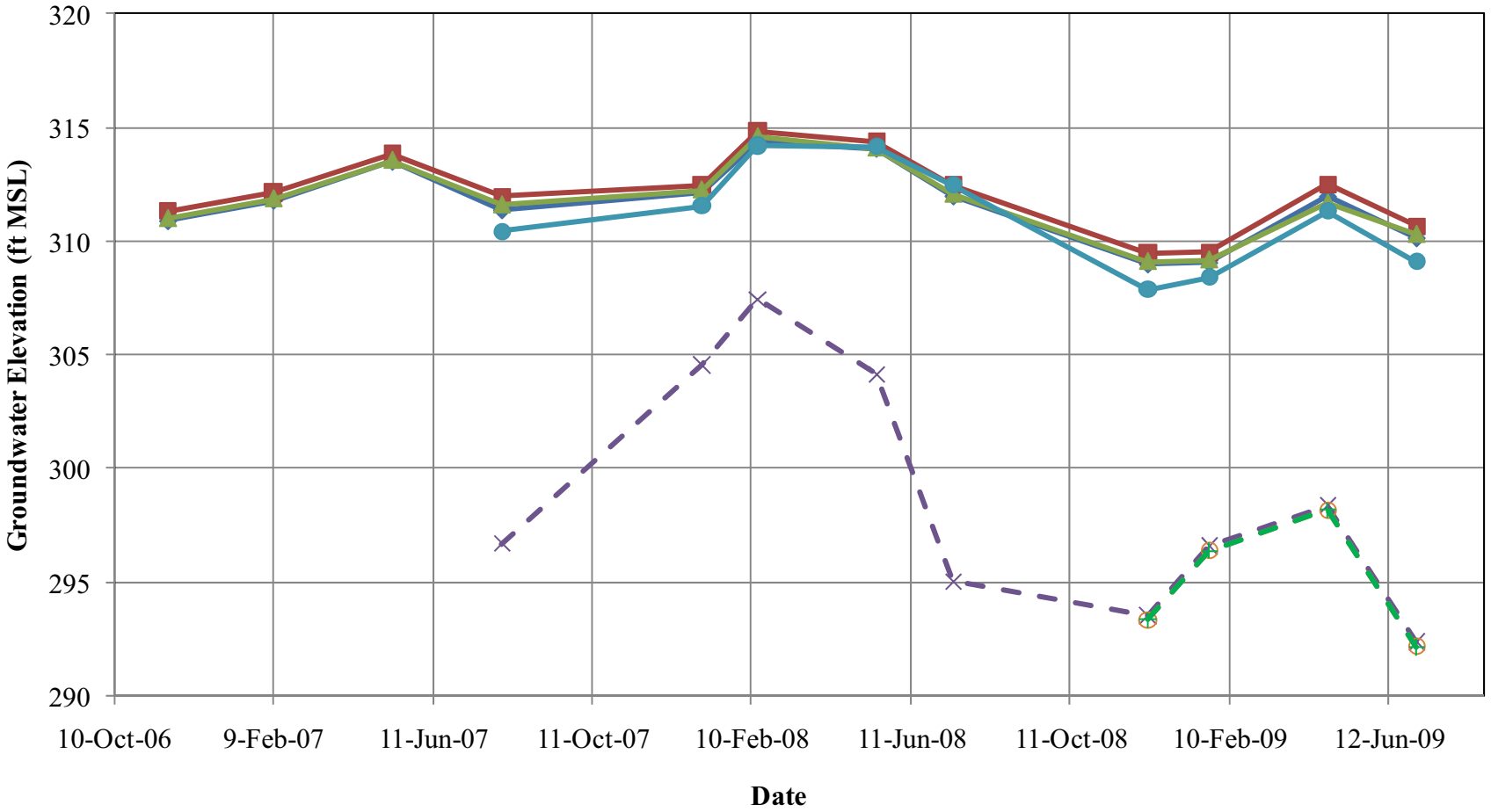
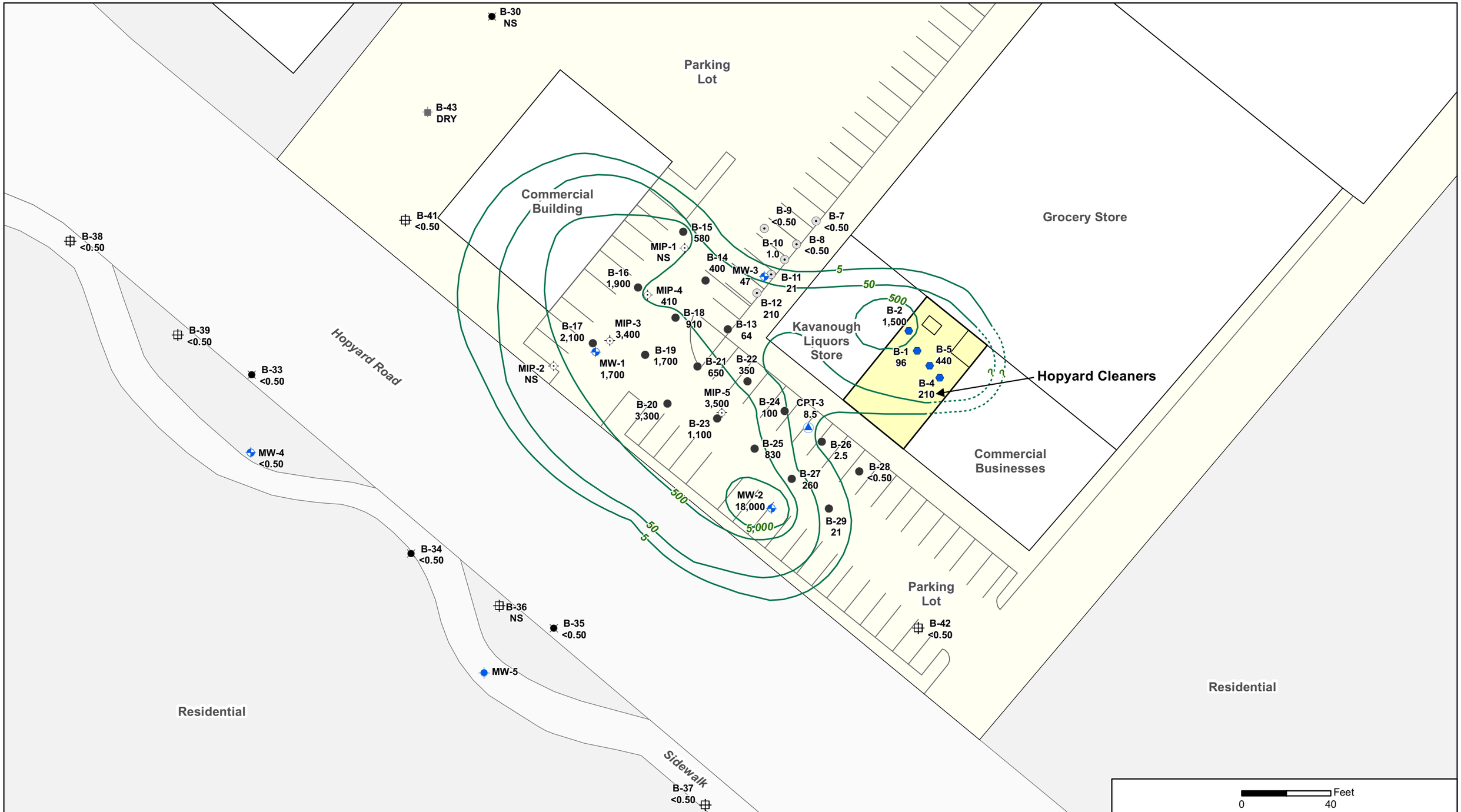


Groundwater Hydrograph
Hopyard Cleaners, Pleasanton, California

October 2009	Figure: **5**	Geosyntec consultants



Legend

- A Zone Groundwater Monitoring Well
- B Zone Groundwater Monitoring Well
- CPT Groundwater Sampling Location (April 2008)
- Temporary Well/Boring Location (June 2007)
- Hydropunch/Boring Location (March 2007)
- MIP Location (January 2006)
- Grab Groundwater/Boring Location (January 2005)
- Hydropunch/Boring Location (May 2004)
- Hydropunch/Boring Location (September 2003)
- Hydropunch/Boring Location (April 2003)
- PCE Contour in Groundwater (ug/L)
- Estimated PCE Contour in Groundwater (ug/L)

Notes:
PCE = Tetrachloroethene
Analytical results in micrograms per liter (ug/L).
Screen depth in feet below ground surface (ft bgs).

N

Feet
0 40

Figure 6
PCE Iscoconcentration Contours in A Zone Groundwater (20 to 35 ft bgs)
April 2003 through Third Quarter 2009

Project: WR0574
Date: October 2009

Hopyard Cleaners
2771 Hopyard Road
Pleasanton, California

Geosyntec consultants

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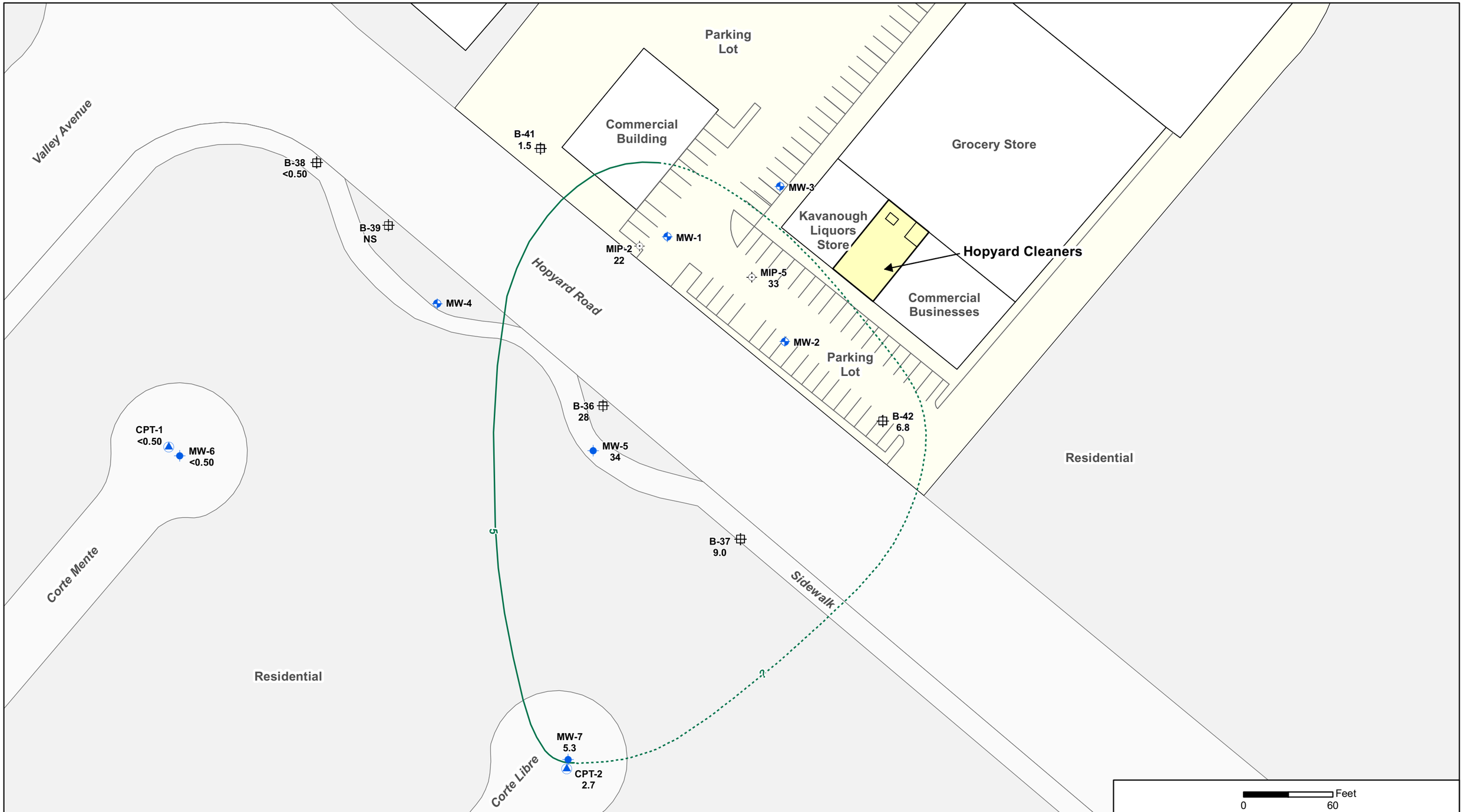

Legend

- B Zone Groundwater Monitoring Well
- A Zone Groundwater Monitoring Well
- CPT Groundwater Sampling Location (April 2008)
- Hydropunch/Boring Location (March 2007)
- MIP Location (January 2006)
- PCE Contour in Groundwater (ug/L)
- Estimated PCE Contour in Groundwater (ug/L)

Notes:
PCE = Tetrachloroethene
Analytical results in micrograms per liter (ug/L).
Screen depth in feet below ground surface (ft bgs).

Figure 7
PCE Iscoconcentration Contours in B Zone Groundwater (40 to 60 ft bgs) January 2006 through Third Quarter 2009

Project: WR0574
Date: October 2009

Hopyard Cleaners
2771 Hopyard Road
Pleasanton, California

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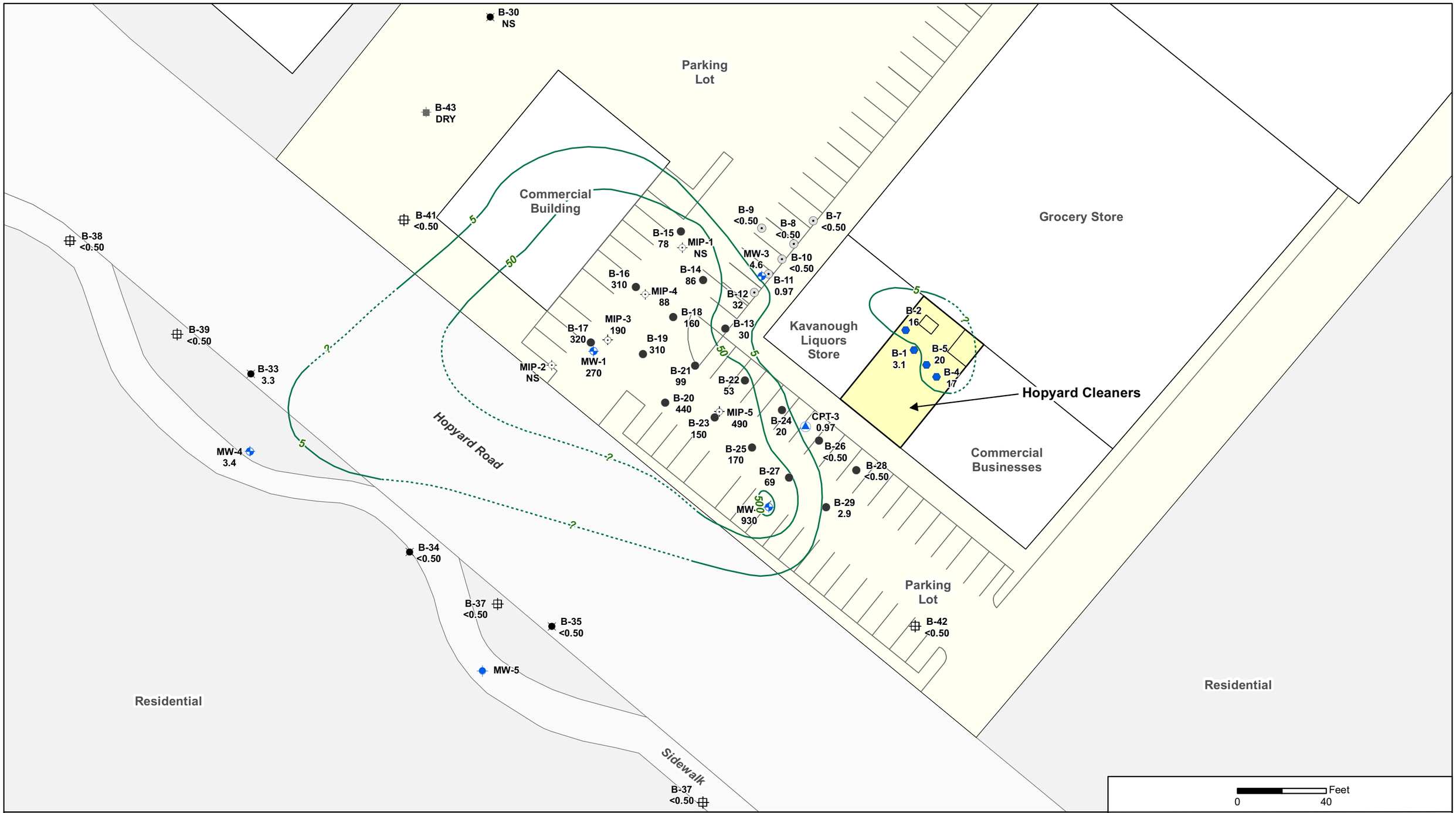

Legend

- A Zone Groundwater Monitoring Well
- B Zone Groundwater Monitoring Well
- CPT Groundwater Sampling Location (April 2008)
- Temporary Well/Boring Location (June 2007)
- Hydropunch/Boring Location (March 2007)
- MIP Location (January 2006)
- Grab Groundwater/Boring Location (January 2005)
- Hydropunch/Boring Location (May 2004)
- Hydropunch/Boring Location (September 2003)
- Hydropunch/Boring Location (April 2003)
- TCE Contour in Groundwater (ug/L)
- Estimated TCE Contour in Groundwater (ug/L)

Notes:
TCE = Trichloroethene
Analytical results in micrograms per liter (ug/L).
Screen depth in feet below ground surface (ft bgs).

N

Feet
0 40

Figure 8
TCE Isoconcentration Contours in A Zone Groundwater (20 to 35 ft bgs) April 2003 through Third Quarter 2009

Project: WR0574
Date: October 2009

Hopyard Cleaners
2771 Hopyard Road
Pleasanton, California

Geosyntec consultants

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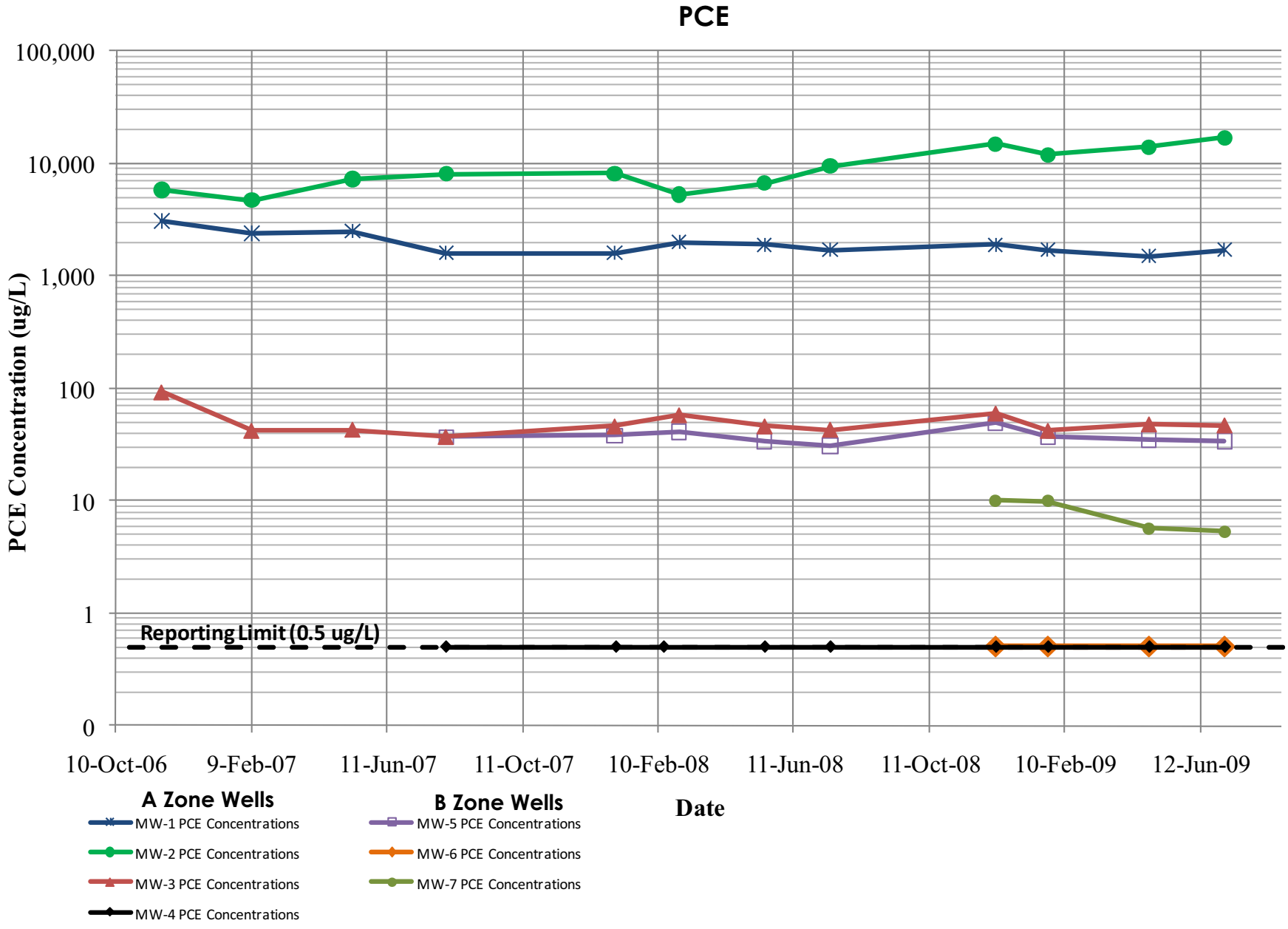
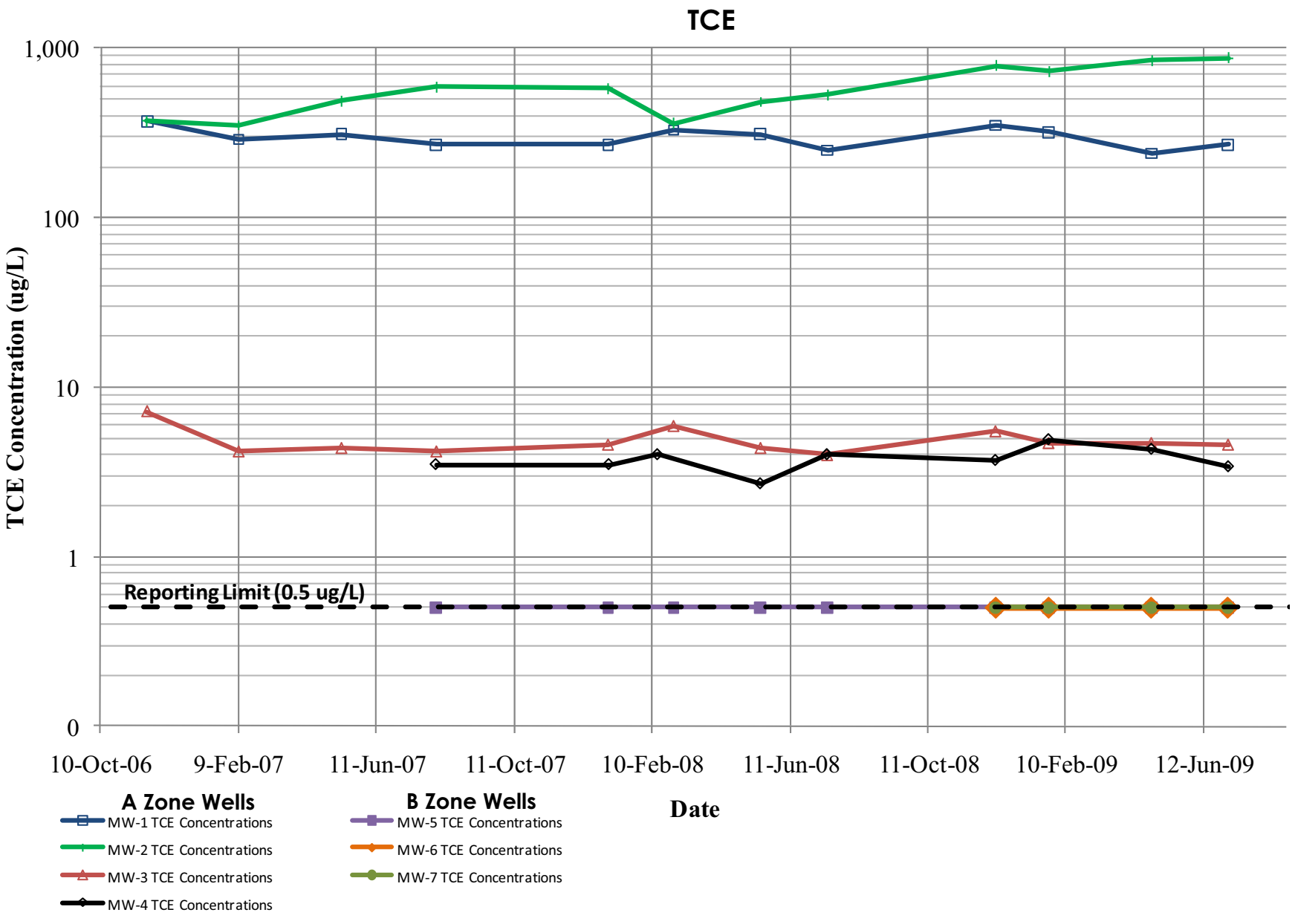


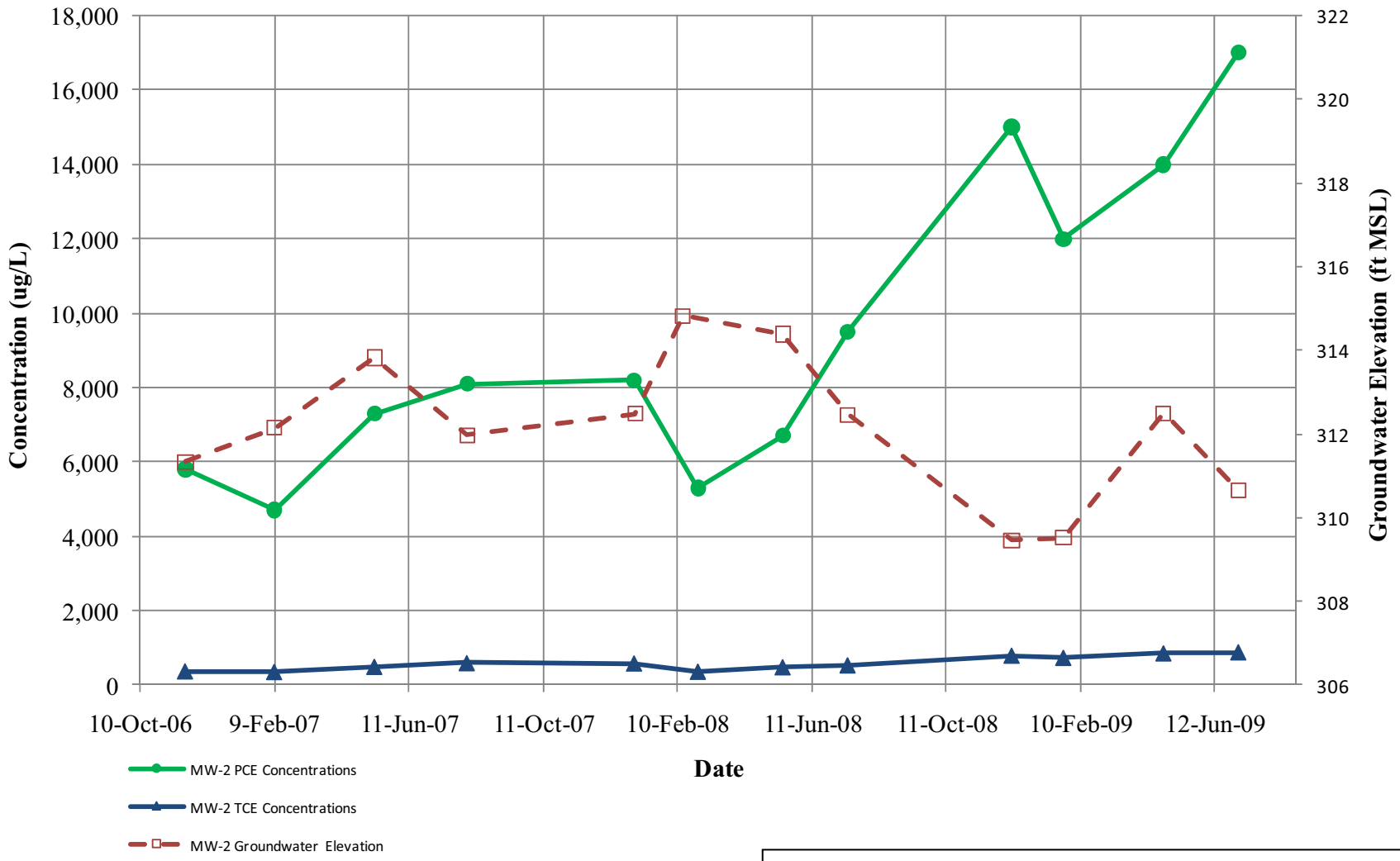


ug/L = micrograms per Liter

PCE and TCE Groundwater Concentrations Over Time

Hopyard Cleaners, Pleasanton, California

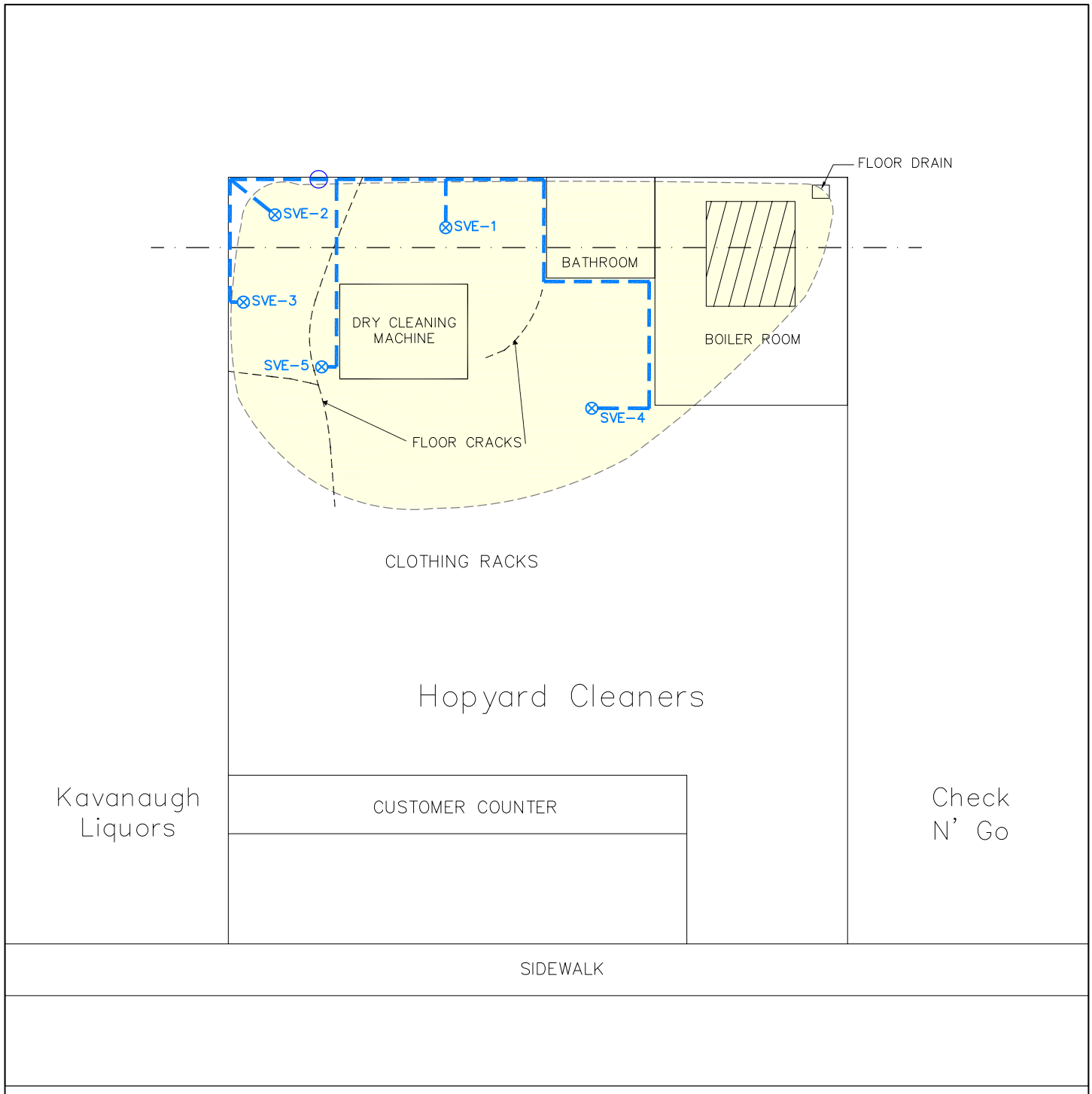
October 2009	Figure: **9**	Geosyntec consultants



ug/L = micrograms per Liter
ft MSL = feet above mean sea level

MW-2 Concentrations and Groundwater Elevations Over Time
Hopyard Cleaners, Pleasanton, California

October 2009	Figure: **10**	Geosyntec consultants



LEGEND

- SVE-1 — Soil Vapor Extraction Well
- Approximate SVE Conveyance Piping Location
- Approximate SVE Manifold Location
- Approximate Sewer Location
- Approximate Floor Crack Location
- On-Site Soil Target Remedial Area

0 4 8

APPROX. SCALE IN FEET

Figure 11

Soil Vapor Extraction Well Locations And Piping System

Project: WR0574 Date: October 2009	Hopyard Cleaners 2771 Hopyard Road Pleasanton, California	Geosyntec consultants

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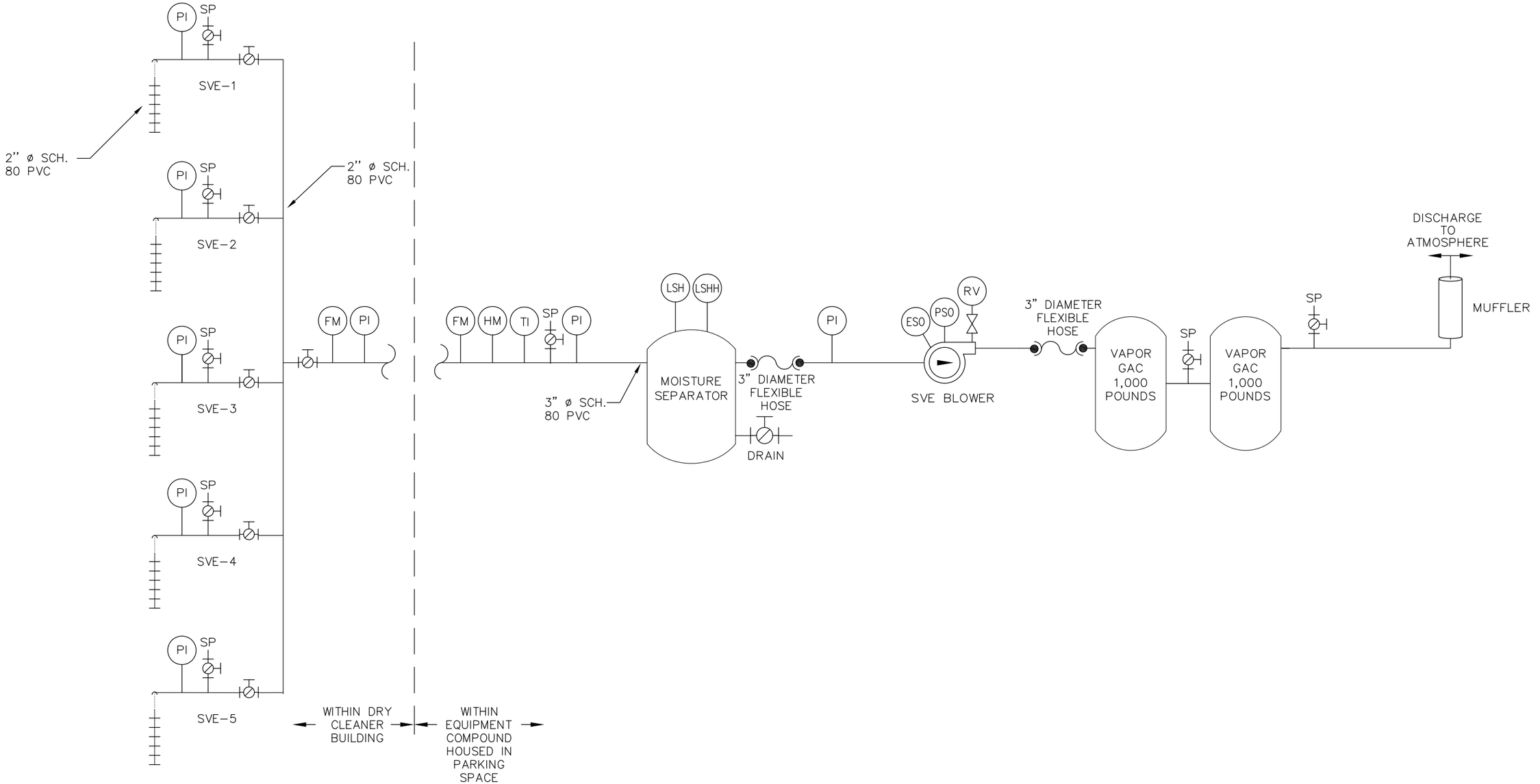

LEGEND

- ESO — Electrical Shut-Off
- FM — Flow Meter
- HM — Hour Meter
- PI — Pressure Indicator
- RV — Re-circulation Value
- TI — Temperature Indicator
- LSH — Level Switch High Alarm
- LSHH — Level Switch High High Alarm
- PSO — Pressure Switch Shut-Off
- GAC — Granular Activated Carbon
- Ball Valve
- Camlock Fitting
- SP — Sample Port
- Muffler

Notes: Not to Scale.
SVE Treatment Process was Modified on 19 February 2009.

Figure 12

Revised SVE Process and Instrumentation Diagram

Project: WR0574 Date: October 2009	Hopyard Cleaners 2771 Hopyard Road Pleasanton, California	Geosyntec consultants

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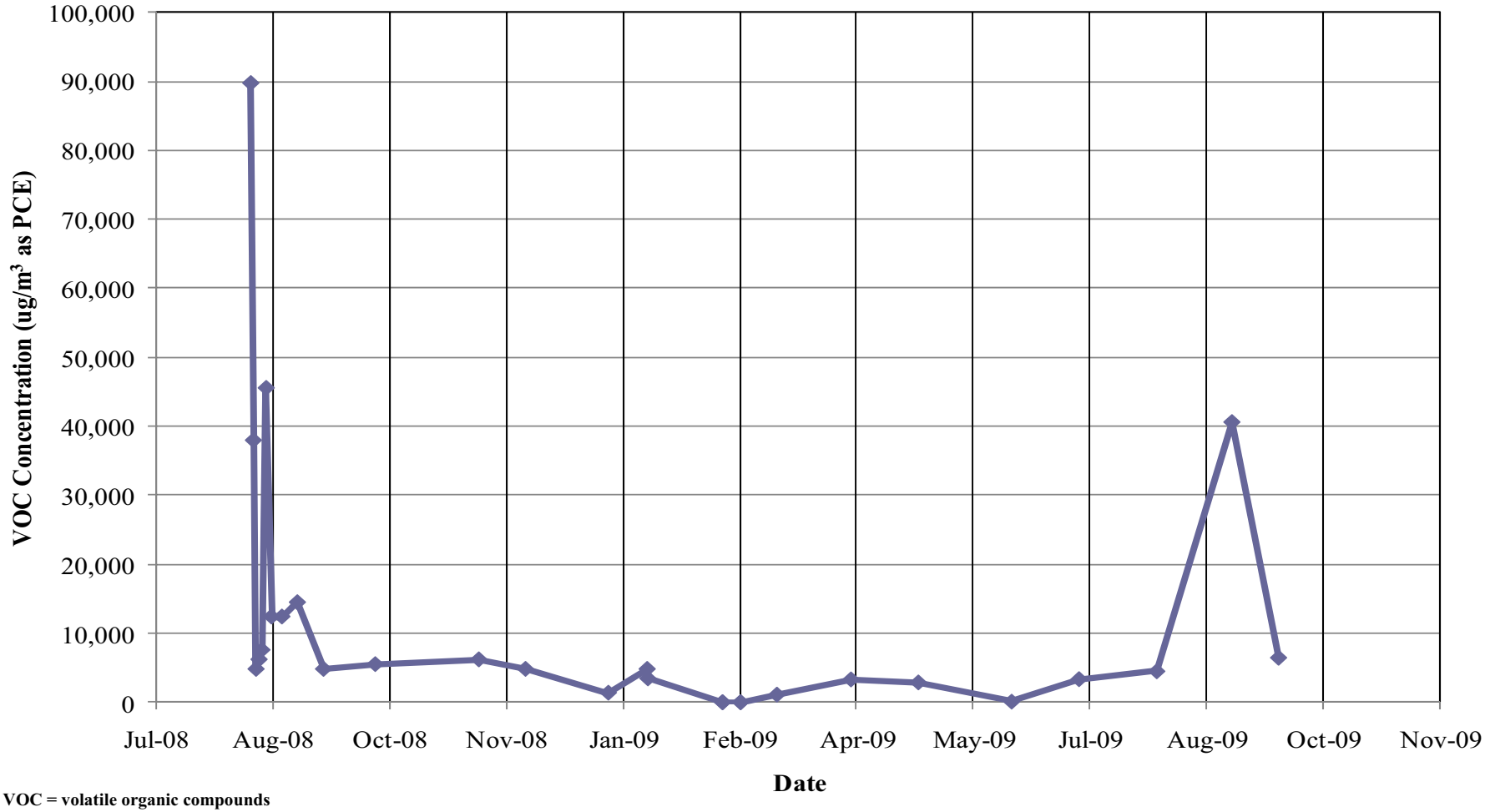
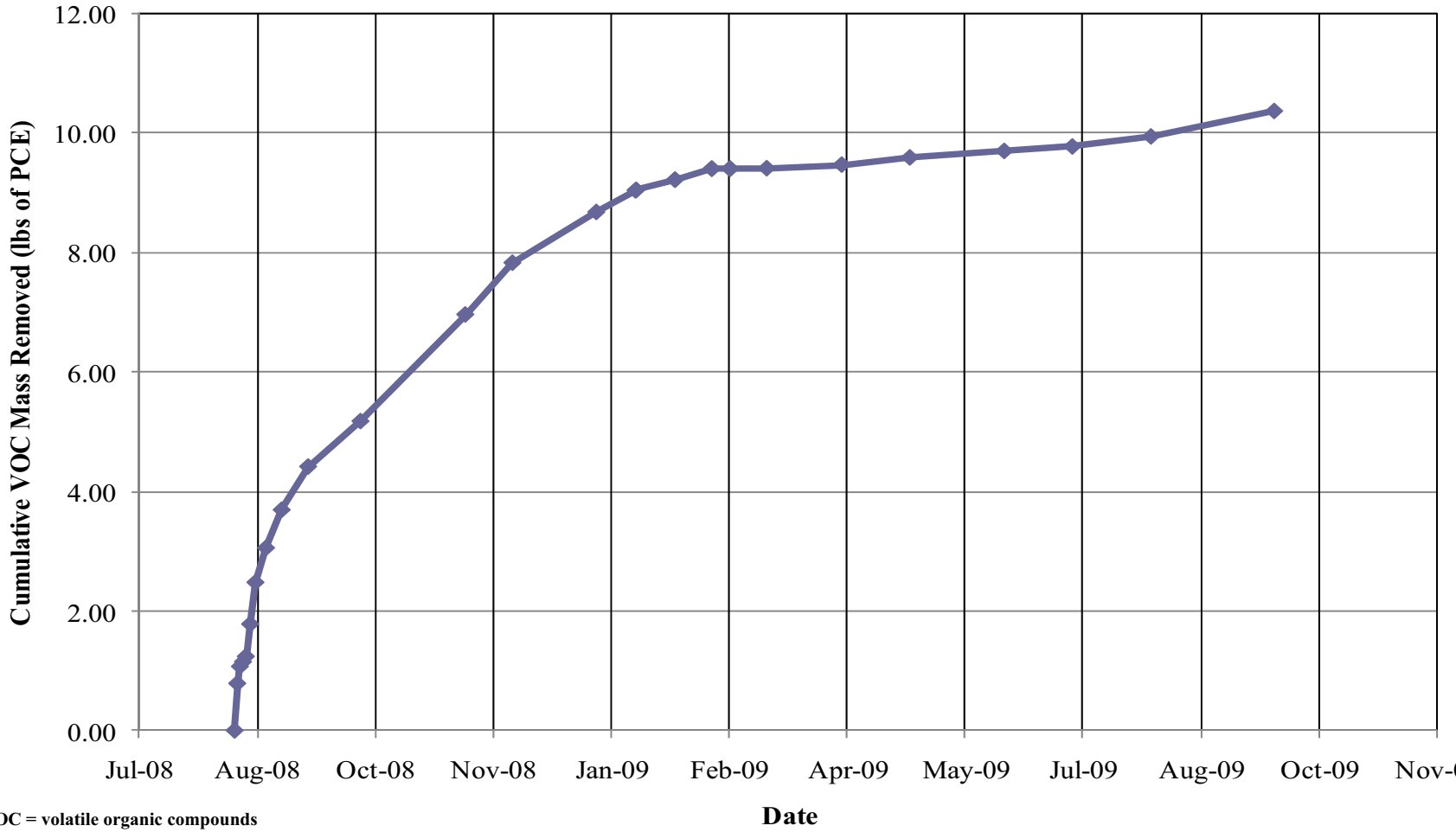


VOC = volatile organic compounds
ppmv = parts per million by volume

Notes:
-VOC concentrations plotted are field measurements from photoionization detector screening of the SVE influent.
-On 21 January, 5 February, 19 February, and 26 February 2009, SVE system monitoring was conducted twice, once before and after cycling of the SVE wells.
-Field measurements from 5 February 2009 are not plotted. These concentrations were anomalously high, indicating possible instrumentation error.
- Field measurements from 4 September 2009 are elevated due to proximity of measurement to SVE start-up.

SVE Influent Concentrations Over Time
Hopyard Cleaners, Pleasanton, California

October 2009	Figure: **13**	Geosyntec consultants

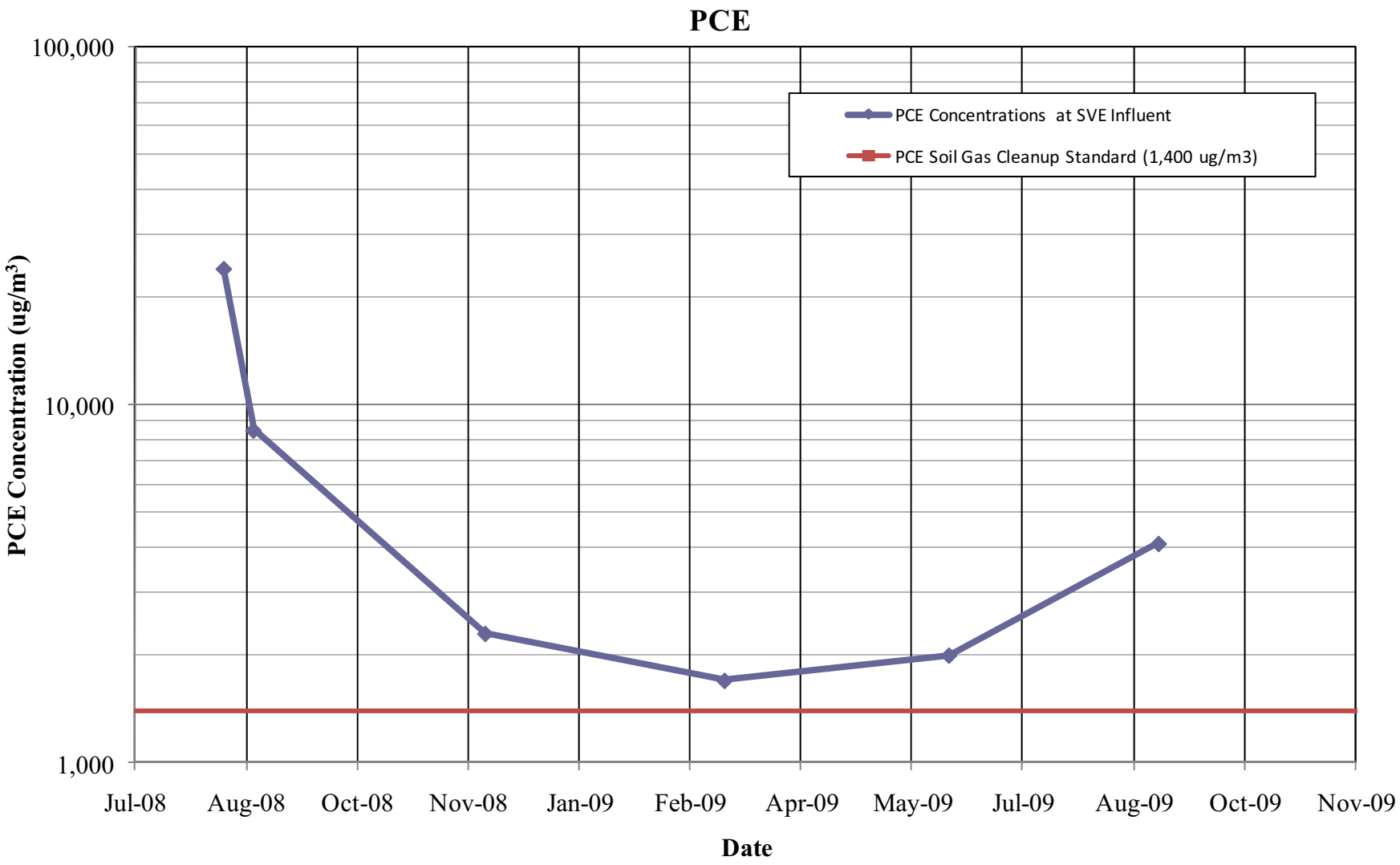


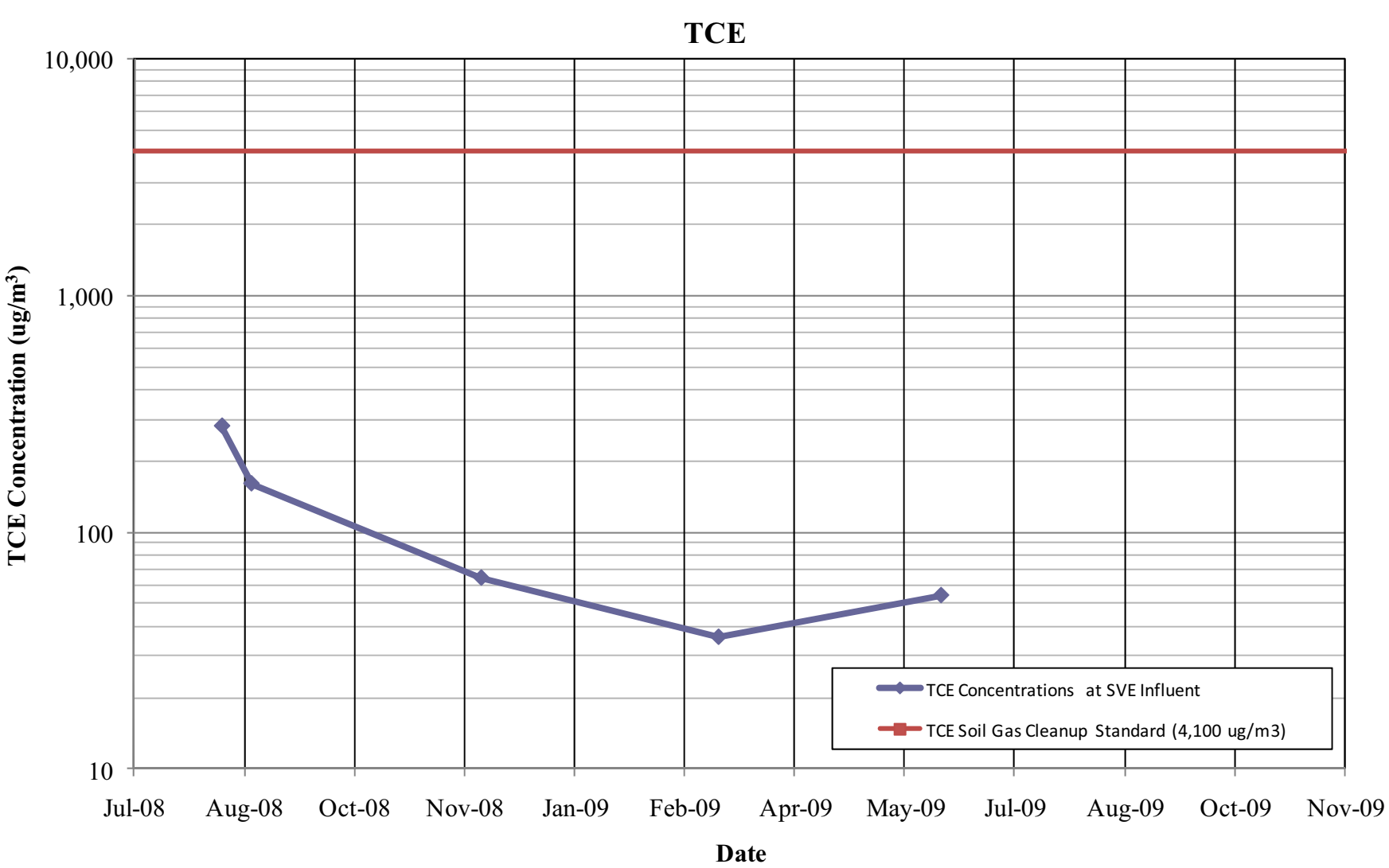
VOC = volatile organic compounds
PCE = tetrachloroethene
lbs = pounds

Notes:
-VOC concentrations plotted are field measurements from photoionization detector screening of the SVE influent.
-Field measurements from 5 February 2009 were not included in the mass removal calculations. The concentrations measured on this date were anomalously high, indicating possible instrumentation error.
-Field measurements from 4 September 2009 were not included in the mass removal calculations. Concentrations measured on this data were elevated due to proximity of measurement to SVE start-up.

SVE Cumulative Mass Removal
Hopyard Cleaners, Pleasanton, California

October 2009	Figure: **14**	Geosyntec consultants





PCE = tetrachloroethene
TCE = trichloroethene
ug/m3 = micrograms per cubic meter
Soil Gas Cleanup Standards are 1,400 and 4,100 ug/m³ for PCE and TCE, respectively, and are from the California Regional Water Quality Control Board Order No. R2-2008-0032.

SVE Influent PCE and TCE Concentrations
Hopyard Cleaners, Pleasanton, California

October 2009	Figure: **15**	Geosyntec consultants

APPENDIX A

Environmental Sampling Services Field Report

Environmental
Sampling Services, LLC

July 13, 2009

Ms. Melissa Asher
Senior Staff Engineer
Geosyntec Consultants
475-14th Street, Suite 450
Oakland, California 94612

SUBJECT: July 2009 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 July 6, 2009.

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

Sincerely,
Environmental Sampling Services, LLC

Jacqueline Lee
Manager

Enclosure

6680 Alhambra Avenue, #102 • Martinez, CA 94553-6105 • (925) 372-8108 • Fax: (925) 372-6705
www.envsampling.com

FIELD ACTIVITY REPORT
FOR

JULY 2009
QUARTERLY GROUNDWATER
MONITORING EVENT

HOPYARD CLEANERS
2771 HOPYARD ROAD
PLEASANTON, CALIFORNIA

Prepared for: Geosyntec Consultants
475-14th Street, Suite 450
Oakland, California 94612

Date Prepared: July 9, 2009

Environmental
Sampling Services, LLC

FIELD ACTIVITY REPORT
FOR

JULY 2009
QUARTERLY GROUNDWATER
MONITORING EVENT

HOPYARD CLEANERS
2771 HOPYARD ROAD
PLEASANTON, CALIFORNIA

Task: Quarterly Groundwater Sampling Event
ESS Personnel: Jacqueline Lee
Date of Activities: July 6, 2009

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 seven monitoring wells were measured and recorded following atmospheric equilibration of more than thirty minutes. All readings were performed with a Solinst® Oil/Water Interface Meter, Serial Number 9371-1, 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 were obtained from Passive Diffusion Bag Samplers (PDBS).

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.

New PDBS were installed in each well after sample collection.

6680 Alhambra Avenue, #102 • Martinez, CA 94553-6105 • (925) 372-8108 • Fax: (925) 372-6705
www.envsampling.com

Environmental Sampling Services, LLC

Laboratory

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

All monitoring wells were sampled for Volatile Organic Compounds (VOCs) by EPA Method 8260.

Investigative Derived Wastewater (IDW) was sampled for VOCs, Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C, and RCRA Metals by EPA Method 6000/7000.

Sample Containers /Sample Handling

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

The SVOC sample set was contained in two, non-preserved 1-Liter, amber glass containers.

The RCRA Metals sample was contained in a 250-ml plastic container preserved with Nitric Acid. The sample was not filtered.

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 1, 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 @ 12:10". Each VOA duplicate sample container was collected in immediate succession by alternating between each VOA primary sample container.

A total of four VOAs containers were collected from MW-2. Two of the containers were submitted as the blind duplicate.

No other QA/QC samples were requested.

Storage and Sample Collection of Investigative Derived Wastewater

Approximately 5 gallons of decontamination water and less than 0.5 gallons of excess groundwater were transferred and stored in the existing 55-gallon drum that contained less than 5 gallons of wastewater. Following transference, a grab IDW sample was collected for VOCs, SVOCs, and Total RCRA Metals and labeled as IDW-070609.

The drum was sealed closed, re-labeled and is inside the secured Treatment System compound.

Environmental
Sampling Services, LLC

Chain of Custody (COC) Form

Standard chain of custody procedures were used for documentation purposes. The COC included: sampler's name and signature, sample identification, Site Geotracker Identification, sample date and time, and analysis request section. Electronic Data Format (EDF) and standard turnaround time was requested. The IDW sample was placed on a separate COC.

Shipment of Samples

All groundwater samples remained in ESS's possession and were relinquished directly to TestAmerica July 6, 2009.

All work was performed according to the Geosyntec's directives for the July 2009 Quarterly Sampling Event Task Form for Hopyard Cleaners.

Environmental Sampling Services, LLC

Jacqueline Lee
Manager

Attachments:
Table 1: Summary of Groundwater Monitoring Event
Water Quality Sample Log Sheets
Chain of Custodies

Environmental
Sampling Services, LLC

Table 1: July 2009 Quarterly Groundwater Monitoring Event
Project Name: Hopyard Cleaners
Project Location: 2771 Hopyard Road, Pleasanton, California

Well/Sample Identification	Measurement Date	Measurement Time	Depth to Product (Ft., below TOC)	Depth to Groundwater (Ft., below TOC)	Sample Date	Sample Time	QA/QC Type	QA/QC Sample Identification
MW-1	7/6/2009	8:59	ND	15.63	7/6/2009	9:10	None	NA
MW-2	7/6/2009	9:02	ND	15.03	7/6/2009	11:48	Duplicate	MW-DUP
MW-3	7/6/2009	8:56	ND	15.98	7/6/2009	9:35	None	NA
MW-4	7/6/2009	8:47	ND	17.16	7/6/2009	10:07	None	NA
MW-5	7/6/2009	8:52	ND	34.84	7/6/2009	10:33	None	NA
MW-6	7/6/2009	8:36	ND	32.33	7/6/2009	11:26	None	NA
MW-7	7/6/2009	8:29	ND	32.41	7/6/2009	11:03	None	NA

Legend:
TOC = Top of Well Casing
All measurements obtained with Solinst® Oil/Water Interface Meter, Serial Number 9371-1

Environmental Sampling Services

WATER QUALITY SAMPLE LOG SHEET | WELL IDENTIFICATION: **MW-1** DATE: 07/06/2009

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574
Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny, clr. skies GeoTracker #: SL0600116931
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) Liqui-nox Tap Water DI Rinse Other: _____
Method of Cleaning Bailer: (NA) Liqui-nox Tap Water DI Rinse Other: _____
Sampling Method: **Passive Diffusion Bag**
YSI Muti-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522
Equipment Calibration: See Daily Equipment Calibration Sheet P.I.D. Reading: NA ppm
Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 25083 / 25742 / 21758 / 49914 (Low Ind. 937[-1
Water Level at Start (DTW): 15.63 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)
TD = 30.27' - 15.63 (DTW) = 14.64 (ft.of water) x "K" = NA (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
7/6/09	NA	Initial	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	0.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.5	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA

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: 07/06/09 @ 9:10 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: _____ Page 1 of 1

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WATER QUALITY SAMPLE LOG SHEET

WELL IDENTIFICATION: **MW-2** DATE: 07/06/2009

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574
Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny, warm GeoTracker #: SL0600116931
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) Liqui-nox Tap Water DI Rinse Other: _____
Method of Cleaning Bailer: (NA) Liqui-nox Tap Water DI Rinse Other: _____
Sampling Method: **Passive Diffusion Bag**
YSI Muti-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522
Equipment Calibration: See Daily Equipment Calibration Sheet P.I.D. Reading: NA ppm
Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 25083 / 25742 / 21758 / 49914 (Solinst 9371-1)
Water Level at Start (DTW): 15.04 @ 11:14 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)
TD = 30.31' - 15.04 (DTW) = 15.27 (ft.of water) x "K" = 2.48 (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
7/6/09	NA	Initial	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	0.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.5	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA

Total Discharge: 9 Liters Casing Volumes Removed: NA
Method of disposal of discharged water: (55 Gallon Drum(s)) Poly Tank Treatment System Other: _____
Date/Time Sampled: 7/6/09 @ 11:48 Analysis: VOCs (8260B) - 3 VOAs w/HCl 7/6/09
QA/QC: MW-DUP @ 12:10 (Duplicate) MS/MSD Equipment Rinseate Field Blank Lab Split
Comments: _____

Recorded by: Stephen Penman / (Jacqueline Lee) Signature: _____ Page 1 of 1

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WATER QUALITY SAMPLE LOG SHEET | WELL IDENTIFICATION: **MW-3** DATE: 7/6/2009

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574
Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny, clr skies GeoTracker #: SL0600116931
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) Liqui-nox Tap Water DI Rinse Other: _____
Method of Cleaning Bailer: (NA) Liqui-nox Tap Water DI Rinse Other: _____
Sampling Method: **Passive Diffusion Bag**
YSI Muti-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522
Equipment Calibration: See Daily Equipment Calibration Sheet P.I.D. Reading: NA ppm
Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 25083 / 25742 / 21758 / 49914 (ow Ind. 9371-1)
Water Level at Start (DTW): 15.97 @ 9:33 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)
TD = 30.29' - 15.97 (DTW) = 14.32 (ft.of water) x "K" = 2.33 (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
7/6/2009	NA	Initial	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	0.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.5	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA

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: 7/6/09 @ 9:35 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: _____ Page 1 of 1

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WATER QUALITY SAMPLE LOG SHEET | WELL IDENTIFICATION: **MW-4** DATE: 7/6/2009

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574
Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny, warm GeoTracker #: SL0600116931
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) Liqui-nox Tap Water DI Rinse Other: _____
Method of Cleaning Bailer: (NA) Liqui-nox Tap Water DI Rinse Other: _____
Sampling Method: **Passive Diffusion Bag**
YSI Muti-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522
Equipment Calibration: See Daily Equipment Calibration Sheet P.I.D. Reading: NA ppm
Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 25083 / 25742 / 21758 / 49914 (Solinst 9371-1)
Water Level at Start (DTW): 17.15 @ 9:59 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)
TD = 34.56' - 17.15 (DTW) = 17.41 (ft.of water) x "K" = 2.83 (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
7/6/09	NA	Initial	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	0.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.5	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA

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: 7/6/09 @ 10:07 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: _____ Page 1 of 1

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WATER QUALITY SAMPLE LOG SHEET

WELL IDENTIFICATION: **MW-5** DATE: 07/06/2009

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574
Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny, warm GeoTracker #: SL0600116931
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 "M13"
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) Liqui-nox Tap Water DI Rinse Other: _____
Method of Cleaning Bailer: (NA) Liqui-nox Tap Water DI Rinse Other: _____
Sampling Method: **Passive Diffusion Bag**
YSI Muti-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522
Equipment Calibration: See Daily Equipment Calibration Sheet P.I.D. Reading: NA ppm
Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 25083 / 25742 / 21758 / 49914 / owind 9371-1
Water Level at Start (DTW): 34.84 @ 10:27 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)
TD = 59.96' - 34.84 (DTW) = 25.12 (ft.of water) x "K" = 4.09 (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
7/6/09	NA	Initial	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	0.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.5	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA

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: 7/6/09 @ 10:33 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: _____

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WATER QUALITY SAMPLE LOG SHEET	WELL IDENTIFICATION: **MW-6** DATE: 07/06/2009

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574
Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny, warm GeoTracker #: SL0600116931
Well Description: (2") 3.5" 4" 5" 6" Other:_____ Well Type: (PVC) Stainless Steel Other: _____
Is Well Secured? (Yes) / No Bolt Size: 3/4" 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) Liqui-nox Tap Water DI Rinse Other: _____
Method of Cleaning Bailer: (NA) Liqui-nox Tap Water DI Rinse Other: _____
Sampling Method: **Passive Diffusion Bag**
YSI Muti-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522
Equipment Calibration: See Daily Equipment Calibration Sheet P.I.D. Reading: NA ppm
Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 25083 / 25742 / 21758 / 49914 (owind #9371-1)
Water Level at Start (DTW): 32.33 11:21 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)
TD = 58.56' - 32.33 (DTW) = 26.23 (ft.of water) x "K" = 4.27 (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
7/6/09	NA	Initial	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	0.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.5	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA

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: 07/06/09 @ 11:26 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: _____

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WATER QUALITY SAMPLE LOG SHEET

WELL IDENTIFICATION: **MW-7** DATE: 07/06/2009

Project Name: Hopyard Cleaners Pleasanton, CA Project Task: Quarterly Monitoring Project/Task No. WR0574
Client: Geosyntec Cons. Lab: TestAmerica Weather Conditions: Sunny, warm GeoTracker #: SL0600116931
Well Description: (2") 3.5" 4" 5" 6" Other:____ Well Type: (RVC) Stainless Steel Other: _____
Is Well Secured? (Yes) No Bolt Size: 3/4 - 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) Liqui-nox Tap Water DI Rinse Other: _____
Method of Cleaning Bailer: (NA) Liqui-nox Tap Water DI Rinse Other: _____
Sampling Method: **Passive Diffusion Bag**
YSI Muti-Parameter Meter/Probe Serial No.: 556 MPS - 05F1258AH / 600XL 319340R - 00C1522
Equipment Calibration: See Daily Equipment Calibration Sheet P.I.D. Reading: NA ppm
Method to Measure Water Level: Slope/Solinst Indicator Serial No.: 25083 / 25742 / 21758 / 49914 (OWInd 9371-1)
Water Level at Start (DTW): 32.41 10:57 (BTOC) Water Level Prior To / After Sampling: NA (BTOC)
TD = 54.96' - 32.41 (DTW) = 22.55 (ft.of water) x "K" = 3.67 (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
7/6/09	NA	Initial	NA	NA	NA	NA	NA	NA	NA	NA
	NA	0.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	2.5	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.0	NA	NA	NA	NA	NA	NA	NA	NA
	NA	3.5	NA	NA	NA	NA	NA	NA	NA	NA
↓	NA	4.0	NA	NA	NA	NA	NA	NA	NA	NA

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: 07/06/09 @ 11:03 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: _____ Page 1 of 1

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CHAIN OF CUSTODY RECORD

Page 1 of 1

TURN AROUND TIME Other:

LABORATORY: TestAmerica-Pleasanton
Lab Code:

☐ 24 Hours	☐ 48 Hours	☐ 1 Week	☑ Normal

Report To: Melissa Asher Telephone: (510) 285-2700
Company: Geosyntec Consultants Fax: (510) 836-3036
Address: 475-14th Street, Suite 450 Project Name: Hopyard Cleaner
Oakland, CA 94612 Project Number: WRO574
E-Mail: aliang@geosyntec.com & masher@geosyntec.com
Sampler(s): Jacqueline Lee ☑ Sampler's Signature:
Stephen Penman ☐ Sampler's Signature:
GeoTracker No.: SL0600116931
Reporting Requirement: Hard Copy : Yes ☑ No ☐
EDD File: Yes ☐ No ☑ Electronic (EDF) : Yes ☑ No ☐

SAMPLE ID	FIELD POINT NAME	Sample Date	Sample Time	Number of Containers	Type of Container[1]	Matrix: Groundwater	Soil	Soil Vapor	Water	Other	Preservative: Ice	HCl	HNO_3	H_2SO_4	Analysis Request: VOCs (8260B)	~~SVOCs (EPA 8270C)~~ 2 on 7/06/09	Field Filtered (FF)	Comments
Trip Blank 1	QCTB-1	07/06/09	8:00	2	1				X		X	X			X			
MW-1	MW-1	07/06/09	9:10	3	1	X					X	X			X			
MW-3	MW-3	07/06/09	9:35	3	1	X					X	X			X			
MW-4	MW-4	07/06/09	10:07	3	1	X					X	X			X			
MW-5	MW-5	07/06/09	10:33	3	1	X					X	X			X			
MW-7	MW-7	07/06/09	11:03	3	1	X					X	X			X			
MW-6	MW-6	07/06/09	11:26	3	1	X					X	X			X			
MW-2	MW-2	07/06/09	11:48	2	1	X					X	X			X			
MW-DUP	QCFD-1	07/06/09	12:10	2	1	X					X	X			X			
																		3.7

7/6/09

Relinquished By:	Date:	Time:	Received By:
	7/6/09	13:37	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

1 = Sample Container Type: 1 =VOA 2=Glass 3=Plastic 4=Summa Canister

QUESTIONS REGARDING COC, CALL ESS

Please email COC for confirmation ! masher@geosyntec.com

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☐ NA

CHAIN OF CUSTODY RECORD

Page 1 of 1

Environmental Sampling Services

6680 Alhambra Ave., #102
Martinez, California 94553-6105
Tel: (925) 372-8108 Fax: (925) 372-6705
Log Code: ESSM www.envsampling.com

TURN AROUND TIME — ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☑ Normal — Other:

LABORATORY: TestAmerica-Pleasanton
Lab Code:

Report To: Melissa Asher — Telephone: (510) 285-2700
Company: Geosyntec Consultants — Fax: (510) 836-3036
Address: 475-14th Street, Suite 450 — Project Name: Hopyard Cleaner
Oakland, CA 94612 — Project Number: WRO574
E-Mail: aliang@geosyntec.com & masher@geosyntec.com
Sampler(s): Jacqueline Lee ☑ — Sampler's Signature:
Stephen Penman ☐ — Sampler's Signature:
GeoTracker No.: SL0600116931
Reporting Requirement: Hard Copy : Yes ☑ No ☐
EDD File: Yes ☐ No ☑ — Electronic (EDF) : Yes ☑ No ☐

SAMPLE ID	FIELD POINT NAME	Sample Date	Sample Time	Number of Containers	Type of Container[1]	Matrix: Groundwater	Soil	Soil Vapor	Water	Other	Preservative: Ice	HCl	HNO_3	H_2SO_4	VOCs (8260B)	SVOCs (EPA 8270C)	RCRA Total Metals (As, Ba, Cd, Cr, Hg, Se & Ag) by EPA 200 or 6000/7000	Field Filtered (FF)	Comments
IDW-070609	IDW-070609	07/06/09	12:30	6	1,2,3	X					X	X	X		X	X	X		Could not obtain zero headspace due to water properties.

Relinquished By:	Date:	Time:	Received By:
	7/6/09	13:37	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

1 = Sample Container Type: 1 =VOA 2=Glass 3=Plastic 4=Summa Canister

QUESTIONS REGARDING COC, CALL ESS

Please email COC for confirmation t masher@geosyntec.com

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☐ NA

3.2°C

APPENDIX B

Groundwater and SVE Monitoring Laboratory Analytical Reports

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 720-21079-1

Job Description: Hopyard Cleaners

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

Attention: Ms. Melissa Asher

Approved for release.
Afsaneh Salimpour
Project Manager I
7/13/2009 4:16 PM

Afsaneh Salimpour
Project Manager I
afsaneh.salimpour@testamericainc.com
07/13/2009

cc: Ms. Angela Liang

EXECUTIVE SUMMARY - Detections

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-21079-2	**MW-1**				
cis-1,2-Dichloroethene		210	20	ug/L	8260B
Tetrachloroethene		1700	20	ug/L	8260B
Trichloroethene		270	20	ug/L	8260B
720-21079-3	**MW-3**				
cis-1,2-Dichloroethene		4.1	0.50	ug/L	8260B
Tetrachloroethene		47	0.50	ug/L	8260B
Trichloroethene		4.6	0.50	ug/L	8260B
720-21079-4	**MW-4**				
cis-1,2-Dichloroethene		3.0	0.50	ug/L	8260B
Trichloroethene		3.4	0.50	ug/L	8260B
720-21079-5	**MW-5**				
Tetrachloroethene		34	0.50	ug/L	8260B
720-21079-6	**MW-7**				
Tetrachloroethene		5.3	0.50	ug/L	8260B
720-21079-8	**MW-2**				
cis-1,2-Dichloroethene		610	100	ug/L	8260B
Tetrachloroethene		17000	100	ug/L	8260B
Trichloroethene		880	100	ug/L	8260B
720-21079-9FD	**MW-DUP**				
cis-1,2-Dichloroethene		650	100	ug/L	8260B
Tetrachloroethene		18000	100	ug/L	8260B
Trichloroethene		930	100	ug/L	8260B

METHOD SUMMARY

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
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.

METHOD / ANALYST SUMMARY

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Method	Analyst	Analyst ID
SW846 8260B	Chen, Amy	AC

SAMPLE SUMMARY

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-21079-1TB	TRIP BLANK1	Water	07/06/2009 0800	07/06/2009 1337
720-21079-2	MW-1	Water	07/06/2009 0910	07/06/2009 1337
720-21079-3	MW-3	Water	07/06/2009 0935	07/06/2009 1337
720-21079-4	MW-4	Water	07/06/2009 1007	07/06/2009 1337
720-21079-5	MW-5	Water	07/06/2009 1033	07/06/2009 1337
720-21079-6	MW-7	Water	07/06/2009 1103	07/06/2009 1337
720-21079-7	MW-6	Water	07/06/2009 1126	07/06/2009 1337
720-21079-8	MW-2	Water	07/06/2009 1148	07/06/2009 1337
720-21079-9FD	MW-DUP	Water	07/06/2009 1210	07/06/2009 1337

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: **TRIP BLANK1**

Lab Sample ID: 720-21079-1TB
Client Matrix: Water

Date Sampled: 07/06/2009 0800
Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B
Preparation: 5030B
Dilution: 1.0
Date Analyzed: 07/07/2009 1932
Date Prepared: 07/07/2009 1932

Analysis Batch: 720-53549

Instrument ID: HP8
Lab File ID: 07070917.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

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
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: **TRIP BLANK1**

Lab Sample ID: 720-21079-1TB Date Sampled: 07/06/2009 0800
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID: HP8
Preparation:	5030B		Lab File ID: 07070917.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	07/07/2009 1932		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2009 1932		

Analyte	Result (ug/L)	Qualifier	RL
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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	89		67 - 130
1,2-Dichloroethane-d4 (Surr)	95		67 - 130
Toluene-d8 (Surr)	96		70 - 130

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-1

Lab Sample ID: 720-21079-2 Date Sampled: 07/06/2009 0910
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549		Instrument ID:	HP8
Preparation:	5030B			Lab File ID:	07070918.D
Dilution:	40			Initial Weight/Volume:	10 mL
Date Analyzed:	07/07/2009 2003			Final Weight/Volume:	10 mL
Date Prepared:	07/07/2009 2003				

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	210		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
4-Methyl-2-pentanone (MIBK)	ND		2000
Naphthalene	ND		40

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-1

Lab Sample ID: 720-21079-2 Date Sampled: 07/06/2009 0910
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID:	HP8	
Preparation:	5030B		Lab File ID:	07070918.D	
Dilution:	40		Initial Weight/Volume:	10	mL
Date Analyzed:	07/07/2009 2003		Final Weight/Volume:	10	mL
Date Prepared:	07/07/2009 2003				

Analyte	Result (ug/L)	Qualifier	RL
N-Propylbenzene	ND		40
Styrene	ND		20
1,1,1,2-Tetrachloroethane	ND		20
1,1,2,2-Tetrachloroethane	ND		20
Tetrachloroethene	1700		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	270		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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	90		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		67 - 130
Toluene-d8 (Surr)	97		70 - 130

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-3

Lab Sample ID: 720-21079-3 Date Sampled: 07/06/2009 0935
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID: HP8
Preparation:	5030B		Lab File ID: 07070919.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	07/07/2009 2033		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2009 2033		

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	4.1		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
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-3

Lab Sample ID: 720-21079-3 Date Sampled: 07/06/2009 0935
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID:	HP8	
Preparation:	5030B		Lab File ID:	07070919.D	
Dilution:	1.0		Initial Weight/Volume:	10	mL
Date Analyzed:	07/07/2009 2033		Final Weight/Volume:	10	mL
Date Prepared:	07/07/2009 2033				

Analyte	Result (ug/L)	Qualifier	RL
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	47		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	4.6		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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	89		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		67 - 130
Toluene-d8 (Surr)	97		70 - 130

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-4

Lab Sample ID: 720-21079-4 Date Sampled: 07/06/2009 1007
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID: HP8
Preparation:	5030B		Lab File ID: 07070922.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	07/07/2009 2206		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2009 2206		

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	3.0		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
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-4

Lab Sample ID: 720-21079-4 Date Sampled: 07/06/2009 1007
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID: HP8
Preparation:	5030B		Lab File ID: 07070922.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	07/07/2009 2206		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2009 2206		

Analyte	Result (ug/L)	Qualifier	RL
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	3.4		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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	89		67 - 130
1,2-Dichloroethane-d4 (Surr)	101		67 - 130
Toluene-d8 (Surr)	97		70 - 130

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-5

Lab Sample ID: 720-21079-5 Date Sampled: 07/06/2009 1033
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID: HP8
Preparation:	5030B		Lab File ID: 07070923.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	07/07/2009 2237		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2009 2237		

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
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-5

Lab Sample ID: 720-21079-5 Date Sampled: 07/06/2009 1033
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 720-53549 Instrument ID: HP8
Preparation: 5030B Lab File ID: 07070923.D
Dilution: 1.0 Initial Weight/Volume: 10 mL
Date Analyzed: 07/07/2009 2237 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2009 2237

Analyte	Result (ug/L)	Qualifier	RL
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	34		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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	87		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		67 - 130
Toluene-d8 (Surr)	96		70 - 130

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-7

Lab Sample ID: 720-21079-6 Date Sampled: 07/06/2009 1103
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549		Instrument ID:	HP8
Preparation:	5030B			Lab File ID:	07070924.D
Dilution:	1.0			Initial Weight/Volume:	10 mL
Date Analyzed:	07/07/2009 2308			Final Weight/Volume:	10 mL
Date Prepared:	07/07/2009 2308				

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
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-7

Lab Sample ID: 720-21079-6 Date Sampled: 07/06/2009 1103
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 720-53549 Instrument ID: HP8
Preparation: 5030B Lab File ID: 07070924.D
Dilution: 1.0 Initial Weight/Volume: 10 mL
Date Analyzed: 07/07/2009 2308 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2009 2308

Analyte	Result (ug/L)	Qualifier	RL
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	5.3		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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	87		67 - 130
1,2-Dichloroethane-d4 (Surr)	101		67 - 130
Toluene-d8 (Surr)	96		70 - 130

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-6

Lab Sample ID: 720-21079-7 Date Sampled: 07/06/2009 1126
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID: HP8
Preparation:	5030B		Lab File ID: 07070925.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	07/07/2009 2339		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2009 2339		

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
4-Methyl-2-pentanone (MIBK)	ND		50
Naphthalene	ND		1.0

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-6

Lab Sample ID: 720-21079-7 Date Sampled: 07/06/2009 1126
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 720-53549 Instrument ID: HP8
Preparation: 5030B Lab File ID: 07070925.D
Dilution: 1.0 Initial Weight/Volume: 10 mL
Date Analyzed: 07/07/2009 2339 Final Weight/Volume: 10 mL
Date Prepared: 07/07/2009 2339

Analyte	Result (ug/L)	Qualifier	RL
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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	86		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		67 - 130
Toluene-d8 (Surr)	95		70 - 130

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-2

Lab Sample ID: 720-21079-8 Date Sampled: 07/06/2009 1148
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549		Instrument ID:	HP8
Preparation:	5030B			Lab File ID:	07070926.D
Dilution:	200			Initial Weight/Volume:	10 mL
Date Analyzed:	07/08/2009 0010			Final Weight/Volume:	10 mL
Date Prepared:	07/08/2009 0010				

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	610		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
4-Methyl-2-pentanone (MIBK)	ND		10000
Naphthalene	ND		200

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-2

Lab Sample ID: 720-21079-8 Date Sampled: 07/06/2009 1148
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549	Instrument ID: HP8
Preparation:	5030B		Lab File ID: 07070926.D
Dilution:	200		Initial Weight/Volume: 10 mL
Date Analyzed:	07/08/2009 0010		Final Weight/Volume: 10 mL
Date Prepared:	07/08/2009 0010		

Analyte	Result (ug/L)	Qualifier	RL
N-Propylbenzene	ND		200
Styrene	ND		100
1,1,1,2-Tetrachloroethane	ND		100
1,1,2,2-Tetrachloroethane	ND		100
Tetrachloroethene	17000		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	880		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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	86		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		67 - 130
Toluene-d8 (Surr)	95		70 - 130

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-DUP

Lab Sample ID: 720-21079-9FD Date Sampled: 07/06/2009 1210
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method:	8260B	Analysis Batch: 720-53549		Instrument ID:	HP8
Preparation:	5030B			Lab File ID:	07070927.D
Dilution:	200			Initial Weight/Volume:	10 mL
Date Analyzed:	07/08/2009 0041			Final Weight/Volume:	10 mL
Date Prepared:	07/08/2009 0041				

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	650		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
4-Methyl-2-pentanone (MIBK)	ND		10000
Naphthalene	ND		200

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Client Sample ID: MW-DUP

Lab Sample ID: 720-21079-9FD Date Sampled: 07/06/2009 1210
Client Matrix: Water Date Received: 07/06/2009 1337

8260B Volatile Organic Compounds (GC/MS)

Method: 8260B Analysis Batch: 720-53549 Instrument ID: HP8
Preparation: 5030B Lab File ID: 07070927.D
Dilution: 200 Initial Weight/Volume: 10 mL
Date Analyzed: 07/08/2009 0041 Final Weight/Volume: 10 mL
Date Prepared: 07/08/2009 0041

Analyte	Result (ug/L)	Qualifier	RL
N-Propylbenzene	ND		200
Styrene	ND		100
1,1,1,2-Tetrachloroethane	ND		100
1,1,2,2-Tetrachloroethane	ND		100
Tetrachloroethene	18000		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	930		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	Qualifier	Acceptance Limits
4-Bromofluorobenzene	85		67 - 130
1,2-Dichloroethane-d4 (Surr)	100		67 - 130
Toluene-d8 (Surr)	95		70 - 130

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:720-53549					
LCS 720-53549/4	Lab Control Sample	T	Water	8260B	
LCSD 720-53549/5	Lab Control Sample Duplicate	T	Water	8260B	
MB 720-53549/6	Method Blank	T	Water	8260B	
720-21079-1TB	TRIP BLANK1	T	Water	8260B	
720-21079-2	MW-1	T	Water	8260B	
720-21079-3	MW-3	T	Water	8260B	
720-21079-3MS	Matrix Spike	T	Water	8260B	
720-21079-3MSD	Matrix Spike Duplicate	T	Water	8260B	
720-21079-4	MW-4	T	Water	8260B	
720-21079-5	MW-5	T	Water	8260B	
720-21079-6	MW-7	T	Water	8260B	
720-21079-7	MW-6	T	Water	8260B	
720-21079-8	MW-2	T	Water	8260B	
720-21079-9FD	MW-DUP	T	Water	8260B	

Report Basis
T = Total

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Method Blank - Batch: 720-53549

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-53549/6
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/07/2009 1759
Date Prepared: 07/07/2009 1759

Analysis Batch: 720-53549
Prep Batch: N/A
Units: ug/L

Instrument ID: Chemstation 3.0
Lab File ID: 07070914.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 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.

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Method Blank - Batch: 720-53549

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 720-53549/6
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/07/2009 1759
Date Prepared: 07/07/2009 1759

Analysis Batch: 720-53549
Prep Batch: N/A
Units: ug/L

Instrument ID: Chemstation 3.0
Lab File ID: 07070914.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 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	87	67 - 130
1,2-Dichloroethane-d4 (Surr)	95	67 - 130
Toluene-d8 (Surr)	95	70 - 130

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

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-53549

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID: LCS 720-53549/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/07/2009 1657
Date Prepared: 07/07/2009 1657

Analysis Batch: 720-53549
Prep Batch: N/A
Units: ug/L

Instrument ID: Chemstation 3.0
Lab File ID: 07070912.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 720-53549/5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 07/07/2009 1728
Date Prepared: 07/07/2009 1728

Analysis Batch: 720-53549
Prep Batch: N/A
Units: ug/L

Instrument ID: Chemstation 3.0
Lab File ID: 07070913.D
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	101	102	80 - 130	0	20		
Chlorobenzene	104	104	80 - 122	0	20		
1,1-Dichloroethene	110	112	76 - 128	2	20		
Toluene	101	102	80 - 126	1	20		
Trichloroethene	109	109	72 - 138	1	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	101	101	67 - 130
1,2-Dichloroethane-d4 (Surr)	98	98	67 - 130
Toluene-d8 (Surr)	102	101	70 - 130

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

Client: Geosyntec Consultants, Inc. Job Number: 720-21079-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-53549

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	720-21079-3	Analysis Batch: 720-53549	Instrument ID: Chemstation 3.0
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: 07070920.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	07/07/2009 2104		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2009 2104		

MSD Lab Sample ID:	720-21079-3	Analysis Batch: 720-53549	Instrument ID: Chemstation 3.0
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: 07070921.D
Dilution:	1.0		Initial Weight/Volume: 10 mL
Date Analyzed:	07/07/2009 2135		Final Weight/Volume: 10 mL
Date Prepared:	07/07/2009 2135		

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	100	101	60 - 140	1	20		
Chlorobenzene	104	103	60 - 140	0	20		
1,1-Dichloroethene	107	108	60 - 140	1	20		
Toluene	99	100	60 - 140	1	20		
Trichloroethene	107	108	60 - 140	0	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
4-Bromofluorobenzene	103	100	67 - 130
1,2-Dichloroethane-d4 (Surr)	102	101	67 - 130
Toluene-d8 (Surr)	100	100	70 - 130

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

720-21079

117546

07/13/2009

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Environmental Sampling Services

6680 Alhambra Ave., #102
Martinez, California 94553-6105
Tel: (925) 372-8108 Fax: (925) 372-6705
Log Code: ESSM www.envsampling.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

TURN AROUND TIME Other:

LABORATORY: TestAmerica-Pleasanton
Lab Code:

☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☑ Normal

Report To: Melissa Asher Telephone: (510) 285-2700
Company: Geosyntec Consultants Fax: (510) 836-3036
Address: 475-14th Street, Suite 450 Project Name: Hopyard Cleaner
Oakland, CA 94612 Project Number: WRO574
E-Mail: aliang@geosyntec.com & masher@geosyntec.com
Sampler(s): Jacqueline Lee ☑ Sampler's Signature:
Stephen Penman ☐ Sampler's Signature:
GeoTracker No.: SL0600116931
Reporting Requirement: Hard Copy: Yes ☑ No ☐
EDD File: Yes ☐ No ☑ Electronic (EDF): Yes ☑ No ☐

	SAMPLE ID	FIELD POINT NAME	Sample Date	Sample Time	Number of Containers	Type of Container[1]	Matrix: Groundwater	Soil	Soil Vapor	Water	Other	Preservative: Ice	HCl	HNO_3	H_2SO_4	Analysis Request: VOCs (8260B)	SVOCs (EPA 8270C) per 7/06/09	Field Filtered (FF)	Comments
1.	Trip Blank 1	QCTB-1	07/06/09	8:00	2	1				X		X	X			X			
2.	MW-1	MW-1	07/06/09	9:10	3	1	X					X	X			X			
3.	MW-3	MW-3	07/06/09	9:35	3	1	X					X	X			X			
4	MW-4	MW-4	07/06/09	10:07	3	1	X					X	X			X			
5	MW-5	MW-5	07/06/09	10:33	3	1	X					X	X			X			
6	MW-7	MW-7	07/06/09	11:03	3	1	X					X	X			X			
7	MW-6	MW-6	07/06/09	11:26	3	1	X					X	X			X			
8	MW-2	MW-2	07/06/09	11:48	2	1	X					X	X			X			
9	MW-DUP	QCFD-1	07/06/09	12:10	2	1	X					X	X			X			
																			3.2°

Relinquished By:	Date:	Time:	Received By:
	7/6/09	13:37	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

1 = Sample Container Type: 1 =VOA 2=Glass 3=Plastic 4=Summa Canister

QUESTIONS REGARDING COC, CALL ESS

Please email COC for confirmation to masher@geosyntec.com

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☐ NA

Login Sample Receipt Check List

Client: Geosyntec Consultants, Inc.

Job Number: 720-21079-1

Login Number: 21079
List Source: TestAmerica San Francisco
Creator: Mullen, Joan
List Number: 1

Question	T / F/ NA	Comment
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	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

Air Toxics LTD.
Laboratory Services Since 1989

9/17/2009
Ms. Angela Liang
GeoSyntec Consultants
475 14th Street
Suite 400
Oakland CA 94612

Project Name: Hopyard
Project #: WR0574
Workorder #: 0909163

Dear Ms. Angela Liang

The following report includes the data for the above referenced project for sample(s) received on 9/5/2009 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 your 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,

Kyle Vagadori
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 0909163

Work Order Summary

CLIENT:	Ms. Angela Liang GeoSyntec Consultants 475 14th Street Suite 400 Oakland, CA 94612	**BILL TO:**	Ms. Angela Liang GeoSyntec Consultants 475 14th Street Suite 400 Oakland, CA 94612
PHONE:	510-836-3034	**P.O. #**	WR0574
FAX:	510-836-3036	**PROJECT #**	WR0574 Hopyard
DATE RECEIVED:	09/05/2009	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	09/17/2009		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SVE-Influent	Modified TO-15	3.5 "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: Linda D. Truman DATE: 09/17/09

Laboratory Director

Certfication 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: 07/01/09, Expiration date: 06/30/10
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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# 0909163

One 1 Liter Summa Canister sample was received on September 05, 2009. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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.

Requirement	*TO-15*	*ATL Modifications*
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

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

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

Air Toxics LTD.
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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE-Influent

Lab ID#: 0909163-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.3	2.5	11	12
Acetone	9.2	27	22	65
2-Butanone (Methyl Ethyl Ketone)	2.3	6.5	6.8	19
Trichloroethene	2.3	17	12	89
Tetrachloroethene	2.3	600	16	4100

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SVE-Influent

Lab ID#: 0909163-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**t091510**	**Date of Collection: 9/4/09 9:23:00 AM**	
Dil. Factor:	**4.58**	**Date of Analysis: 9/15/09 01:42 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.3	2.5	11	12
Freon 114	2.3	Not Detected	16	Not Detected
Chloromethane	9.2	Not Detected	19	Not Detected
Vinyl Chloride	2.3	Not Detected	5.8	Not Detected
1,3-Butadiene	2.3	Not Detected	5.1	Not Detected
Bromomethane	2.3	Not Detected	8.9	Not Detected
Chloroethane	2.3	Not Detected	6.0	Not Detected
Freon 11	2.3	Not Detected	13	Not Detected
Ethanol	9.2	Not Detected	17	Not Detected
Freon 113	2.3	Not Detected	18	Not Detected
1,1-Dichloroethene	2.3	Not Detected	9.1	Not Detected
Acetone	9.2	27	22	65
2-Propanol	9.2	Not Detected	22	Not Detected
Carbon Disulfide	2.3	Not Detected	7.1	Not Detected
3-Chloropropene	9.2	Not Detected	29	Not Detected
Methylene Chloride	2.3	Not Detected	8.0	Not Detected
Methyl tert-butyl ether	2.3	Not Detected	8.2	Not Detected
trans-1,2-Dichloroethene	2.3	Not Detected	9.1	Not Detected
Hexane	2.3	Not Detected	8.1	Not Detected
1,1-Dichloroethane	2.3	Not Detected	9.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.3	6.5	6.8	19
cis-1,2-Dichloroethene	2.3	Not Detected	9.1	Not Detected
Tetrahydrofuran	2.3	Not Detected	6.8	Not Detected
Chloroform	2.3	Not Detected	11	Not Detected
1,1,1-Trichloroethane	2.3	Not Detected	12	Not Detected
Cyclohexane	2.3	Not Detected	7.9	Not Detected
Carbon Tetrachloride	2.3	Not Detected	14	Not Detected
2,2,4-Trimethylpentane	2.3	Not Detected	11	Not Detected
Benzene	2.3	Not Detected	7.3	Not Detected
1,2-Dichloroethane	2.3	Not Detected	9.3	Not Detected
Heptane	2.3	Not Detected	9.4	Not Detected
Trichloroethene	2.3	17	12	89
1,2-Dichloropropane	2.3	Not Detected	10	Not Detected
1,4-Dioxane	9.2	Not Detected	33	Not Detected
Bromodichloromethane	2.3	Not Detected	15	Not Detected
cis-1,3-Dichloropropene	2.3	Not Detected	10	Not Detected
4-Methyl-2-pentanone	2.3	Not Detected	9.4	Not Detected
Toluene	2.3	Not Detected	8.6	Not Detected
trans-1,3-Dichloropropene	2.3	Not Detected	10	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SVE-Influent

Lab ID#: 0909163-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**t091510**	**Date of Collection: 9/4/09 9:23:00 AM**	
Dil. Factor:	**4.58**	**Date of Analysis: 9/15/09 01:42 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,2-Trichloroethane	2.3	Not Detected	12	Not Detected
Tetrachloroethene	2.3	600	16	4100
2-Hexanone	9.2	Not Detected	38	Not Detected
Dibromochloromethane	2.3	Not Detected	20	Not Detected
1,2-Dibromoethane (EDB)	2.3	Not Detected	18	Not Detected
Chlorobenzene	2.3	Not Detected	10	Not Detected
Ethyl Benzene	2.3	Not Detected	9.9	Not Detected
m,p-Xylene	2.3	Not Detected	9.9	Not Detected
o-Xylene	2.3	Not Detected	9.9	Not Detected
Styrene	2.3	Not Detected	9.8	Not Detected
Bromoform	2.3	Not Detected	24	Not Detected
Cumene	2.3	Not Detected	11	Not Detected
1,1,2,2-Tetrachloroethane	2.3	Not Detected	16	Not Detected
Propylbenzene	2.3	Not Detected	11	Not Detected
4-Ethyltoluene	2.3	Not Detected	11	Not Detected
1,3,5-Trimethylbenzene	2.3	Not Detected	11	Not Detected
1,2,4-Trimethylbenzene	2.3	Not Detected	11	Not Detected
1,3-Dichlorobenzene	2.3	Not Detected	14	Not Detected
1,4-Dichlorobenzene	2.3	Not Detected	14	Not Detected
alpha-Chlorotoluene	2.3	Not Detected	12	Not Detected
1,2-Dichlorobenzene	2.3	Not Detected	14	Not Detected
1,2,4-Trichlorobenzene	9.2	Not Detected	68	Not Detected
Hexachlorobutadiene	9.2	Not Detected	98	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	92	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 0909163-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**t091506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/09 10:55 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

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 0909163-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**t091506**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/09 10:55 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	104	70-130
1,2-Dichloroethane-d4	118	70-130
4-Bromofluorobenzene	92	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 0909163-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**t091503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/09 08:46 AM**	

Compound	%Recovery
Freon 12	114
Freon 114	100
Chloromethane	117
Vinyl Chloride	114
1,3-Butadiene	107
Bromomethane	90
Chloroethane	104
Freon 11	107
Ethanol	116
Freon 113	100
1,1-Dichloroethene	114
Acetone	114
2-Propanol	118
Carbon Disulfide	111
3-Chloropropene	110
Methylene Chloride	107
Methyl tert-butyl ether	113
trans-1,2-Dichloroethene	115
Hexane	119
1,1-Dichloroethane	130
2-Butanone (Methyl Ethyl Ketone)	130
cis-1,2-Dichloroethene	118
Tetrahydrofuran	125
Chloroform	116
1,1,1-Trichloroethane	123
Cyclohexane	119
Carbon Tetrachloride	119
2,2,4-Trimethylpentane	126
Benzene	128
1,2-Dichloroethane	127
Heptane	128
Trichloroethene	109
1,2-Dichloropropane	122
1,4-Dioxane	109
Bromodichloromethane	123
cis-1,3-Dichloropropene	116
4-Methyl-2-pentanone	132 Q
Toluene	119
trans-1,3-Dichloropropene	119

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 0909163-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**t091503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/09 08:46 AM**	

Compound	%Recovery
1,1,2-Trichloroethane	109
Tetrachloroethene	102
2-Hexanone	118
Dibromochloromethane	116
1,2-Dibromoethane (EDB)	113
Chlorobenzene	108
Ethyl Benzene	112
m,p-Xylene	115
o-Xylene	118
Styrene	117
Bromoform	123
Cumene	111
1,1,2,2-Tetrachloroethane	121
Propylbenzene	120
4-Ethyltoluene	118
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	108
1,4-Dichlorobenzene	110
alpha-Chlorotoluene	122
1,2-Dichlorobenzene	107
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	88

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	124	70-130
4-Bromofluorobenzene	97	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 0909163-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**t091505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/09 10:07 AM**	

Compound	%Recovery
Freon 12	107
Freon 114	103
Chloromethane	109
Vinyl Chloride	108
1,3-Butadiene	101
Bromomethane	90
Chloroethane	97
Freon 11	105
Ethanol	80
Freon 113	112
1,1-Dichloroethene	126
Acetone	111
2-Propanol	117
Carbon Disulfide	111
3-Chloropropene	106
Methylene Chloride	116
Methyl tert-butyl ether	111
trans-1,2-Dichloroethene	112
Hexane	115
1,1-Dichloroethane	131 Q
2-Butanone (Methyl Ethyl Ketone)	130
cis-1,2-Dichloroethene	118
Tetrahydrofuran	117
Chloroform	116
1,1,1-Trichloroethane	123
Cyclohexane	116
Carbon Tetrachloride	119
2,2,4-Trimethylpentane	121
Benzene	127
1,2-Dichloroethane	128
Heptane	126
Trichloroethene	108
1,2-Dichloropropane	118
1,4-Dioxane	106
Bromodichloromethane	124
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	128
Toluene	121
trans-1,3-Dichloropropene	119

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 0909163-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**t091505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/15/09 10:07 AM**	

Compound	%Recovery
1,1,2-Trichloroethane	110
Tetrachloroethene	105
2-Hexanone	114
Dibromochloromethane	116
1,2-Dibromoethane (EDB)	110
Chlorobenzene	106
Ethyl Benzene	108
m,p-Xylene	110
o-Xylene	115
Styrene	114
Bromoform	122
Cumene	111
1,1,2,2-Tetrachloroethane	115
Propylbenzene	119
4-Ethyltoluene	113
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	99
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	115
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	61 Q
Hexachlorobutadiene	57 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	121	70-130
4-Bromofluorobenzene	96	70-130

Air Toxics LTD.
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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

Project Manager Angela Liang
Collected by: (Print and Sign) J. Ian Van Tran
Company Geosyntec Consultants Email alia@geosyntec.com; mashton@geosyntec.com
Address 475 14th St. Suite 400 City Oakland State CA Zip 94612
Phone 510-285-2700 Fax 510-836-3036

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

Turn Around Time:
[X] Normal
[ ] Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 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 (psi)
01A	SVE-Influent	1366	9/4/09	9:23	TO-15	-23	-5		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Sept 4, 2009 10:55	9/5/09 1025
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fedex		NA	good	Yes No (None)	0909163

Form 1293 rev.11