Chevron

Global Gas

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January 30, 2009

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Dear Mr. Wickham:

I declare, under penalty of perjury, that the information and/or recommendations contained in URS' report titled "**SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA – Fourth Quarter 2008 Groundwater Monitoring Report**" are true and correct to the best of my knowledge at the present time.

Submitted by:

Jeffrey Cosgray

REPORT

FOURTH QUARTER 2008 GROUNDWATER MONITORING REPORT

SLIC CASE #RO0002892
CHEVRON PIPELINE COMPANY
SUNOL SPILL
2793 CALAVERAS RD.
SUNOL, CA

Prepared for
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

January 2009

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Oakland, CA 94612

26815217

URS

January 30, 2009

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Subject: SLIC Case No. RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Rd, Sunol, CA, Fourth Quarter 2008 Groundwater Monitoring Report

Dear Mr. Wickham:

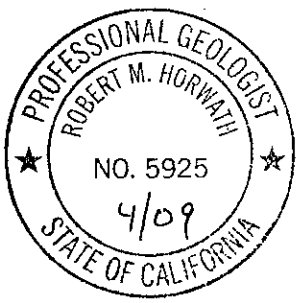
A December 30, 2005 letter provided by the Alameda County Environmental Health staff (ACEH) requested the initiation of a Quarterly Groundwater Monitoring Program. In response to this request, URS, on behalf of Chevron Pipe Line Company (CPL), has prepared this groundwater monitoring report for the CPL Sunol site (Site) for the fourth quarter of 2008.

Section 1 of this report discusses the groundwater monitoring program and details measured groundwater levels. Section 2 discusses field activities and groundwater sampling methodologies. Section 3 presents the analytical results. Section 4 provides the findings and Section 5 presents the recommendations for the groundwater monitoring program. Section 6 describes the limitations applicable to this report.

If you have any questions on this report, please call Mr. Joe Morgan of URS at 510-874-3201.

Sincerely yours,

URS Corporation



Robert Horwath, P.G.
Senior Geologist

Joe Morgan III
Senior Project Manager

cc: Mr. Jeff Cosgray, Chevron Pipeline Company
Ms. Rachel Naccarati, URS Oakland
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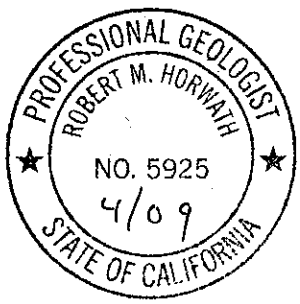
This letter report ("**Fourth Quarter 2008 Groundwater Monitoring Report**") was prepared under my direct supervision. The information presented in this report is based on our review of available data obtained during our quarterly sampling activities and our previous subsurface investigation efforts. To the best of our knowledge, we have incorporated into our recommendations all relevant data pertaining to the Chevron Pipeline Release site in Sunol, California.

The fourth quarter 2008 groundwater monitoring report discussed herein was developed in accordance with the standard of care used to develop this type of report. The assumptions that were made and the recommendations for continued field activities were based on our professional experience and protocols reported in the literature for similar investigations.



URS Corporation
Approved by:

Joe Morgan III

Robert Horwath, P.G.

On December 15 and 16, 2008, URS conducted field activities to assess the groundwater conditions at the Site. A Site vicinity map is included as Figure 1. URS measured the fluid levels and attempted to collect analytical samples from groundwater monitoring wells MW-8 through MW-11. URS made the decision not to sample monitoring well MW-1 during fourth quarter 2008 field activities because water levels were less than 0.75 ft above the bedrock and were judged to be stagnant. URS made the decision not to sample monitoring wells MW-2 through MW-4 during fourth quarter 2008 field activities because water levels were below the bedrock and were judged to be stagnant. URS collected a surface water sample for analysis from the very small stream, located northwest of the release location, at the Site. The monitoring wells and surface water sampling location are provided on Figure 2. Monitoring wells MW-5 through MW-7 were destroyed on June 23, 2008 after the tree removal was completed during the week of June 18, 2008.

1.1 SITE HYDROGEOLOGY

Prior to collecting groundwater samples, the water levels were measured at MW-1 through MW-4 and MW-8 through MW-11 from the top of casing using an electronic oil/water interface probe. Free product was measured in MW-1 with a thickness of 0.01 feet. A slight sheen was observed during purging activities at MW-9. Product was not measured in the other seven wells during the quarterly monitoring activities. The measured groundwater levels are displayed in Table 1 and the calculated groundwater and product elevations are displayed in Table 2.

Unconfined Water Bearing Zone

Due to seasonal precipitation, the groundwater level within the unconfined water-bearing zone wells MW-2 through MW-4 has generally increased slightly since the last groundwater monitoring event in September 2008. However, the water table was depressed so that MW-2, MW-3, and MW-4 were hydraulically disconnected from the unconfined water-bearing zone. The standing water levels in MW-2, MW-3, and MW-4 were 290.56, 290.86, and 290.64 feet above average mean sea level (msl), respectively.

The groundwater elevations for the remaining unconfined water-bearing zone wells (MW-1 and MW-9 through MW-11), were 290.51, 290.07, 289.98 and 290.53 feet above msl, respectively. The groundwater elevation for MW-8, which screens an apparent hillside groundwater recharge source for the Valley Crest Tree Company's (nursery) unconfined water-bearing zone, was 313.20 feet above msl. MW-1 was also judged to be disconnected from the unconfined water-bearing zone due to less than 0.75 ft of water above the bedrock.

Based on data from MW-9 through MW-11, the local groundwater flow direction within the nursery's unconfined water-bearing zone is in a northeasterly direction with a calculated hydraulic gradient of 0.0069 feet/feet. The groundwater recharge from the hillside appears to flow into the unconfined nursery water-bearing zone in a northwesterly direction with a steep hydraulic gradient. Figure 3 provides groundwater contours for the unconfined water-bearing zone as well as bedrock surface elevations for the gravel-siltstone contact for comparison.

Confined Water Bearing Zone

As stated before (MW-5 through MW-7), are no longer a part of the groundwater monitoring program. After four quarters of non-detect analytical results, ACEH agreed, in a letter dated February 1, 2008, that further groundwater monitoring of the confined sandstone water-bearing

zone was unnecessary. The wells were abandoned according to Alameda County Zone 7 Water Agency (Zone 7) standards on June 23, 2008.

2.1 QUARTERLY MONITORING ACTIVITIES

After measuring the fluid levels at each well, URS conducted groundwater sampling. Fourth quarter sampling efforts were influenced by the seasonally low groundwater levels. The rationale for the method used at each well is described below:

- MW-1 through MW-4 were not sampled because they were judged to be hydraulically disconnected from the unconfined water-bearing zone.
- Three well volumes were removed from MW-9 before sampling using a bailer due to a pump malfunction.
- MW-8, MW-10, and MW-11 were purged dry due to the slow recharge and then sampled.
- A surface water sample was also collected from the very small stream northwest of the release location (Figure 2) on December 15, 2008.

2.1.1 MW-1 and MW-9 Sorbent Booms

URS has placed new sorbent booms (booms) in MW-1 and MW-9 as an interim remedial measure. The booms have been successful in passively collecting and facilitating degradation of hydrocarbons within the wells and allow for future quarterly groundwater samples to be collected when measurable product is not present. MW-1 and MW-9 were gauged several times after the booms were installed and sheen wasn't observed. During the fourth quarter monitoring event, after the booms were removed, sheen wasn't observed in MW-9 and was measured at 0.01 feet in MW-1.

2.1.2 MW-9

Low-flow purging was attempted, however the Monsoon pump did not function properly and a bailer was used to collect three well volumes from MW-9. Because the pump was not working, parameters could not be continuously collected.

Approximately 2.5 gallons were purged from MW-9 to confirm that the water collected during sampling was from the aquifer and not stagnant in the well. The total drawdown after collecting the three well volumes was 0.5 ft.

After three well volumes were bailed from the well, groundwater samples were collected directly from the bailer.

2.1.3 MW-8, MW-10, and MW-11

Low-flow purging rates were between 200 to 400 milliliters per minute (mL/min) depending on the rate of recharge at each well. During low-flow purging, the water level in MW-8, MW-10, and MW-11 was measured periodically to monitor draw down. The low-flow groundwater sampling forms are included in Appendix A.

In addition to monitoring the water level at each well during low-flow sampling, parameters such as temperature, pH, conductivity, oxidation reduction potential (ORP), dissolved oxygen (DO) and turbidity of the groundwater were monitored using an in-line flow-through cell and multi-

parameter device. The multi-parameter device was calibrated prior to sampling. During purging, the parameter readings described above were recorded every 3 minutes until the parameters stabilized.

In all of the wells where low-flow purging was conducted, the parameters were considered to be stable when three consecutive readings were within the following guidelines: pH +/- 0.2 pH units, conductivity +/- 3% of reading, ORP +/- 20 millivolts (mV), DO +/- 0.2 milligrams per liter (mg/L), turbidity +/- 1.0 nephelometric turbidity units (NTU).

Because of slow recharge rates at MW-8, MW-10, and MW-11, low-flow purging methods were used until the well went dry. Parameters were collected during purging activities. At MW-8, MW-10, and MW-11, approximately 2.0, 2.5, and 2.5 gallons were removed from each well, respectively. After the wells were purged dry, the recharging water levels were monitored until sufficient water was present to collect the groundwater samples.

2.1.4 Surface Water Sample

The sampling location along the very small stream is located at the base of the alluvial terrace within the Alameda Creek floodplain and is shown on Figure 2. The former sampling point (SW-Creek, sampled prior to the first quarter of 2007) is also provided on Figure 2 for reference. To the west, beyond the sampling location, the very small stream fans out into the floodplain and surface flow terminates within floodplain grasses.

2.1.5 Status of Soil Vapor Extraction System Restart

The SVE system was restarted on December 22, 2008. A separate letter report was submitted to the ACEH with details of the re-start.

URS will conduct weekly operation and maintenance and monthly sampling. Results from the monthly sampling with be included as part of the quarterly Groundwater Monitoring Report.

3.1 ANALYTICAL PROGRAM

The groundwater samples from each monitoring well and the very small stream were collected in clean laboratory provided containers, labeled with unique project specific identification, packed to prevent breakage, and placed on ice in a cooler immediately after collection. The sample cooler included a trip blank and was submitted to Lancaster Analytical Laboratory in Lancaster, Pennsylvania, a California Certified Laboratory, under URS chain-of-custody procedures. The samples were analyzed on a standard turn-around-time.

As discussed in URS' *February 2006 Groundwater Monitoring Report*, groundwater and surface water samples collected during quarterly sampling activities are analyzed for the following parameters:

- Benzene, toluene, ethylbenzene, xylenes (BTEX) by U.S. Environmental Protection Agency (USEPA) Method 8260B
- Total petroleum hydrocarbons – gasoline range organics (TPH-GRO) by N. CA LUFT GRO

3.2 GROUNDWATER ANALYTICAL RESULTS

A summary of the analytical results for the gasoline compounds and associated environmental screening levels (ESLs) developed by Regional Water Quality Control Board (RWQCB 2008) are presented in Table 3 and the complete laboratory analytical results and chain of custodies are included as Appendix B.

3.2.1 Unconfined Water-Bearing Zone Wells

The unconfined water bearing zone wells include nursery unconfined water-bearing zone wells (MW-1 through MW-4 and MW-9 through MW-11) and the Calaveras Road shallow unconfined water-bearing zone well (MW-8), the apparent hillside groundwater recharge source for the nursery. The fourth quarter groundwater sample results are as follows:

- MW-1 through MW-4 were not sampled because the wells were judged to be not hydraulically connected to the water-bearing zone.
- The MW-8 sample contained TPH-GRO at 12,000 micrograms per liter (µg/L), benzene at 810 µg/L, toluene at 920 µg/L, ethylbenzene at 880 µg/L, and total xylenes at 3,300 µg/L.
- The MW-9 sample contained TPH-GRO at 34,000 µg/L, benzene at 6 µg/L, toluene at 750 µg/L, ethylbenzene at 930 µg/L, and total xylenes at 6,000 µg/L.
- The MW-10 sample was below laboratory reporting limits for TPH-GRO, benzene, toluene, ethylbenzene, and total xylenes.
- The MW-11 sample was below laboratory reporting limits for TPH-GRO, benzene, toluene, ethylbenzene, and total xylenes.

3.2.2 Confined Water-Bearing Zone Wells

Wells MW-5 through MW-7 were abandoned June 23, 2008 as approved by ACEH in the November 29, 2007 ACEH letter.

3.2.3 Surface Water Sample

The surface water sampling location is shown on Figure 2. The surface water sample was below laboratory reporting limits for all constituents analyzed.

3.2.4 Analytical Result Comparison to ESLs

The groundwater samples collected from MW-10 and MW-11 were below the most stringent ESLs for all constituents analyzed. The surface water sample was also below the respective ESLs. MW-8 and MW-9 exceeded the ESLs for all constituents analyzed.

3.3 SUMMARY OF QA/QC REVIEW PARAMETERS

The certified analytical reports from the analytical laboratory were subjected to a quality assurance/quality control (QA/QC) review and data validation by URS. Laboratory and field QC sample results were evaluated to assess the quality of the individual sample results and overall method performance. The data evaluation performed included review of:

- Blanks (laboratory method blanks and trip blanks)
- Spikes (laboratory control spikes, matrix control spikes and surrogate spikes)
- Duplicates (laboratory control spike duplicates, matrix control spike duplicates and field duplicates)
- Sample integrity (chain-of-custody documentation, sample preservation, and holding time compliance)

All reported results for the laboratory method blanks were non-detect (less than the laboratory reporting limit), indicating no evidence of contamination from laboratory instrumentation. All reported results for the trip blank were non-detect (less than the laboratory reporting limit), indicating no evidence of contamination during shipping of the laboratory samples.

All reported laboratory control spike (LCS) sample recoveries, matrix control spike (MS) sample recoveries, and surrogate spike recoveries were within laboratory QC limits.

Chain-of-custody documentation was complete and consistent. Samples were preserved as required per method specifications. All samples were analyzed within the method-specified holding times.

The data quality evaluation indicated that no systematic problems were detected, and the overall data objectives for sample contamination, precision, accuracy, and sample integrity were met. These analytical data are of acceptable quality and may be used for their intended purposes.

The field activities conducted on December 15 and 16, 2008, included assessing the groundwater conditions at the Site and measuring the fluid levels and collecting analytical samples from

groundwater monitoring wells MW-1 through MW-4 and MW-9 through MW-11. The findings are as follows:

- Measurable free product was observed in MW-1. No product or sheen was observed in monitoring wells MW-2 through MW-4 or MW-8 through MW-11 during gauging. Sheen was observed in MW-9 after purging the well for groundwater sampling.
- Due to unusually dry fall and winter conditions, the water table elevations continue to be stagnant, hydraulically disconnecting MW-1 through MW-4 from the unconfined water-bearing zone, therefore no samples were collected from these wells. Furthermore, the presence of product in MW-1 excluded MW-1 from sampling.
- The MW-8 sample contained TPH-GRO at 12,000 µg/L, benzene at 810 µg/L, toluene at 920 µg/L, ethylbenzene at 880 µg/L, and total xylenes at 3,300 µg/L.
- The MW-9 sample contained TPH-GRO at 34,000 µg/L, benzene at 6 µg/L, toluene at 750 µg/L, ethylbenzene at 930 µg/L, and total xylenes at 6,000 µg/L.
- The groundwater samples collected from MW-10 and MW-11 were non-detect and below the most stringent ESLs for all constituents. Groundwater samples collected from MW-8 and MW-9 exceeded ESLs for all constituents analyzed.
- The surface water sample collected from the very small stream continues to be below laboratory reporting limits for all constituents.
- The SVE system was restarted on December 22, 2008.

Based on the December 15 and 16, 2008 field observations and analytical results URS makes the following recommendations:

- Continue quarterly groundwater monitoring to further assess the effect of seasonal groundwater fluctuations on groundwater behavior and contaminant transport within the unconfined water-bearing zone.
- Sorbent booms will continue to be used as an interim remediation measure in wells containing hydrocarbon sheen or measurable product. Currently, sorbent booms are installed in MW-1 and MW-9.
- The SVE system was restarted on December 22, 2008. A separate letter report was submitted to the ACEH with details of the re-start. URS will conduct weekly operation and maintenance and monthly sampling. Results from the monthly sampling with be included as part of the quarterly Groundwater Monitoring Report.

No evaluation is thorough enough to preclude the possibility that materials that are currently considered hazardous or materials that may be considered hazardous in the future may be present at a site. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants presently considered nonhazardous may, in the future, fall under different regulatory standards and require remediation. Opinions and judgments expressed herein, which are based on understanding and interpretation of current regulatory standards, should not be construed as legal opinions. This document and the information contained herein have been prepared solely for CPL's use, and reliance on this report by third parties will be at such party's sole risk.

TABLE 1
Monitoring Well Groundwater Levels
Fourth Quarter 2008 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)[1]	Date	Depth to Groundwater (feet TOC-N)[2]	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-1	29.3-39.3	2/21/2006	36.34	--	--
		6/7/2006	34.28	--	--
		8/22/2006	37.11	37.08	0.03
		11/14/2006	37.05	--	--
		2/20/2007	36.14	--	--
		6/5/2007	37.21	--	--
		9/12/2007	37.67	37.55	0.12
		12/11/2007	37.49	37.46	0.03
		3/19/2008	35.94	--	--
		5/20/2008	35.51	--	--
		6/5/2008	35.69	--	--
		9/18/2008	37.62	37.61	0.01
		12/15/2008	37.53	37.52	0.01
MW-2	23.3-38.3	2/21/2006	32.19	--	--
		6/7/2006	30.23	--	--
		8/22/2006	33.11	--	--
		11/14/2006	33.01	--	--
		2/20/2007	31.93	--	--
		6/5/2007	33.23	--	--
		9/12/2007	33.62	--	--
		12/5/2007	33.52	--	--
		3/19/2008	31.76	--	--
		5/20/2008	31.41	--	--
		6/5/2008	31.56	--	--
		9/18/2008	33.65	--	--
		12/15/2008	33.59	--	--
MW-3	21.3-36.3	2/21/2006	31.97	--	--
		6/7/2006	30.91	--	--
		8/22/2006	34.66	--	--
		11/14/2006	34.71	--	--
		2/20/2007	31.66	--	--
		6/5/2007	34.63	--	--
		9/12/2007	34.71	--	--
		12/11/2007	34.77	--	--
		3/19/2008	31.64	--	--
		5/20/2008	31.26	--	--
		6/5/2008	31.45	--	--
		9/18/2008	34.81	--	--
		12/15/2008	34.79	--	--
MW-4	30.7-40.7	2/21/2006	36.72	--	--
		6/7/2006	35.76	--	--
		8/22/2006	38.79	--	--
		11/14/2006	38.84	--	--
		2/20/2007	36.54	--	--
		6/5/2007	38.77	--	--
		9/12/2007	38.93	--	--
		12/11/2008	39.00	--	--
		3/19/2008	36.29	--	--
		5/20/2008	36.27	--	--
		6/5/2008	36.38	--	--
		9/18/2008	39.03	--	--
		12/15/2008	39.03	--	--

TABLE 1
Monitoring Well Groundwater Levels
Fourth Quarter 2008 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)[1]	Date	Depth to Groundwater (feet TOC-N)[2]	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-8	14.5-24.5	8/22/2006	18.71	--	--
		11/14/2006	18.73	--	--
		2/20/2007	19.23	--	--
		6/5/2007	20.48	--	--
		9/12/2007	21.47	--	--
		12/11/2007	19.58	--	--
		Q1 2008	NM	--	--
		Q2 2008	NM	--	--
		9/18/2008	21.67	--	--
		12/15/2008	20.73	--	--
MW-9	36.0-46.0	8/22/2006	42.59	42.55	0.04
		11/14/2006	42.62	42.54	0.08
		2/20/2007	41.91	41.86	0.05
		6/5/2007	42.71	42.69	0.02
		9/12/2007	43.09	43.01	0.08
		12/11/2007	42.91	--	--
		3/20/2007	41.76	41.75	0.01
		12/11/2007	42.91	--	--
		5/20/2008	41.33	--	--
		6/5/2008	41.57	--	--
		9/18/2008	43.07	--	--
		12/15/2008	43.00	--	--
MW-10	40.3-55.3	9/5/2007	54.86	--	--
		12/12/2007	46.84	--	--
		3/20/2008	44.41	--	--
		5/20/2008	44.09	--	--
		6/5/2008	43.67	--	--
		9/18/2008	45.89	--	--
		12/15/2008	45.91	--	--
MW-11	37.0-47.0	9/6/2007	Dry	--	--
		12/12/2007	42.73	--	--
		3/20/2008	37.29	--	--
		5/20/2008	37.06	--	--
		6/4/2008	37.18	--	--
		9/18/2008	38.97	--	--
		12/15/2008	39.36	--	--

Notes:
NM - Not measured
1. Screen intervals measured from feet below ground surface (feet bgs)
2. Groundwater and product levels measured from top of casing - north (TOC-N).
3. MW-5 through MW-7 abandoned 6/23/08.

TABLE 2
Monitoring Well Groundwater Elevations
Fourth Quarter 2008 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1, 2]	Date Measured	Groundwater Elevation (feet msl)[1]	Product Elevation (feet msl)[1]	Product Thickness (feet)
MW-1	10/20/2005	328.49	328.04	2/21/2006	291.70	--	--
				6/7/2006	293.76	--	--
				8/22/2006	290.93	290.96	0.03
				11/14/2006	290.99	--	--
				2/20/2007	291.90	--	--
				6/5/2007	290.83	--	--
				9/12/2007	290.37	--	--
				12/11/2007	290.55	290.58	0.03
				3/19/2008	292.10	--	--
				5/20/2008	292.53	--	--
				6/5/2008	292.35	--	--
				9/18/2008	290.42	290.43	0.01
				12/15/2008	290.51	290.52	0.01
MW-2	10/21/2005	324.85	324.15	2/21/2006	291.96	--	--
				6/7/2006	293.92	--	--
				8/22/2006	291.04	--	--
				11/14/2006	291.14	--	--
				2/20/2007	292.22	--	--
				6/5/2007	290.92	--	--
				9/12/2007	290.53	--	--
				12/5/2007	290.63	--	--
				3/19/2008	292.39	--	--
				5/20/2008	292.74	--	--
				6/5/2008	292.59	--	--
				9/18/2008	290.50	--	--
				12/15/2008	290.56	--	--
MW-3	10/21/2005	326.05	325.65	2/21/2006	293.68	--	--
				6/7/2006	294.74	--	--
				8/22/2006	290.99	--	--
				11/14/2006	290.94	--	--
				2/20/2007	293.99	--	--
				6/5/2007	291.02	--	--
				9/12/2007	290.94	--	--
				12/11/2007	290.88	--	--
				3/19/2008	294.01	--	--
				5/20/2008	294.39	--	--
				6/5/2008	294.20	--	--
				9/18/2008	290.84	--	--
				12/15/2008	290.86	--	--
MW-4	1/31/2006	329.97	329.67	2/21/2006	292.95	--	--
				6/7/2006	293.91	--	--
				8/22/2006	290.88	--	--
				11/14/2006	290.83	--	--
				2/20/2007	293.13	--	--
				6/5/2007	290.90	--	--
				9/12/2007	290.74	--	--
				12/11/2007	290.67	--	--
				3/19/2008	293.38	--	--
				5/20/2008	293.40	--	--
				6/5/2008	293.29	--	--
				9/18/2008	290.64	--	--
				12/15/2008	290.64	--	--

TABLE 2
Monitoring Well Groundwater Elevations
Fourth Quarter 2008 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1, 2]	Date Measured	Groundwater Elevation (feet msl)[1]	Product Elevation (feet msl)[1]	Product Thickness (feet)
MW-8	8/15/2006	335.23	333.93	8/22/2006	315.22	--	--
				11/14/2006	315.20	--	--
				2/20/2007	314.70	--	--
				6/5/2007	313.45	--	--
				9/12/2007	312.46	--	--
				12/11/2007	314.35	--	--
				Q1 2008	NM	--	--
				Q2 2008	NM	--	--
				9/18/2008	312.26	--	--
				12/15/2008	313.20	--	--
MW-9	8/16/2006	333.49	333.07	8/22/2006	290.48	290.52	0.04
				11/14/2006	290.45	290.53	0.08
				2/20/2007	291.16	291.21	0.05
				6/5/2007	290.36	290.38	0.02
				9/12/2007	289.98	290.06	0.08
				12/11/2007	290.16	--	--
				3/20/2007	291.31	--	--
				12/11/2007	290.16	--	--
				5/20/2008	291.74	--	--
				6/5/2008	291.50	--	--
				9/18/2008	290.00	--	--
				12/15/2008	290.07	--	--
MW-10	9/5/2007	336.55	335.89	9/12/2007	281.03	--	--
				12/12/2007	289.05	--	--
				3/20/2008	291.48	--	--
				5/20/2008	291.80	--	--
				6/5/2008	292.22	--	--
				9/18/2008	290.00	--	--
				12/15/2008	289.98	--	--
MW-11	9/6/2007	330.29	329.89	9/12/2007	Dry	--	--
				12/12/2007	287.16	--	--
				3/20/2008	292.60	--	--
				5/20/2008	292.83	--	--
				6/5/2008	292.71	--	--
				9/18/2008	290.92	--	--
				12/15/2008	290.53	--	--

Notes:
NM - Not measured
1. All elevations displayed in feet above average mean sea level (msl).
2. Groundwater and product elevations calculated from depths as measured from top of casing - north.
MW-1 through MW-3 surveyed on October 31, 2005.
MW-4 through MW-7 surveyed on February 14, 2006.
MW-8 and MW-9 surveyed on November 10, 2006.
MW-10 and MW-11 surveyed on September 13, 2007.
MW-5 through MW-7 abandoned 6/23/08.

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Fourth Quarter 2008 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1)]		100	1	40	30	20
MW-1	2/22/2006	**57,000**	**38**	**2,700**	**3,000**	**8,700**
	6/8/2006	**37,000**	**10**	**330**	**120**	**8,200**
	Q3 2006[3)]	NS	NS	NS	NS	NS
	11/15/2006	**38,000**	**14**	**110**	**38**	**5,900**
	2/21/2007	**18,000**	**4**	**7**	**8**	**1,600**
	6/5/2007	**17,000**	**3**	**7**	**4**	**1,100**
	Q3 2007[3)]	NS	NS	NS	NS	NS
	Q4 2007[3)]	NS	NS	NS	NS	NS
	3/19/2008	**12,000**	**0.8**	**1**	**1**	**320**
	6/6/2008	**8,200**	**1**	**2**	**3**	**150**
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
MW-2	2/21/2006[2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	<50	0.5	<0.5	<0.5	<0.5
	11/14/2006	<50	**0.7**	<0.5	<0.5	<0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2007[4)]	NS	NS	NS	NS	NS
	Q4 2007[4)]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2008 [2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
MW-3	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	**170**	<0.5	<0.5	<0.5	<0.5
	11/14/2006	**86**	<0.5	**1**	<0.5	<0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2007[4)]	NS	NS	NS	NS	NS
	Q3 2007[4)]	NS	NS	NS	NS	NS
	Q4 2007[4)]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2008	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
MW-4	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	**70**	**0.6**	<0.5	<0.5	**1**
	11/15/2006	<50	<0.5	<0.5	<0.5	0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2007[4)]	NS	NS	NS	NS	NS
	Q3 2007[4)]	NS	NS	NS	NS	NS
	Q4 2007[4)]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Fourth Quarter 2008 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1)]		100	1	40	30	20
MW-8	8/24/2006	**18,000**	**190**	**2,600**	**590**	**2,800**
	11/16/2006	**990**	**76**	**80**	**69**	**190**
	2/20/2007	**2,000**	**180**	**57**	**170**	**74**
	6/6/2007	**3,600**	**340**	**92**	**370**	**210**
	9/12/2007	**4,200**	**470**	**230**	**630**	**320**
	12/11/2007	**4,900**	**350**	**300**	**490**	**650**
	Q1 2008[5)]	NS	NS	NS	NS	NS
	Q2 2008[5)]	NS	NS	NS	NS	NS
	9/18/2008[2)]	**11,000 / 9,200**	**740 / 690**	**320 / 290**	**790 / 720**	**2,600 / 2,100**
	12/15/2008	**12,000**	**810**	**920**	**880**	**3,300**
MW-9	Q3 2006[3)]	NS	NS	NS	NS	NS
	11/15/2006	**74,000**	**480**	**12,000**	**2,200**	**17,000**
	Q1 2007[3)]	NS	NS	NS	NS	NS
	Q2 2007[3)]	NS	NS	NS	NS	NS
	Q3 2007[3)]	NS	NS	NS	NS	NS
	12/11/2007	**48,000**	**62**	**5,400**	**1,700**	**12,000**
	Q1 2008[3)]	NS	NS	NS	NS	NS
	6/6/2008	**31,000**	**5**	**1,000**	**1,300**	**9,000**
	9/18/2008	**25,000**	**6**	**610**	**800**	**4,800**
	12/16/2008	**34,000**	**6**	**750**	**930**	**6,000**
MW-10	Q3 2007[4)]	NS	NS	NS	NS	NS
	12/14/2007	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008	<50	**0.9**	<0.5	<0.5	<0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-11	Q3 2007[4)]	NS	NS	NS	NS	NS
	12/14/2007	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008[2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
SW-Creek	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/22/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/15/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/15/2006	<50	<0.5	<0.5	<0.5	<0.5
Stream	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2007	<50	<0.5	<0.5	<0.5	<0.5
	9/12/2007	<50	<0.5	<0.5	<0.5	<0.5
	1/25/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Fourth Quarter 2008 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1)]		100	1	40	30	20

Notes:
Bold values exceed laboratory reporting limits.
J qualifier - The reported value is the approximate concentration of the analyte in the sample due to sample heterogeneity.
µg/L - micrograms per liter
NS - Not Sampled
TPH-GRO - Total Petroleum Hydrocarbons as Gasoline Range Organics

1) Environmental Screening Levels (ESLs) for groundwater as a current or potential source of drinking water were obtained from the San Francisco Regional Water Quality Control Board (RWQCB) Interim Final: Table A, May 2008.
2) Both sample and duplicate concentrations from well location are displayed.
3) Sample not collected during quarterly monitoring due to the presence of measurable free product.
4) Sample not collected during quarterly monitoring because well is not hydraulically connected to unconfined water-bearing zone.
5) Sample not collected due to extreme overhead hazards posed by dead trees on the 80-90% grade directly uphill from the sampling location.

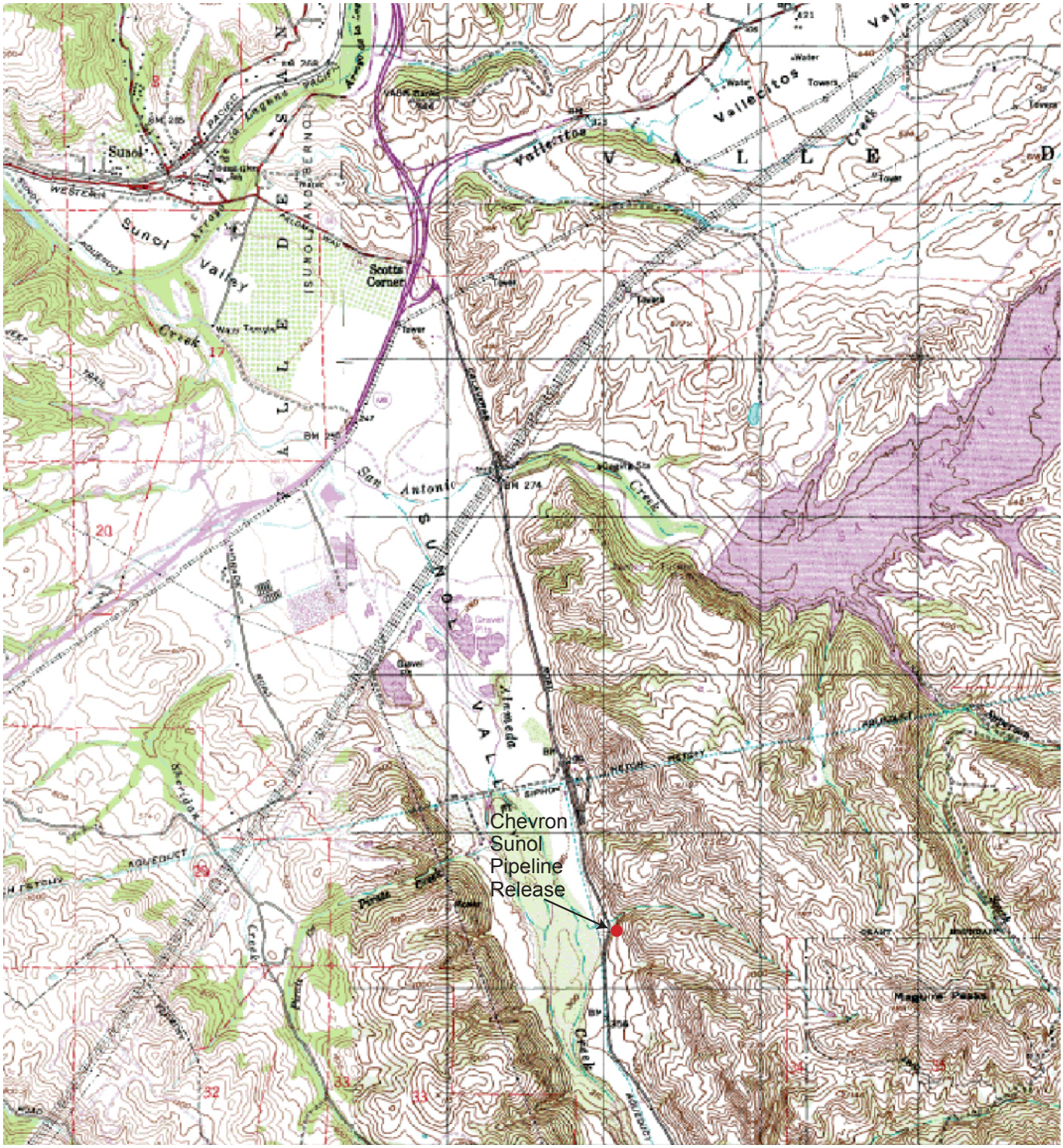


Image obtained from topozone.com

N

MAP REFERENCE:

PORTION OF U.S.G.S. QUANDRANGLE MAP
7 1/2 MINUTE SERIES (TOPOGRAPHIC)
LA COSTA VALLEY QUADRANGLE

URS	Chevron Pipeline Company Project No. 26815217	SITE VICINITY MAP CHEVRON SUNOL PIPELINE SUNOL, CALIFORNIA	Figure 1

NORTH

0 50 100

SCALE IN FEET

CURRENT STREAM SAMPLE LOCATION

VERY SMALL STREAM

SW–CREEK
(Former Surface Water Sampling Location)

UPPER DIRT ROAD

LOWER DIRT ROAD

PIPELINE

CALAVERAS ROAD

MW–10

PROPERTY LINE/FENCE

MW–11

MW–9

MW–4

MW–3

MW–1

MW–2

MW–7

MW–8

MW–5

MW–6

SVE–1D

SVE–2S

SVE–8

SVE–3S

SVE–7

SVE–4D

SVE–5

SVE–6

SVE–9

RELEASE LOCATION

HILL SLOPE

HILL SLOPE

HILL SLOPE

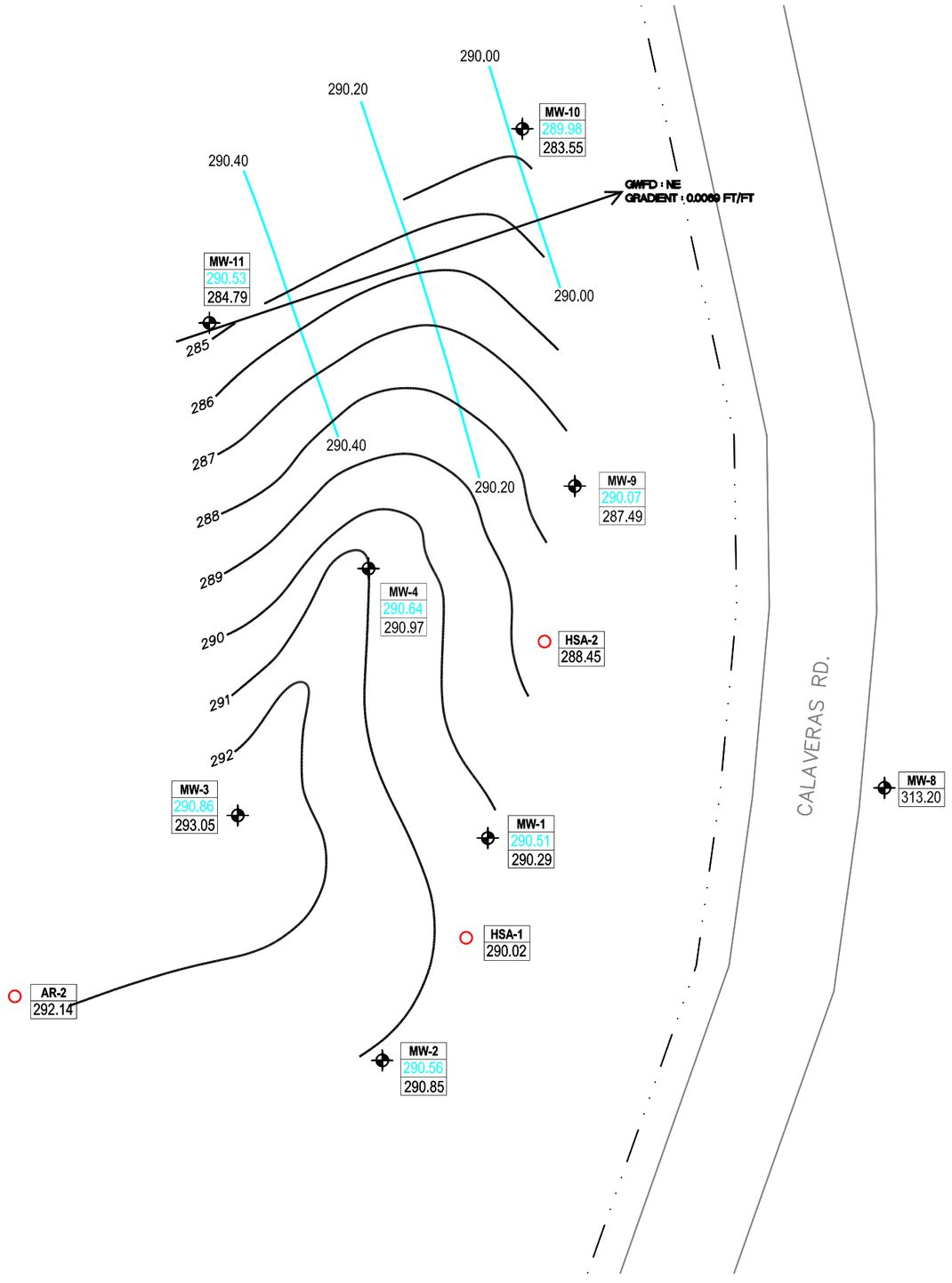
HILL SLOPE AND DENSE VEGETATION

LEGEND:

- SURFACE WATER SAMPLE LOCATIONS
- MONITORING WELL
- ABANDONED MONITORING WELLS
- SVE WELL
- SHELF
- STAIRS
- FENCE
- PIPELINE
- SMALL STREAM
- PROPERTY LINE/FENCE
- HILL SLOPE 80–90% GRADE

URS	CHEVRON PIPELINE COMPANY Project No. 26815217	SVE AND GROUNDWATER MONITORING WELL LOCATIONS CHEVRON SUNOL PIPELINE	Figure 2

Jul 16, 2008 – 4:49pm
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Site Figures\Current CADD\FIGURE 2.dwg



LEGEND:

- MONITORING WELL
- MW-11 / 292.71 / 284.79 — MONITORING WELL LABEL; GROUNDWATER ELEVATION; BEDROCK CONTACT ELEVATION
- SOIL BORING
- HSA-2 / 288.45 — SOIL BORING LABEL; BEDROCK CONTACT ELEVATION
- 290.00 — INFERRED GROUNDWATER CONTOUR
- GWFD — GROUNDWATER FLOW DIRECTION

NOTES:

1. ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (msl).
2. GROUNDWATER ELEVATIONS FOR MW–1 THROUGH MW–4 AND MW–9 THROUGH MW–11, AS MEASURED ON DECEMBER 15, 2008.
3. BEDROCK ELEVATION DATA OBTAINED FROM THE BORING LOGS OF MW–1 THROUGH MW–4, MW–9 THROUGH MW–11, HSA–1, HSA–2, AND AR–2.
4. THE BEDROCK ELEVATIONS SHOWN REPRESENT THE OVERBURDEN CONTACT WITH THE WEATHERED SILTSTONE/CLAYSTONE BEDROCK UNIT (POSSIBLY CRETACEOUS–AGE CLAY SHALE OF THE PANOCHE FORMATION).
5. GROUNDWATER ENCOUNTERED AT MW–1 THROUGH MW–4 IS NOT IN CONNECTION WITH THE UNCONFINED WATER BEARING ZONE. THE GROUNDWATER IS STANDING WATER WITHIN THE SUMP OF EACH WELL BELOW THE OVERBURDEN/BEDROCK CONTACT.
6. CALCULATED GROUNDWATER GRADIENT IN NORTHEASTERLY FLOW DIRECTION dh/dl = 0.0069 ft/ft.

NORTH

0 30' 60'

SCALE 1"= 30'

URS	CHEVRON PIPELINE COMPANY Project No. 26815217	UNCONFINED WATER–BEARING ZONE GROUNDWATER AND BEDROCK ELEVATIONS MAP CHEVRON SUNOL PIPLINE	Figure 3

Jan 26, 2009 - 3:15pm
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Site Figures\Current CADD\FIGURE 3_012609.dwg

Appendix A
Groundwater Sampling Forms

URS

Troll 9000 | Low-Flow System
12/15/09 | ISI Low-Flow Log

Project Information:

Operator Name	Rachel Naccarati
Company Name	URS
Project Name	Chevron Sunol Pipeline
Site Name	Sunol

Pump Information:

Pump Model/Type	Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	24.5 [ft]
Pump placement from TOC	23.5 [ft]

Well Information:

Well Id	MW-8
Well diameter	2 [in]
Well total depth	24.55 [ft]
Depth to top of screen	14.50 [ft]
Screen length	10 [ft]
Depth to Water	20.73 [ft]

Pumping information:

Final pumping rate	300 mL/min
Flowcell volume	--
Calculated Sample Rate	--
Sample rate	--
Stabilized drawdown	Dry

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond. [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-1	+/-0.2	+/-20
Last 5 Readings		67.28	7.09	769.49	-0.7	104	-97
		64.99	7.1	747.99	-0.7	165	-98
		64.11	7.11	737.84	-0.7	233	-98
		63.44	7.11	730.49	-0.7	379	-98
		63.39	7.11	728.91	-0.7	358	-97
Variance in last 3 readings		0.88	-0.01	10.15	0	-68	0
		0.67	0.00	7.35	0	-146	0
		0.05	0.00	1.58	0	21	-1

Notes:

Initial depth to water = 20.73 feet
Total Volume Purged = 2 gallons
Final depth to water = Dry
Sample collected at 16:45

URS

Troll 9000 | Low-Flow System
12/15/09 | ISI Low-Flow Log

Project Information:

Operator Name	Rachel Naccarati
Company Name	URS
Project Name	Chevron Sunol Pipeline
Site Name	Sunol

Pump Information:

Pump Model/Type	Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	55 [ft]
Pump placement from TOC	54 [ft]

Well Information:

Well Id	MW-10
Well diameter	2 [in]
Well total depth	55.18 [ft]
Depth to top of screen	40.3 [ft]
Screen length	15 [ft]
Depth to Water	45.91 [ft]

Pumping information:

Final pumping rate	300 mL/min
Flowcell volume	--
Calculated Sample Rate	--
Sample rate	--
Stabilized drawdown	Dry

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond. [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-1	+/-0.2	+/-20
Last 5 Readings		60.75	6.82	1589.57	4.3	387	66
		64.78	6.81	1665.81	2.4	296	61
		65.12	6.84	1678.2	0.9	161	61
		64.28	6.88	1679.9	0.2	116	59
		64.01	6.9	1689.23	0	124	56
Variance in last 3 readings		-0.34	-0.03	-12.39	1.50	135	0
		0.84	-0.04	-1.70	0.70	45	2
		0.27	-0.02	-9.33	0.20	-8	3

Notes:

Initial depth to water = 45.91 feet
Total Volume Purged = 2.5 gallons
Final depth to water = Dry
Sample collected at 14:30

URS

Troll 9000 | Low-Flow System
12/15/09 | ISI Low-Flow Log

Project Information:

Operator Name	Rachel Naccarati
Company Name	URS
Project Name	Chevron Sunol Pipeline
Site Name	Sunol

Pump Information:

Pump Model/Type	Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	47 [ft]
Pump placement from TOC	46 [ft]

Well Information:

Well Id	MW-11
Well diameter	2 [in]
Well total depth	46.85 [ft]
Depth to top of screen	37 [ft]
Screen length	10 [ft]
Depth to Water	39.36 [ft]

Pumping information:

Final pumping rate	400 mL/min
Flowcell volume	--
Calculated Sample Rate	--
Sample rate	--
Stabilized drawdown	Dry

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond. [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-1	+/-0.2	+/-20
Last 5 Readings		59.36	6.88	1619.9	9	384	18
		59.83	6.88	1629.74	8.3	438	11
		59.73	6.89	1637.71	8.4	429	6
		61.2	6.89	1668.96	8.6	454	1
		62.04	6.89	1688.47	7.8	531	-5
Variance in last 3 readings		0.1	0.0	-7.97	-0.1	9	5
		-1.5	0.0	-31.25	-0.2	-25	5
		-0.8	0.0	-19.51	0.8	-77	6

Notes:

Initial depth to water = 39.36 feet
Total Volume Purged = 2.5 gallons
Final depth to water = Dry
Sample collected at 12:20

Appendix B
Laboratory Analytical Results

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

713-432-3335

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1125153. Samples arrived at the laboratory on Wednesday, December 17, 2008. The PO# for this group is 0015013514 and the release number is COSGRAY.

Client Description	Lancaster Labs Number
MW-11 Grab Water	5560392
Stream Grab Water	5560393
MW-10 Grab Water	5560394
MW-8 Grab Water	5560395
MW-9 Grab Water	5560396

ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: April Giangerelli
ELECTRONIC COPY TO	URS	Attn: Jacob Henry
ELECTRONIC COPY TO	URS	Attn: Amber Koster
ELECTRONIC COPY TO	URS Corporation	Attn: Greg White

Lancaster Laboratories

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Analysis Report

Questions? Contact your Client Services Representative
Megan A Moeller at (717) 656-2300

Respectfully Submitted,

Susan M. Goshert
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5560392 Group No. 1125153

MW-11 Grab Water
NA URSO
Sunol Pipeline SL0600100443 MW-11
Collected:12/15/2008 12:20 by RN

Account Number: 11875

Submitted: 12/17/2008 10:25
Reported: 12/29/2008 at 19:29
Discard: 01/29/2009

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SUN11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	ug/l	1
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12/24/2008 11:43	Carrie E Youtzy	1
06053	BTEX by 8260B	SW-846 8260B	1	12/21/2008 19:28	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/24/2008 11:43	Carrie E Youtzy	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/21/2008 19:28	Michael A Ziegler	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5560393 Group No. 1125153

Stream Grab Water
NA URSO
Sunol Pipeline SL0600100443 Stream
Collected:12/15/2008 14:10 by RN

Account Number: 11875

Submitted: 12/17/2008 10:25
Reported: 12/29/2008 at 19:29
Discard: 01/29/2009

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SUNSM

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	ug/l	1
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12/24/2008 12:13	Carrie E Youtzy	1
06053	BTEX by 8260B	SW-846 8260B	1	12/21/2008 19:52	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/24/2008 12:13	Carrie E Youtzy	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/21/2008 19:52	Michael A Ziegler	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5560394 Group No. 1125153

MW-10 Grab Water
NA URSO
Sunol Pipeline SL0600100443 MW-10
Collected:12/15/2008 14:30 by RN

Account Number: 11875

Submitted: 12/17/2008 10:25
Reported: 12/29/2008 at 19:29
Discard: 01/29/2009

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SUN10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	ug/l	1
06053	BTEX by 8260B					
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12/24/2008 12:42	Carrie E Youtzy	1
06053	BTEX by 8260B	SW-846 8260B	1	12/21/2008 20:16	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/24/2008 12:42	Carrie E Youtzy	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/21/2008 20:16	Michael A Ziegler	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5560395 Group No. 1125153

MW-8 Grab Water
NA URSO
Sunol Pipeline SL0600100443 MW-8
Collected:12/15/2008 16:45 by RN

Account Number: 11875

Submitted: 12/17/2008 10:25
Reported: 12/29/2008 at 19:29
Discard: 01/29/2009

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SUN08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	n.a.	12,000	500	ug/l	10
06053	BTEX by 8260B					
05401	Benzene	71-43-2	810	3	ug/l	5
05407	Toluene	108-88-3	920	3	ug/l	5
05415	Ethylbenzene	100-41-4	880	3	ug/l	5
06310	Xylene (Total)	1330-20-7	3,300	25	ug/l	50

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12/24/2008 13:12	Carrie E Youtzy	10
06053	BTEX by 8260B	SW-846 8260B	1	12/21/2008 20:40	Michael A Ziegler	5
06053	BTEX by 8260B	SW-846 8260B	1	12/21/2008 21:05	Michael A Ziegler	50
01146	GC VOA Water Prep	SW-846 5030B	1	12/24/2008 13:12	Carrie E Youtzy	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/21/2008 20:40	Michael A Ziegler	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	12/21/2008 21:05	Michael A Ziegler	50

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Analysis Report

Lancaster Laboratories Sample No. WW5560396 Group No. 1125153

MW-9 Grab Water
NA URSO
Sunol Pipeline SL0600100443 MW-9
Collected:12/16/2008 11:30 by RN

Account Number: 11875

Submitted: 12/17/2008 10:25
Reported: 12/29/2008 at 19:29
Discard: 01/29/2009

Chevron Pipeline Co.
4800 Fournace Place - E320 D
Bellaire TX 77401

SUN09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	n.a.	34,000	500	ug/l	10
06053	BTEX by 8260B					
05401	Benzene	71-43-2	6	3	ug/l	5
05407	Toluene	108-88-3	750	3	ug/l	5
05415	Ethylbenzene	100-41-4	930	25	ug/l	50
06310	Xylene (Total)	1330-20-7	6,000	25	ug/l	50

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12/24/2008 12:25	Jennifer B Werner	10
06053	BTEX by 8260B	SW-846 8260B	1	12/21/2008 21:29	Michael A Ziegler	5
06053	BTEX by 8260B	SW-846 8260B	1	12/21/2008 21:52	Michael A Ziegler	50
01146	GC VOA Water Prep	SW-846 5030B	1	12/24/2008 12:25	Jennifer B Werner	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	12/21/2008 21:29	Michael A Ziegler	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	12/21/2008 21:52	Michael A Ziegler	50

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1125153
Reported: 12/29/08 at 07:29 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 08358A07A	Sample number(s): 5560396							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	118	118	75-135	0	30
Batch number: 08358A08B	Sample number(s): 5560392-5560395							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	88	91	75-135	3	30
Batch number: D083563AA	Sample number(s): 5560392-5560396							
Benzene	N.D.	0.5	ug/l	101		78-119		
Toluene	N.D.	0.5	ug/l	107		85-115		
Ethylbenzene	N.D.	0.5	ug/l	100		82-119		
Xylene (Total)	N.D.	0.5	ug/l	106		83-113		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 08358A07A	Sample number(s): 5560396 UNSPK: P561209								
TPH-GRO N. CA water C6-C12	109		63-154						
Batch number: 08358A08B	Sample number(s): 5560392-5560395 UNSPK: P559140								
TPH-GRO N. CA water C6-C12	100		63-154						
Batch number: D083563AA	Sample number(s): 5560392-5560396 UNSPK: P559149								
Benzene	98	90	83-128	8	30				
Toluene	102	95	83-127	7	30				
Ethylbenzene	96	89	82-129	7	30				
Xylene (Total)	101	95	82-130	6	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 08358A07A

	Trifluorotoluene-F
5560396	125

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1125153
Reported: 12/29/08 at 07:29 PM

Surrogate Quality Control

Blank	104
LCS	113
LCSD	114
MS	106
Limits:	63-135

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 08358A08B

	Trifluorotoluene-F
5560392	96
5560393	98
5560394	96
5560395	101
Blank	94
LCS	106
LCSD	106
MS	111
Limits:	63-135

Analysis Name: BTEX by 8260B
Batch number: D083563AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5560392	96	97	95	96
5560393	96	94	97	96
5560394	96	94	96	95
5560395	93	91	97	101
5560396	91	92	97	104
Blank	97	94	95	97
LCS	96	101	96	102
MS	96	98	96	101
MSD	95	93	95	101
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

011368

For Lancaster Laboratories use only
Acct. #: 11875 Sample #: 5560392-96 SCR#:

C# 1125153

Facility #:
Site Address: Chevron Sunol Pipeline
Chevron PM: Lead Consultant:
Consultant/Office: URS - Oakland
Consultant Prj. Mgr.: Joe Morgan
Consultant Phone #: (510) 874-3201 Fax #: (510) 874-3268
Sampler: Rachel Naccarati/Candace Jantzen-Marson
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	Analyses Requested / Preservation Codes: BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates ___	TPH G	TPH D ___ (☐ Extended Rng. ☐ Silica Gel Cleanup)	Lead Total ☐ Diss. ☐ Method ___	VPH/EPH	NWTPH H HCID ☐ quantification	BTEX by 8260B	TPH-GRO by 8015M
MW-11	12.15.08	12:20	X			X		6									X	X
Stream	12.15.08	14:10	X			X		6									X	X
MW-10	12.15.08	14:30	X			X		6									X	X
MW-8	12.15.08	16:45	X			X		6									X	X
MW-9	12.16.08	11:30	X			X		6									X	X

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
(STD. TAT) 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk ____ Other.

	Date	Time		Date	Time
Relinquished by:	12/16/08	1315	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:	12/17/08	1020
Temperature Upon Receipt 1.0 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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