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REPORT

SECOND SEMI-ANNUAL 2013 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

October 2013

URS Corporation
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October 7, 2013

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 – Second Semi-Annual 2013 Groundwater Monitoring Report**" are true and correct to the best of my knowledge at the present time.

Submitted by:

Stephen Gwin
Chevron Pipe Line Company

URS

This letter report ("**Second Semi-Annual 2013 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 Company's Sunol Spill Site in Sunol, California.

The Second Semi-Annual 2013 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.

Approved by:
URS CORPORATION

Robert Horwath, P.G.
Senior Geologist

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Senior Project Manager

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October 7, 2013

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

Subject: SLIC Case No. RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Rd, Sunol, CA, Second Semi-Annual 2013 Groundwater Monitoring Report

Dear Mr. Wickham:

A December 30, 2005 letter provided by the Alameda County Environmental Health Department (ACEHD) staff requested the initiation of a quarterly groundwater monitoring program for the Chevron Pipeline Company Sunol Spill Site. In a letter dated December 10, 2010, the ACEHD agreed to change the quarterly groundwater monitoring program to semi-annual. In response to this request and on behalf of CPL, URS Corporation (URS) has prepared this Second Semi-Annual 2013 Site Groundwater Monitoring Report.

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

Sincerely,
URS CORPORATION

Robert Horwath, P.G.
Senior Geologist

Joe Morgan III
Project Manager

cc: Mr. Stephen Gwin, Chevron Pipeline Company
Ms. Rachel Naccarati, URS Oakland
Ms. Christine Pilachowski, URS Oakland
Mr. Jeremy Quick, URS Oakland

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On August 14 and 15, 2013, URS Corporation (URS) conducted field activities to assess the groundwater conditions at the Chevron Pipeline Company (CPL) Sunol Spill Site (Site). A Site vicinity map is included as Figure 1. Groundwater monitoring wells and surface water sampling locations are provided on Figure 2.

URS gauged the depth to groundwater and collected groundwater samples for laboratory analysis from groundwater monitoring wells MW-1 through MW-4 and MW-8 through MW-11. Monitoring wells MW-5 through MW-7 were abandoned on June 23, 2008, and are no longer part of the groundwater monitoring program.

In December 2012, URS installed monitoring wells MW-12 through MW-15. Due to insufficient water at the time of installation and during subsequent gauging events, these wells have not yet been developed and are not considered part of the current monitoring well network. Monitoring wells MW-12 through MW-15 were gauged on August 14, 2013; however, these wells were not sampled due to insufficient water in the wells. URS did not collect a surface water sample from the very small stream, located northwest of the release location, as there was no stream flow and the water was stagnant.

URS gauges the depth to groundwater at the Site on a monthly basis. During the July gauging event, the interface meter detected a light non-aqueous phase liquid (LNAPL) in eight of the 12 Site monitoring wells. URS returned to the Site in August to confirm the detection of LNAPL, and concluded the results to be false positives based on visual and olfactory observations. However, due to the August gauging event detecting LNAPL in five wells with the interface meter, the second semi-annual 2013 groundwater event was conducted early to confirm the visual observations of the false positive events (Section 2.2).

2.1 MONTHLY GAUGING ACTIVITIES

Prior to collecting groundwater samples, depth to groundwater measurements were recorded monthly from wells MW-1 through MW-4 and MW-8 through MW-15 from the top of casing using an interface meter. Light non-aqueous phase liquid (LNAPL) was not measured in any of the wells during April through August 2013 gauging events, with exception of the July and August events during which the interface meter gave false positive readings. More details regarding the false positive readings are described below.

2.2 JULY 2013 GAUGING ANOMALY

During the July 30, 2013 monthly gauging event, light non-aqueous phase liquid (LNAPL) was detected by the interface meter in eight monitoring wells (MW-1 through MW-4, MW-8 through MW-10, and MW-15). Historically at the Site, LNAPL has not been observed in monitoring wells MW-2, MW-4, MW-10, and MW-15. LNAPL has been detected once in well MW-3 in 2012. LNAPL has not been observed in monitoring well MW-1 since 2011 and MW-9 since 2007. The LNAPL was not of measurable thickness while using the meter; rather, the meter briefly sounded the LNAPL tone. No hydrocarbon odor was noted at any of the wells nor was there sheen on the meter, except at MW-8 where a hydrocarbon odor was detected on the interface meter after gauging, which is typical for MW-8. Due to the lack of olfactory and visual confirmation, and the questionable nature of interface meter equipment's accuracy, the data collected during the July gauging event was deemed inconclusive, and the wells were gauged again on August 5, 2013.

2.3 AUGUST 2013 CONFIRMATION GAUGING ACTIVITIES

On August 5, 2013, the confirmation gauging event was conducted at the Site. During this event, LNAPL was detected by the interface meter in five wells (MW-3, MW-10 through MW-12, and MW-15). These five wells have historically not contained LNAPL or observed LNAPL once. This interface meter was from another vendor and manufactured by a different company than the meter used during the July 30, 2013 gauging event. The LNAPL was not of measurable thickness; rather, the meter briefly sounded the LNAPL tone. A new, disposable bailer was used at each of these wells to visually inspect the groundwater to physically confirm the interface meter results. No odor, staining, or sheen was observed on the bailers or in the groundwater drawn from any of the five wells. Due to the lack of these and other indicators, it is assumed that the interface meter gave false positive results with regards to LNAPL detection.

After the August 5, 2013, gauging event, URS contacted rental equipment vendors and manufacturers for more information on false positives. According to the vendors and manufacturers, a number of conditions affecting the interface meter could produce a false positive. These conditions include sunlight reflecting into the white polyvinylchloride well casing affecting the optical sensor, low battery power, biological buildup on the conductivity sensors, damaged sensors, and/or inadequate cleaning.

In response to the false positives on the two previous gauging events, the second semi-annual 2013 groundwater sampling event was conducted on an earlier date than per usual, and was completed on August 14 and 15, 2013.

The monthly depth to groundwater measurements, calculated groundwater elevations, depth to LNAPL, and LNAPL elevations are presented are presented in Table 1.

2.4 SECOND SEMI-ANNUAL 2013 GROUNDWATER MONITORING ACTIVITIES

On August 14, 2013, URS measured the depth to groundwater and LNAPL, and calculated groundwater and LNAPL elevations above mean sea level in all Site wells (Table 1). The interface meter did not detect LNAPL in any Site wells on August 14. Because well MW-8 dewatered on August 14, it was gauged again on August 15 and 0.02 feet of LNAPL was detected. The August 2013 semi-annual monitoring event groundwater elevations are shown on Figure 3.

After measuring the depth to groundwater at each well for this second semi-annual 2013 event, URS collected groundwater samples on August 14 and 15, 2013. The method used at each monitoring well is described below:

- Monitoring wells MW-1 through MW-4 and MW-9 through MW-11 were sampled using low-flow methods.
- A grab groundwater sample was collected from MW-8 by clean disposable bailer due to low water volume.

2.5 GROUNDWATER MONITORING EVENT

The groundwater surface elevation slightly decreased in all wells (MW-1 through MW-4 and MW-8 through MW-11) relative to the last sampling event in March 2013. During this August 2013 event, the groundwater elevations from the monitoring well network ranged from 290.13 feet above mean sea level (msl) (MW-10) to 291.08 feet above msl (MW-2). These groundwater elevations at the Site are typical of seasonal fluctuations with high groundwater levels in the wet season and lower groundwater levels in the dry season.

The groundwater elevation for MW-8 was 311.59 feet above msl, which is considerably higher than the groundwater elevations in MW-1 through MW-4 and MW-9 though MW-11. This is because MW-8 is screened along the base of the hill in colluvial and fractured bedrock while MW-1 through MW-4 and MW-9 and MW-11 are screened in the colluvial/alluvial system in the adjacent Alameda Creek valley. In addition, splays of Calaveras Fault which runs along the base of the hill likely inhibit the hydraulic connection between the hillside water bearing zone and that of the valley fringe and floor colluvial/alluvial system. As such, there are at least two different water bearing zones at the site; the hillside water bearing zone and the valley floor water bearing zone with the hillside water bearing zone acting as a partial recharge source to the valley floor water bearing zone. Because it is in a different water bearing zone, well MW-8 is not included in groundwater contour map (Figure 3).

Since installation in December 2012, monitoring wells MW-12 through MW-15 (screened in the hillside water bearing zone) have been gauged on a monthly basis. These wells have been very slow to equilibrate due to lack of local groundwater and the low permeability materials in which they were screened. As such there has not been sufficient water in the wells yet to allow development without adding waters from outside sources. For this reason the water levels in these wells are not considered to be representative of local groundwater conditions and are not

included in groundwater elevation contour maps at this time (Figure 3). Nevertheless, the water levels in MW-12 through MW-15 were measured and are presented in Table 1.

Based on water level data from MW-1 through MW-4 and MW-9 through MW-11, the local groundwater flow direction in the valley floor water bearing zone was interpreted to the northeast at a gradient of 0.005 ft/ft (Figure 3). The seasonal groundwater recharge from the hillside water bearing zone appears to flow downhill into the valley floor water-bearing zone on a limited basis. As stated above, MW-8 and MW-12 through MW-15 water level elevation data were not included in groundwater contour map.

2.5.1 MW-1 through MW-4 and MW-8 through MW-11

Prior to sampling, monitoring wells were purged using low-flow methods. An electrical submersible pump was decontaminated prior to sampling each monitoring well. The pump and new tubing were then lowered into each well until the pump intake was within the appropriate screen interval, and the tubing was attached to a flow cell. A discharge line of clean tubing was then connected to the upper end of the flow cell and into a holding cell on the sampling truck used to collect all purge water. The pump was then set at a rate of 200 milliliters per minute (mL/min) to limit draw-down in the well. The low-flow groundwater sampling forms are included in Appendix A.

In addition to monitoring the water level at each monitoring well during low-flow sampling, the following geochemical parameters: temperature, pH, conductivity, oxidation reduction potential (ORP), and dissolved oxygen (DO) of the purged groundwater were measured using an in-line flow-through cell and multi-parameter Horiba U-22 meter. The Horiba U-22 meter was calibrated every morning before the start of low-flow sampling. During purging, the parameter readings described above were recorded every 3 minutes until the parameters stabilized.

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).

After monitoring all field parameters, the flow-through cell was detached and groundwater samples were collected directly from the pump tubing, with the exception of MW-8. Well MW-8 dewatered during purging on August 14, 2013. Therefore, a groundwater sample was collected by clean, disposable bailer on August 15, 2013. Prior to sampling, 0.02 feet of LNAPL was measured in MW-8.

2.5.2 MW-12 through MW-15

Due to insufficient recharge MW-12 through MW-15 have yet to be developed. Half a foot of water or less has been measured in these wells. During this second semi-annual 2013 groundwater monitoring event, monitoring wells MW-12 through MW-15 were gauged but not sampled due to insufficient water.

2.5.3 Surface Water

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 current sampling location, the very small stream fans out into the floodplain and surface flow terminates within floodplain grasses. There was no stream flow and the water was stagnant during this event, therefore no stream sample was collected.

3.1 ANALYTICAL PROGRAM

The groundwater samples from wells MW-1 through MW-4 and MW-8 through MW-11 were collected in clean laboratory provided containers. The containers were labeled with project specific identification, packed to prevent breakage, and placed on ice in a cooler with a trip blank immediately after collection. The samples were 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.

Groundwater samples collected during semi-annual sampling activities and the grab groundwater sample were analyzed for the following parameters:

Gasoline Compounds

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

In addition to gasoline compounds, groundwater samples were also analyzed for the following field and laboratory parameters:

Geochemical Parameters

- Field measurements included ORP, DO and pH and were collected in monitoring wells MW-1 through MW-4 and MW-8 through MW-11 using an in-line flow-through cell and multi-parameter Horiba U-22 meter. These measurements were collected until parameters stabilized. For well MW-8, these parameters were collected until the well dewatered.
- Laboratory samples were analyzed for: nitrate and sulfate (EPA method 300.0), manganese, methane and dissolved iron (SW-846 6010B), ferrous iron (SM20 3500 Fe B modified), total dissolved solids (SM 2540 C), and alkalinity (SM20 2320B) and were collected from MW-1 through MW-4, and MW-8 through MW-12. All samples are filtered by the laboratory for dissolved iron analysis.

3.2 GROUNDWATER ANALYTICAL RESULTS DISCUSSION

A tabulated summary of the analytical results for the gasoline compounds are presented in Table 2. Complete laboratory analytical results and chain of custody forms are presented as Appendix B.

3.2.1 Petroleum Hydrocarbon Results

During the second semi-annual 2013 event, groundwater samples from wells MW-1 through MW-4 and MW-8 through MW-11 were analyzed for petroleum hydrocarbons. A summary of maximum and current groundwater results are as follows:

Table A. Summary of Historical Maximum and Current Gasoline Compound Concentrations

	TPH-GRO (µg /L)		Benzene (µg /L)		Toluene (µg /L)		Ethylbenzene (µg /L)		Total Xylenes (µg /L)	
	Max.	Current	Max.	Current	Max.	Current	Max.	Current	Max.	Current
ESL	**100**		**1**		**40**		**30**		**20**	
MW-1	**57,000** (Feb 2006)	**570**	**38** (Feb 2006)	<0.5	**2,700** (Feb 2006)	<0.5	**3,000** (Feb 2006)	<0.5	**8,700** (Feb 2006)	<0.5
MW-2	<50 (Feb 2006)	<50	0.7 (Nov 2006)	<0.5	<0.5 (Feb 2006)	<0.5	<0.5 (Feb 2006)	<0.5	2 (Mar 2010)	<0.5
MW-3	**170** (Aug 2006)	<50	<0.5 (Feb 2006)	<0.5	2 (Aug 2011)	<0.5	1 (Aug 2011)	<0.5	5 (Aug 2011)	<0.5
MW-4	70 (Aug 2006)	<50	0.6 (Aug 2006)	<0.5	<0.5 (Feb 2006)	<0.5	1 (Mar 2013)	<0.5	5 (Mar 2011)	<0.5
MW-8	**78,000** (Dec 2010)	**56,000**	**1,500** (Mar 2006)	**720**	**16,000** (Sept 2010)	**1,700**	**3,200** (Sept 2010)	**2,900**	**16,000** (Sept 2010)	**12,000**
MW-9	**74,000** (Nov 2006)	**2,200**	**480** (Nov 2006)	<0.5	**12,000** (Nov 2006)	1	**2,200** (Nov 2006)	10	**17,000** (Nov 2006)	**31**
MW-10	**540** (Dec 2009)	<50	1 (Dec 2009)	<0.5	2 (Dec 2009)	<0.5	5 (Dec 2009)	<0.5	**23** (Dec 2009)	<0.5
MW-11	66 (Dec 2009)	<50	<0.5 (2007)	<0.5	2 (Jun 2009)	<0.5	<0.5	<0.5	3 (Dec 2009)	<0.5

Bold values = above ESLs
ESL for groundwater as a current or potential drinking water resource

Analytical results for gasoline compounds collected during the second semi-annual 2013 sampling event are as follows:

- The MW-1 sample contained TPH-GRO at 570 µg/L, which is above the ESL of 100 µg/L. BTEX concentrations were below the laboratory reporting limit of 0.5 µg/L. TPH-GRO sample results decreased since the sampling event in March 2013. Monitoring well MW-1 has not been consistently sampled due to the groundwater in the well being hydraulically disconnected from the aquifer. As shown in Table A, maximum concentrations were detected in in February 2006; TPH-GRO has decreased two orders of magnitude since sampling began in 2006. BTEX is below respective ESLs.
- All analytical results from MW-2 were below their respective laboratory reporting limits. Monitoring well MW-2 has not been consistently sampled due to the groundwater in the well being hydraulically disconnected from the aquifer. TPH-GRO and BTEX concentrations have been below ESLs since sampling began in 2006.
- All analytical results from MW-3 were below their respective laboratory reporting limits. Monitoring well MW-3 has not been consistently sampled due to the groundwater in the

monitoring well being hydraulically disconnected from the aquifer. TPH-GRO and BTEX concentrations have been below ESLs since November 2006.

- The MW-4 sample contained concentrations of TPH-GRO below the laboratory reporting limit of 50 µg /L. BTEX concentrations were below the laboratory reporting limit of 0.5 µg/L. Monitoring well MW-4 has not been consistently sampled due to the groundwater in the well being hydraulically disconnected from the aquifer. TPH-GRO and BTEX concentrations have been below ESLs since sampling began in 2006.
- The MW-8 sample contained concentrations of TPH-GRO and BTEX at 56,000 µg/L; 720 µg/L; 1,700 µg/L; 2,900 µg/L; and 12,000 µg/L, respectively. Concentration of TPH GRO has increased since the March sampling event; however, this could be due to LNAPL measured in the well, which may have biased the TPH-GRO concentration to the high side. Concentrations of TPH-GRO and BTEX in MW-8 are above ESLs; however the general trends of TPH-GRO and BTEX concentrations in MW-8 have been decreasing since the maximum concentration was detected in December 2010, as shown in Table A.
- The MW-9 sample contained TPH-GRO concentration at 2,200 µg/L and total xylenes concentration at 31 µg/L; both are above the respective ESLs. The toluene concentration was at 1 µg/L and ethylbenzene concentration at 10 µg/L, which are below their respective ESLs. The benzene analytical result was below the laboratory reporting limit. Since the March 2013 event, toluene and total xylenes concentrations have decreased from 41 µg/L and 71 µg/L, respectively. Since the March 2013 event, TPH-GRO and ethylbenzene concentrations have increased from 2,100 µg/L and 2 µg/L, respectively. As shown in Table A, the maximum concentration of TPH-GRO has decreased one order of magnitude and BTEX has decreased three orders of magnitude since the November 2006 sampling event.
- All analytical results from MW-10 were below their respective laboratory reporting limits.
- All analytical results from MW-11 were below their respective laboratory reporting limits.

3.2.2 TPH-GRO and BTEX Concentration Trends and Lateral Extent

TPH-GRO and associated BTEX concentrations have steadily decreased since the pipeline release in all wells including MW-8, which increased to a maximum TPH-GRO concentration of 78,000 µg/L in December 2010 and has decreased to 56,000 µg/L in August 2013. The hydrocarbon plume is horizontally defined to the north by MW-10, to the west by MW-3, MW-4, and MW-11, and to the south by MW-2. The east is delineated by the bedrock hillside.

3.2.3 Geochemical Analytical Results

A biodegradation assessment was completed to evaluate whether the gasoline compounds in groundwater are being decreased by aerobic and/or anaerobic biodegradation. Observations from the August 2013 monitoring event are discussed below to provide an overview of the biodegradation. A brief summary of post-purge ORP measurements is provided below, followed by a discussion of the bioremediation parameters in order of the five stages of biodegradation: aerobic respiration (post-purge DO); denitrification (nitrate); iron (III) reduction (ferric to ferrous); sulfate reduction (sulfate); and methanogenesis (methane). To illustrate how geochemical parameters change when coming in contact with dissolved hydrocarbons, graphs are

"batch QC" basis by evaluating the QC sample results for groups of samples that were prepared and analyzed together. The data evaluation performed included a review of:

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

3.3.1 Method Holding Times

Analytical methods have prescribed holding times. The method holding time is defined as the maximum amount of time after collection that a sample may be held prior to extraction and/or analysis. Sample integrity becomes questionable for samples extracted and/or analyzed outside of the prescribed holding times due to degradation and/or volatilization of the sample. The sample hold time for ferrous iron was exceeded for all samples due to the shipping time for the samples. Ferrous iron detections in samples MW-1, MW-2, MW-3, MW-4, MW-8, MW-9, MW-10, MW-11, and MW-X were qualified as estimated and flagged with a "J".

3.3.2 Method Blanks

Method blanks are prepared in the laboratory using deionized, distilled (Reagent Grade Type II) water. Method blanks are extracted and/or analyzed following the same procedures as an environmental sample. Analysis of the method blank indicates potential sources of contamination from laboratory procedures (e.g. contaminated reagents, improperly cleaned laboratory equipment) or persistent contamination due to the presence of certain compounds in the ambient laboratory environment. The QA/QC review identifies method blanks with detections of target analytes and evaluates the effect of the detections on associated sample results. All reported results for the laboratory method blanks were nondetect (less than the laboratory reporting limit), or were outside laboratory QC limits but did not require qualification, indicating no influence of contamination from laboratory instrumentation.

3.3.3 Trip Blanks

Trip blanks are samples of deionized, distilled (Reagent Grade Type II) water that are prepared in the laboratory, taken to the field, retained on Site throughout sample collection, returned to the laboratory, and analyzed with the environmental samples. The QA/QC review identifies trip blanks with detections of target analytes and evaluates the effect of the detections on associated sample results. Two trip blanks were analyzed during this sampling event. The trip blanks did not have detections of any target analytes, indicating no evidence of contamination during shipment of the laboratory samples.

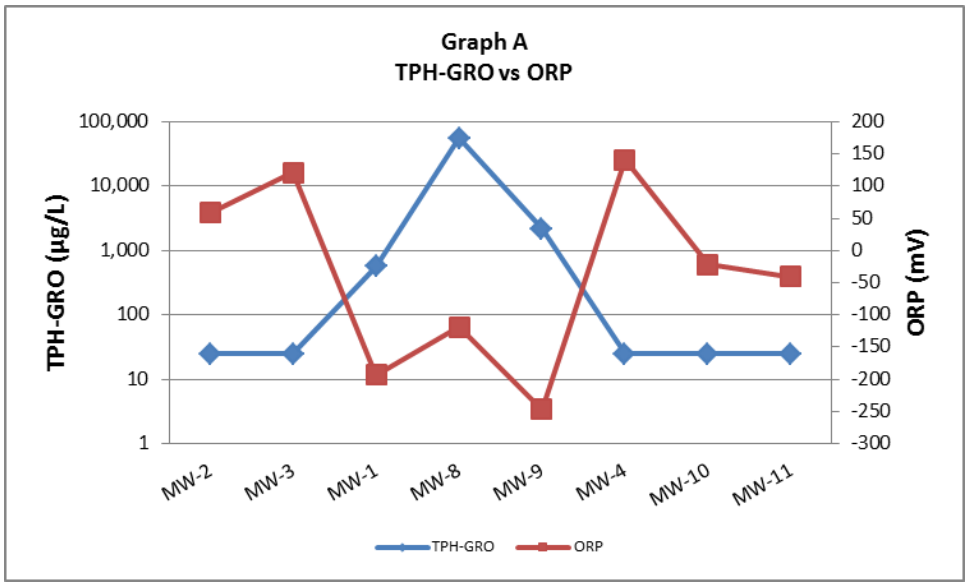
presented showing the variation generally from south to north through the center of the residual petroleum hydrocarbon plume (MW-2, MW-3, MW-1, MW-8, MW-9, MW-4, MW-10 and MW-11).

The groundwater samples collected from MW-1 through MW-4 and MW-8 through MW-11 were analyzed for a selection of field and laboratory geochemical parameters. URS will continue to collect a complete set of geochemical parameters when possible from all monitoring wells. Current and historical geochemical results are presented in Table 3. Groundwater sampling forms are included in Appendix A.

3.2.4 Oxidation Reduction Potential

ORP is a measure of electron activity and is an indicator of the relative tendency of a solute species to gain or lose electrons. ORP in groundwater generally ranges from -400 mV (reducing conditions) to +800 mV (oxidizing conditions). Under oxidizing conditions, the ORP of groundwater is positive, while under reducing conditions the ORP is usually negative. Reducing conditions (negative ORP) suggests that anaerobic biodegradation is occurring.

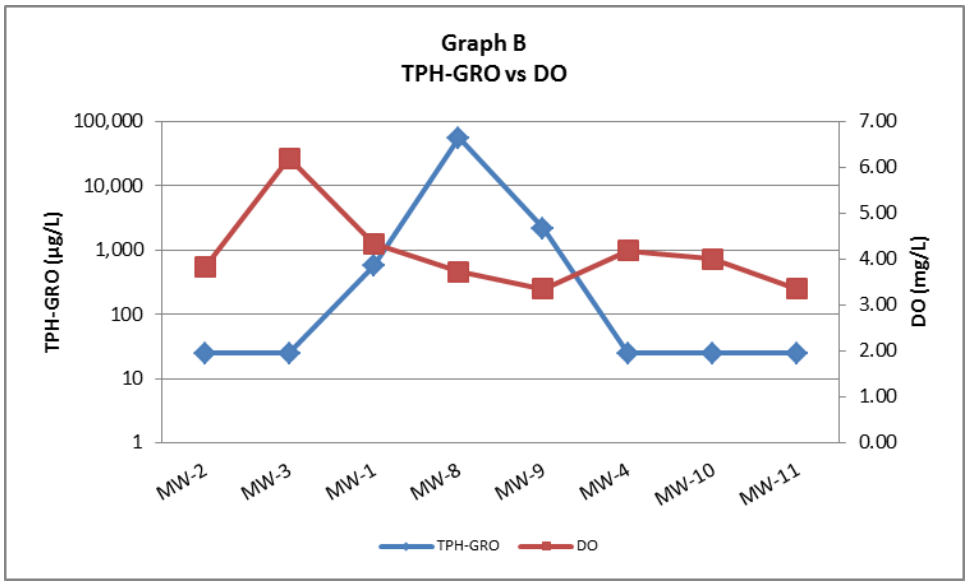
As shown in Graph A, ORP concentrations generally vary inversely with respect to hydrocarbon concentrations at the Site. Post-purge ORP levels during the August 2013 event ranged from -247 mV (MW-9) to +141 mV (MW-4), indicating that anaerobic biodegradation is occurring within monitoring wells located within the residual petroleum hydrocarbon plume (MW-1, MW-8 and MW-9).



3.2.5 Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used in the aerobic biodegradation of petroleum hydrocarbons. During aerobic degradation, DO concentrations are reduced as aerobic respiration occurs.

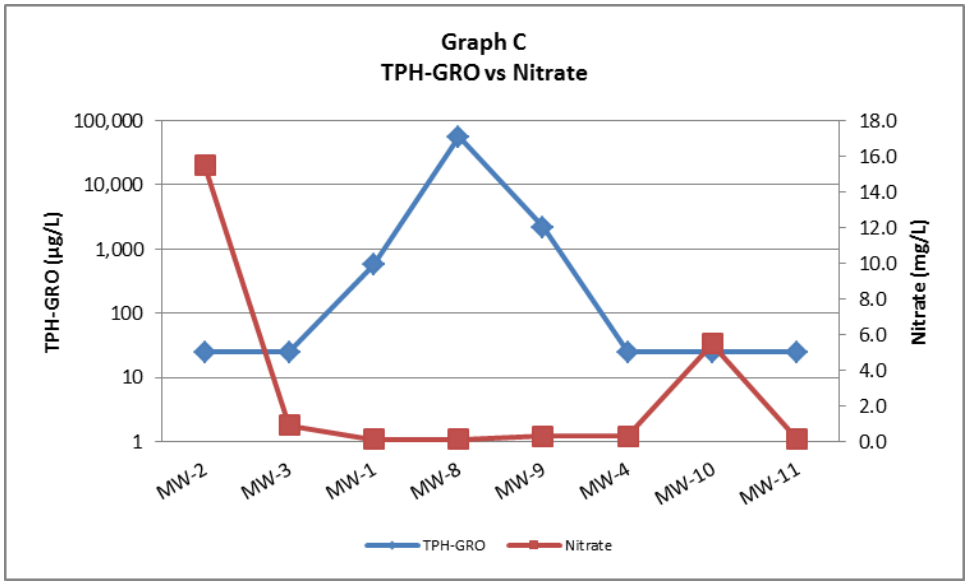
As shown in Graph B, DO concentrations are similar or lower in wells MW-8, and MW-9, which have the highest hydrocarbon concentrations. Post-purge DO concentrations for this sampling event, measured as milligrams per liter (mg/L) in the field ranged in concentrations from 3.35 mg/L in MW-9 and MW-11 to 6.20 mg/L in MW-3. The DO concentrations in all site wells are greater than 2 mg/L indicating that aerobic biodegradation may be occurring at the Site. However, as noted in subsequent sections, it appears that anaerobic biodegradation is occurring in the residual petroleum hydrocarbon plume. Thus the DO readings are considered suspect and may not represent true aquifer conditions.



3.2.6 Nitrates

After DO has been depleted in the groundwater, nitrate may be consumed during the anaerobic biodegradation of TPH-GRO and associated BTEX. In this process, called denitrification, nitrate is reduced to nitrite and ultimately to nitrogen gas. Reduced nitrate concentrations in a hydrocarbon-impacted area compared to the areas outside the plume suggest that anaerobic biodegradation is occurring under nitrate-reducing conditions.

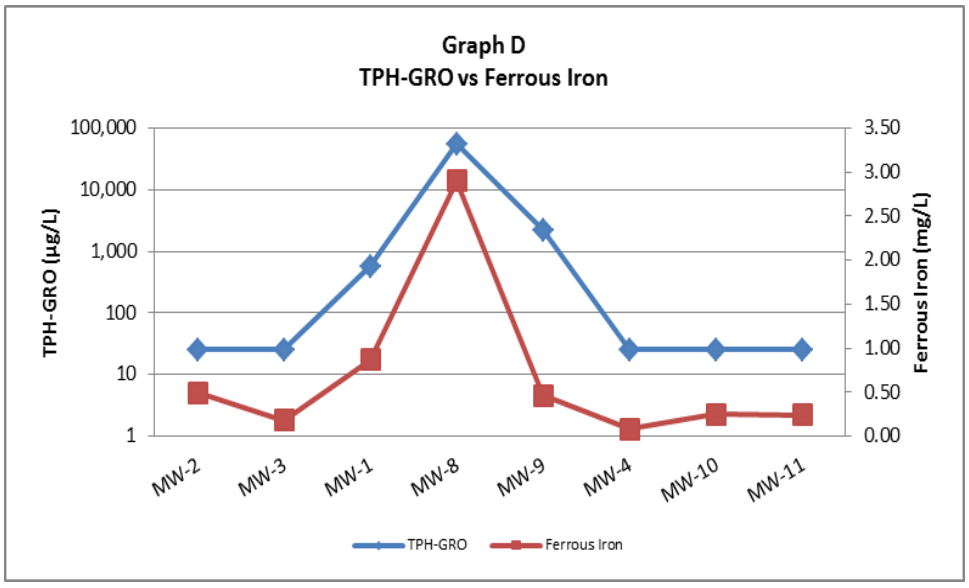
As shown in Graph C, an inverse relationship is observed at this Site, except for wells located outside of the residual petroleum hydrocarbon plume (MW-3, MW-4, MW-10 and MW-11). Nitrate concentrations for this sampling event, measured by the analytical laboratory, ranged in concentration from 0.31 mg/L in MW-9 to 15.5 mg/L in MW-2. The nitrate concentration was below the laboratory reporting limit in MW-1 and MW-8, which have elevated concentrations of TPH-GRO concentrations. The low concentrations of nitrate in MW-1, MW-8, and MW-9 suggest that anaerobic biodegradation is occurring within the residual petroleum hydrocarbon plume at the Site.



3.2.7 Ferrous Iron

After both DO and nitrate are depleted in anaerobic groundwater, ferric iron (Fe^{3+}) in soil may be consumed by anaerobic biodegradation. In this process, ferric iron in soil is reduced to ferrous iron (Fe^{2+}), which is soluble in water. Therefore, if groundwater has relatively high levels of ferrous iron, anaerobic biodegradation may be occurring.

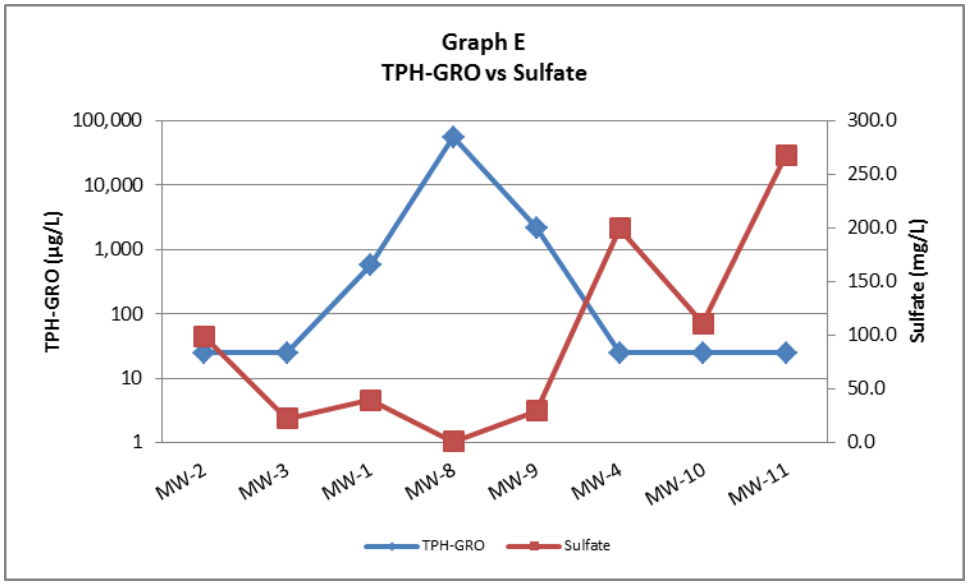
Ferrous iron concentrations for this sampling event, measured by the analytical laboratory ranged in concentrations from 0.08 mg/L in MW-4 to 2.9 mg/L in MW-8. As shown in Graph D, ferrous iron concentrations are generally highest in wells with higher hydrocarbon concentrations, indicating anaerobic hydrocarbon biodegradation is occurring within the residual petroleum hydrocarbon plume.



3.2.8 Sulfate

After DO, nitrate, and ferric iron are depleted in anaerobic groundwater, sulfate may be consumed in the anaerobic biodegradation process. Sulfate is reduced to sulfide, which reacts with ferric iron on soil particles to precipitate out as various sulfides of iron and can also lead to higher ferrous iron concentrations. Iron sulfides are re-oxidized to iron oxides in the presence of oxygen in the vadose zone. Any dissolved sulfides are oxidized at the plume fringes where impacted groundwater mixes with non-impacted groundwater. If reported sulfate concentrations vary inversely with hydrocarbon concentrations, anaerobic biodegradation of fuel hydrocarbons is likely occurring under sulfate-reducing conditions.

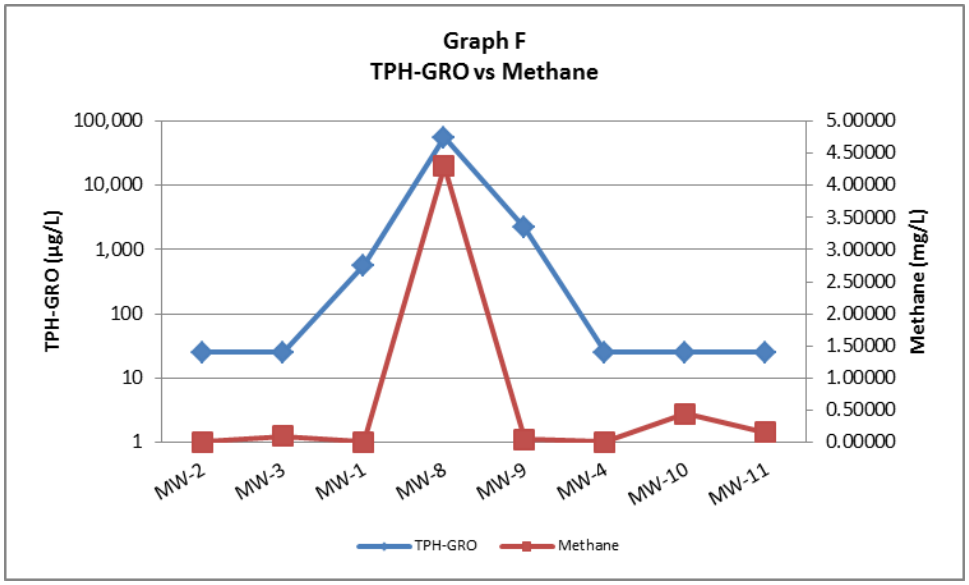
As shown in Graph E, sulfate concentrations vary inversely with hydrocarbon concentrations, with the exception of MW-10. Sulfate results for this sampling event, measured by the analytical laboratory ranged from 22.5 mg/L in MW-3 to 268 mg/L in MW-11. Sulfate concentrations were low in MW-1 and MW-9, and below the laboratory reporting limit in MW-8, which suggests that anaerobic biodegradation is occurring within the residual petroleum hydrocarbon plume.



3.2.9 Methane

The final step in the anaerobic biodegradation process is methanogenesis. When all soluble electron acceptors such as DO, nitrate, ferric iron, and sulfate are depleted, groundwater conditions become conducive to fermentation, and methane is generated by methanogenesis. The only electron acceptor available for the methanogenesis is carbon from carbon dioxide. This source of carbon dioxide is primarily from the by-products of previous stages of anaerobic biodegradation. Without methanogenesis, a great deal of carbon (in the form of fermentation products) would accumulate in anaerobic environments.

As shown on Graph F, there is a direct relationship of methane to TPH-GRO, especially observed in MW-8. Methane results for this sampling event, measured by the analytical laboratory ranged from 0.0062 mg/L in MW-1 to 4.3 mg/L in MW-8. Methane concentrations were below the laboratory reporting limit in MW-2 and MW-4. These results suggest anaerobic biodegradation is occurring within MW-8, the center of the residual petroleum hydrocarbon plume.



3.2.9.1 Summary of Geochemical Analytical Results

Although DO measurements suggest aerobic conditions extend across the Site, other geochemical parameters indicate anaerobic hydrocarbon bioremediation is occurring within the residual petroleum hydrocarbon plume.

3.3 SUMMARY OF QA/QC REVIEW PARAMETERS

The quality assurance/quality control (QA/QC) program includes using standard sample collection procedures in the field and established analytical methodologies in the laboratory. Laboratory and field QC sample results were evaluated to assess the quality of the individual sample results and overall method performance. Analytical performance was evaluated on a

3.3.4 Equipment Blanks

Equipment blanks are samples of deionized, distilled (Reagent Grade Type II) water that are prepared in the field by pumping the water through the decontaminated pumps and tubing and into sample containers. The equipment blank is designed to detect contamination introduced to the sample by the decontamination process, sample containers, sample preservatives, and/or the ambient conditions at the collection Site. One equipment blank was submitted with the project samples during the sampling event, and no contamination of the equipment blank was detected.

3.3.5 Matrix Spikes and Laboratory Control Samples

Matrix spikes (MS), matrix spike duplicates (MSD), laboratory control samples (LCS), and laboratory control sample duplicates (LCSD) are analyzed by the laboratory to evaluate the accuracy and precision of the sample extraction and analysis procedures and to evaluate potential matrix interference. Matrix interference, the effect of the sample matrix on the analysis, may partially or completely mask the response of analytical instrumentation to the target analyte(s). Matrix interference may have a varying impact on the accuracy and precision of the extraction and/or analysis procedures, and may bias the sample results high or low.

The MS or MSD is prepared by adding a known quantity of the target compound(s) to a sample. The sample is then extracted and/or analyzed as a typical environmental sample and the results are reported as percent recovery. The spike percent recovery is defined as:

$$\text{Recovery (\%)} = \frac{\text{spike analysis result - original sample concentration}}{\text{concentration of spike addition}} \text{ x100\%}$$

MS and MSD recoveries are reviewed for compliance with laboratory-established control limits to evaluate the accuracy of the extraction and/or analysis procedures.

LCS and LCSD are prepared exactly like MS and MSD using a clean control matrix rather than an environmental sample. Typical control matrices include Reagent Grade Type II water and clean sand. LCS and LCSD are used to evaluate laboratory accuracy independent of matrix effects.

The QA/QC review identifies spike recoveries outside laboratory control limits and evaluates the effect of these recoveries on the associated sample results. All reported LCS/LCSD and MS/MSD sample recoveries were within laboratory QC limits, or were outside laboratory QC limits but did not require qualification.

3.3.6 Laboratory Duplicate Analyses

Duplicate analyses are performed by the laboratory to evaluate the precision of analytical procedures. The laboratory may perform MSD and/or LSD analyses.

Precision is evaluated by calculating a relative percent difference (RPD) using the following equation:

$$\text{RPD (\%)} = \left| \frac{(\text{Spike Concentration} - \text{Spike Duplicate Concentration})}{\frac{1}{2}(\text{Spike Concentration} + \text{Spike Duplicate Concentration})} \right| \text{ x } 100\%$$

The RPD is compared to laboratory-established control limits to evaluate analytical precision. The QA/QC review identifies RPDs outside laboratory control limits and evaluates the effect of these recoveries on the associated sample results. All laboratory duplicate analyses were within laboratory QC limits.

3.3.7 Field Duplicate Analyses

Field duplicate samples are collected in the field and analyzed to evaluate the heterogeneity of the matrices. One field duplicate sample, MW-X (duplicate of MW-8), was collected during this sampling event. The QA/QC review identifies relative percent (%) difference (RPD) greater than 20% for compounds detected in the field sample and corresponding field duplicate sample. The following field sample/duplicate sample pair had RPDs greater than 20%:

- RPDs of 23%, and 62% were observed for total xylenes and nitrate nitrogen, respectively, in field sample/duplicate sample pair MW-9/MW-X. The total xylenes and nitrate nitrogen results in samples MW-9 and MW-X were qualified with a "J," indicating heterogeneity of the sample matrix.

3.3.8 Surrogate Recoveries

Surrogates are organic compounds that are similar to the target analytes in terms of their chemical structures and response to the analytical instrumentation, but are not usually detected in environmental samples. Surrogates are added to each environmental and laboratory QC sample to monitor the effect of the matrix on the accuracy of the extraction and/or analysis of organic analytes. Results for surrogate analyses are reported in terms of percent recovery (defined above). Reported recoveries are compared to laboratory-established control limits to evaluate sample-specific accuracy. The QA/QC review identifies surrogate recoveries outside laboratory control limits and evaluates the effect of these recoveries on the sample results. All surrogate recoveries were within laboratory QC limits.

3.4 EXPLANATION OF ANALYTICAL DATA QUALIFIERS

The analytical data were reviewed and qualified following USEPA guidelines for organic data review (USEPA, 2008) and inorganic data review (USEPA, 2010). A "J" qualifier indicates that the analyte was positively identified, but that the associated numerical value is an approximate concentration of the analyte in the sample. A "J+" or "J-" indicates that the result is an estimate, but may be biased either high or low, respectively. A "UJ" qualifier indicates that the analyte was not detected above the reported sample quantitation limit (i.e., the laboratory reporting limit). However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. An "R" qualifier indicates that the sample results were rejected due to serious

deficiencies in the ability to analyze the sample and meet quality control criteria, and therefore, the presence or absence of the analyte could not be verified.

3.5 SUMMARY OF QA/QC REVIEW FINDINGS

The results of the data evaluation are summarized in the following paragraphs.

The sample hold time for ferrous iron was exceeded for all samples. Ferrous iron detections in samples MW-1, MW-2, MW-3, MW-4, MW-8, MW-9, MW-10, MW-11, and MW-X were qualified as estimated and flagged with a "J". RPDs of 23%, and 62% were observed for total xylenes and nitrate nitrogen, respectively, in field sample/duplicate sample pair MW-9/MW-X. The total xylenes and nitrate nitrogen results in samples MW-9 and MW-X were qualified with a "J," indicating heterogeneity of the sample matrix.

Chain-of-custody documentation is complete and consistent. Samples were preserved as required per method specifications. All samples were analyzed within method specified holding times, except as noted. Based on the data quality evaluation, 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.

Second semi-annual 2013 groundwater monitoring field activities conducted on August 14 and 15, 2013 included measuring the depth to groundwater at monitoring wells MW-1 through MW-4 and MW-8 through MW-15, and collecting analytical samples from monitoring wells MW-1 through MW-4 and MW-8 through MW-11. The findings are as follows:

- The groundwater elevations decreased in all wells since the last sampling event in March 2013. The groundwater flow direction within the Site's unconfined water-bearing zone is a northeasterly direction with a calculated hydraulic gradient of 0.005 feet/feet.
- TPH-GRO and BTEX concentrations have steadily decreased since the pipeline release in all wells except MW-8. TPH-GRO and BTEX concentrations have decreased in MW-8 since 2010. The highest concentrations of TPH-GRO, benzene, toluene, and ethylbenzene over the duration of the monitoring program were recorded in groundwater at well MW-8 located on the eastern side of Calaveras Road. TPH-GRO was 78,000 µg/L in December 2010, benzene was 2,000 µg/L in December 2010, toluene was 16,000 µg/L in September 2010 and ethylbenzene was 3,200 µg/L in September 2010 and August 2011. The highest concentration of total xylenes over the duration of the monitoring program was 17,000 µg/L in November 2006 in groundwater monitoring well MW-9.
- Only three monitoring wells samples (MW-1, MW-8 and MW-9) had gasoline compound concentrations that exceeded ESLs. TPH-GRO concentrations were detected in monitoring well samples MW-1 at 570 µg/L, MW-8 at 56,000 µg /L, and MW-9 at 2,200 µg/L during the second semi-annual 2013 monitoring event. The MW-8 samples analyzed for BTEX exceeded ESL values: 720 µg/L (benzene), 1,700 µg/L (toluene), 2,900 µg/L (ethylbenzene) and 12,000 µg/L (total xylenes). Groundwater sample MW-9 exceeded the ESL for total xylenes (20 µg/L) at concentration of 31 µg/L. Though the concentrations of TPH-GRO and ethylbenzene have increased since the March 2013 event, the general trend shows decreasing concentrations since 2010.
- Monitoring wells MW-12 through MW-15 were gauged on August 14, 2013 and had insufficient water for sample collection.
- The hydrocarbon plume is horizontally defined to the north by MW-10; to the west by MW-3, MW-4, and MW-11; to the south by MW-2; and to the east by the hillside bedrock.
- The geochemical parameters that were collected included ORP, DO, nitrates, ferrous iron, sulfate and methane. After reviewing the bioparameter data, the results indicate that anaerobic biodegradation is within the residual hydrocarbon plume.
- The analytical data are of acceptable quality and may be used for their intended purposes. The QA/QC review of data found it suitable for its intended use to address the groundwater conditions at the Site.

Based on the August 2013 field observations and analytical results URS makes the following recommendations:

- Based on current groundwater conditions, URS finds the data further supports eligibility for closure under the State Water Resources Control Board's low-threat closure policy. URS recently submitted a low-threat case closure petition to ACEHD on August 26, 2013.
- Continue monthly gauging to further assess the effect of seasonal groundwater fluctuations on groundwater flow direction and contaminant transport within the unconfined water-bearing zone during the closure petition process.

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. Since 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 use by CPL, and reliance on this report by third parties will be at such party's sole risk, unless that party has written authorization from URS to use this document. The purpose of this restriction is to attempt to protect the interests for whom the report may be appropriately directed.

Services performed by URS were conducted in a manner consistent with that level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations to CPL, either expressed or implied, and no warranty or guarantee is included or intended for the semi-annual groundwater monitoring report. The program described in this report is based upon the information acquired during the various investigations at the Site. It is possible that variations at the Site could exist beyond or between points explored during the course of the investigations. Also, changes in conditions could occur at some time in the future due to possible contamination migration, variations in rainfall, temperature, and/or other factors not apparent at the time of the various field activities.

Opinions relating to the environmental, geologic, and hydrogeologic conditions are based on limited data and actual conditions may vary from those encountered at the times and locations where the data was obtained, despite the use of due professional care.

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TABLE 1
Monitoring Well Groundwater Elevations
Second Semi-Annual 2013 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-1	10/20/2005	328.49	328.04	29.3-39.3	11/17/2005	37.82	290.22	37.62	290.42	0.20
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/13/2005	37.70	290.34	37.59	290.45	0.11
MW-1	10/20/2005	328.49	328.04	29.3-39.3	1/17/2006	35.69	292.35	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	2/21/2006	36.34	291.70	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	5/10/2006	33.78	294.26	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	6/7/2006	34.28	293.76	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	8/22/2006	37.11	290.93	37.08	290.96	0.03
MW-1	10/20/2005	328.49	328.04	29.3-39.3	11/14/2006	37.05	290.99	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/8/2006	36.91	291.13	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	1/10/2007	36.27	291.77	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	2/20/2007	36.14	291.90	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	6/5/2007	37.21	290.83	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	7/13/2007	37.48	290.56	37.46	290.58	0.02
MW-1	10/20/2005	328.49	328.04	29.3-39.3	8/17/2007	37.56	290.48	37.54	290.50	0.02
MW-1	10/20/2005	328.49	328.04	29.3-39.3	9/5/2007	37.62	290.42	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	9/12/2007	37.67	290.37	37.55	290.49	0.12
MW-1	10/20/2005	328.49	328.04	29.3-39.3	10/31/2007	37.63	290.41	37.58	290.46	0.05
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/5/2007	38.51	289.53	38.50	289.54	0.01
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/11/2007	37.49	290.55	37.46	290.58	0.03
MW-1	10/20/2005	328.49	328.04	29.3-39.3	3/4/2008	35.56	292.48	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	3/19/2008	35.94	292.10	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	5/20/2008	35.51	292.53	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	6/5/2008	35.69	292.35	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	7/18/2008	36.88	291.16	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	9/5/2008	37.57	290.47	37.56	290.48	0.01
MW-1	10/20/2005	328.49	328.04	29.3-39.3	9/18/2008	37.62	290.42	37.61	290.43	0.01
MW-1	10/20/2005	328.49	328.04	29.3-39.3	10/31/2008	37.67	290.37	37.65	290.39	0.02
MW-1	10/20/2005	328.49	328.04	29.3-39.3	11/24/2008	37.62	290.42	37.59	290.45	0.03
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/15/2008	37.53	290.51	37.52	290.52	0.01
MW-1	10/20/2005	328.49	328.04	29.3-39.3	1/22/2009	37.44	290.60	--	--	--

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MW-1	10/20/2005	328.49	328.04	29.3-39.3	2/25/2009	36.28	291.76	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	3/27/2009	35.24	292.80	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	4/23/2009	35.59	292.45	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	5/28/2009	36.74	291.30	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	6/9/2009	37.05	290.99	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	8/25/2009	37.60	290.44	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	9/28/2009	37.61	290.43	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	10/21/2009	37.63	290.41	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	11/10/2009	37.62	290.42	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/9/2009	37.56	290.48	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	1/25/2010	35.47	292.57	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	2/19/2010	35.15	292.89	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	3/9/2010	34.41	293.63	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	4/22/2010	35.07	292.97	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	5/27/2010	35.41	292.63	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	6/23/2010	37.49	290.55	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	7/27/2010	37.18	290.86	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	8/31/2010	37.40	290.64	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	9/29/2010	37.36	290.68	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	10/27/2010	37.21	290.83	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	11/23/2010	37.17	290.87	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/14/2010	37.11	290.93	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	1/31/2011	35.42	292.62	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	2/28/2011	34.79	293.25	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	3/28/2011	32.19	295.85	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	4/28/2011	34.34	293.70	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	5/26/2011	35.52	292.52	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	6/27/2011	36.03	292.01	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	8/22/2011	37.04	291.00	37.03	291.01	0.01
MW-1	10/20/2005	328.49	328.04	29.3-39.3	9/19/2011	37.23	290.81	--	--	--

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MW-1	10/20/2005	328.49	328.04	29.3-39.3	10/24/2011	37.18	290.86	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	11/21/2011	37.14	290.90	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/19/2011	36.98	291.06	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	1/30/2012	36.92	291.12	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	2/20/2012	36.92	291.12	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	3/20/2012	36.68	291.36	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	4/24/2012	35.60	292.44	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	5/30/2012	36.52	291.52	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	6/12/2012	36.76	291.28	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	7/25/2012	37.02	291.02	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	8/28/2012	37.09	290.95	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	9/24/2012	37.16	290.88	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	10/30/2012	37.16	290.88	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	11/20/2012	37.24	290.80	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	12/7/2012	36.04	292.00	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	1/29/2013	35.53	292.51	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	2/28/2013	36.27	291.77	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	3/25/2013	36.32	291.72	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	4/29/2013	36.79	291.25	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	5/31/2013	36.83	291.21	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	6/28/2013	36.93	291.11	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	7/30/2013	37.04	291.00	~~37.04~~	~~291.00~~	~~sheen~~
MW-1	10/20/2005	328.49	328.04	29.3-39.3	8/6/2013[4]	37.00	291.04	--	--	--
MW-1	10/20/2005	328.49	328.04	29.3-39.3	8/14/2013[5]	37.02	291.02	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	11/17/2005	33.74	290.41	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	12/13/2005	33.67	290.48	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	1/17/2006	31.51	292.64	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	2/21/2006	32.19	291.96	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	5/10/2006	29.71	294.44	--	--	--

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TABLE 1
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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-2	10/21/2005	324.85	324.15	23.3-38.3	6/7/2006	30.23	293.92	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	8/22/2006	33.11	291.04	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	11/14/2006	33.01	291.14	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	12/8/2006	32.85	291.30	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	1/10/2007	32.09	292.06	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	2/20/2007	31.93	292.22	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	6/5/2007	33.23	290.92	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	7/13/2007	33.49	290.66	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	8/17/2007	33.58	290.57	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	9/5/2007	33.61	290.54	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	9/12/2007	33.62	290.53	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	10/31/2007	33.61	290.54	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	12/5/2007	33.52	290.63	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	3/4/2008	31.41	292.74	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	3/19/2008	31.76	292.39	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	5/20/2008	31.41	292.74	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	6/5/2008	31.56	292.59	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	7/18/2008	32.88	291.27	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	9/5/2008	33.60	290.55	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	9/18/2008	33.65	290.50	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	10/31/2008	33.70	290.45	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	11/24/2008	33.62	290.53	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	12/15/2008	33.59	290.56	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	1/22/2009	33.46	290.69	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	2/25/2009	32.11	292.04	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	3/27/2009	31.14	293.01	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	4/23/2009	31.48	292.67	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	5/28/2009	37.74	286.41	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	6/9/2009	33.08	291.07	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	8/25/2009	33.63	290.52	--	--	--

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TABLE 1
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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-2	10/21/2005	324.85	324.15	23.3-38.3	9/28/2009	33.62	290.53	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	10/21/2009	33.68	290.47	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	11/10/2009	33.67	290.48	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	12/9/2009	33.61	290.54	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	1/25/2010	31.28	292.87	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	2/19/2010	31.03	293.12	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	3/9/2010	30.36	293.79	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	4/22/2010	30.96	293.19	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	5/27/2010	31.31	292.84	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	6/23/2010	32.66	291.49	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	7/27/2010	33.24	290.91	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	8/31/2010	33.44	290.71	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	9/29/2010	33.41	290.74	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	10/27/2010	33.25	290.90	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	11/23/2010	33.22	290.93	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	12/14/2010	33.12	291.03	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	1/31/2011	31.28	292.87	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	2/28/2011	30.67	293.48	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	3/28/2011	28.10	296.05	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	4/28/2011	30.24	293.91	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	5/26/2011	31.37	292.78	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	6/27/2011	31.87	292.28	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	7/25/2011	32.95	291.20	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	8/22/2011	33.07	291.08	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	9/19/2011	33.27	290.88	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	10/24/2011	33.21	290.94	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	11/21/2011	33.17	290.98	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	12/19/2011	33.03	291.12	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	1/30/2012	32.95	291.20	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	2/20/2012	32.92	291.23	--	--	--

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TABLE 1
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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-2	10/21/2005	324.85	324.15	23.3-38.3	3/20/2012	32.65	291.50	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	3/24/2012	31.43	292.72	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	5/30/2012	32.47	291.68	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	6/12/2012	32.78	291.37	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	7/25/2012	33.06	291.09	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	8/28/2012	33.13	291.02	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	9/24/2012	33.20	290.95	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	10/30/2012	33.20	290.95	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	11/20/2012	33.29	290.86	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	12/7/2012	31.84	292.31	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	1/29/2013	31.37	292.78	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	2/28/2013	32.09	292.06	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	3/25/2013	32.18	291.97	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	4/29/2013	32.79	291.36	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	5/31/2013	32.90	291.25	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	6/28/2013	23.97	300.18	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	7/30/2013	33.07	291.08	~~33.07~~	~~291.08~~	~~sheen~~
MW-2	10/21/2005	324.85	324.15	23.3-38.3	8/6/2013[4]	33.05	291.10	--	--	--
MW-2	10/21/2005	324.85	324.15	23.3-38.3	8/14/2013[5]	33.07	291.08	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	11/17/2005	35.93	289.72	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/13/2005	34.80	290.85	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	1/17/2006	30.88	294.77	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	2/21/2006	31.97	293.68	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	5/10/2006	30.38	295.27	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	6/7/2006	30.91	294.74	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	8/22/2006	34.66	290.99	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	11/14/2006	34.71	290.94	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/8/2006	34.65	291.00	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	1/10/2007	31.68	293.97	--	--	--

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TABLE 1
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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-3	10/21/2005	326.05	325.65	21.3-36.3	2/20/2007	31.66	293.99	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	6/5/2007	34.63	291.02	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	7/13/2007	34.75	290.90	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	8/17/2007	34.78	290.87	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	9/5/2007	34.70	290.95	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	9/12/2007	34.71	290.94	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	10/31/2007	34.63	291.02	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/5/2007	34.79	290.86	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/11/2007	34.77	290.88	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	3/4/2008	30.97	294.68	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	3/19/2008	31.64	294.01	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	5/20/2008	31.26	294.39	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	6/5/2008	31.45	294.20	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	7/18/2008	34.11	291.54	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	9/5/2008	34.77	290.88	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	9/18/2008	34.81	290.84	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	10/31/2008	34.85	290.80	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	11/24/2008	34.79	290.86	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/15/2008	34.79	290.86	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	1/22/2009	34.71	290.94	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	2/25/2009	31.35	294.30	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	3/27/2009	30.87	294.78	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	4/23/2009	31.39	294.26	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	5/28/2009	33.97	291.68	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	6/9/2009	34.48	291.17	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	8/25/2009	34.83	290.82	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	9/28/2009	34.82	290.83	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	10/21/2009	34.79	290.86	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	11/10/2009	34.85	290.80	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/9/2009	34.83	290.82	--	--	--

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TABLE 1
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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-3	10/21/2005	326.05	325.65	21.3-36.3	1/25/2010	30.49	295.16	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	2/19/2010	30.92	294.73	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	3/9/2010	30.60	295.05	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	4/22/2010	31.03	294.62	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	5/27/2010	31.29	294.36	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	6/23/2010	33.94	291.71	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	7/27/2010	34.59	291.06	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	8/31/2010	34.70	290.95	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	9/29/2010	34.80	290.85	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	10/27/2010	34.82	290.83	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	11/23/2010	34.79	290.86	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/14/2010	33.05	292.60	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	1/31/2011	30.99	294.66	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	2/28/2011	30.69	294.96	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	3/28/2011	28.78	296.87	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	4/28/2011	30.55	295.10	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	5/26/2011	31.35	294.30	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	6/27/2011	32.13	293.52	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	7/25/2011	34.49	291.16	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	8/22/2011	34.70	290.95	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	9/19/2011	34.67	290.98	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	10/24/2011	34.39	291.26	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	11/21/2011	34.75	290.90	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/19/2011	38.96	286.69	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	1/30/2012	34.70	290.95	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	2/20/2012	34.76	290.89	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	3/20/2012	32.08	293.57	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	4/24/2012	31.03	294.62	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	5/30/2012	32.99	292.66	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	6/12/2012	33.60	292.05	--	--	--

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TABLE 1
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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-3	10/21/2005	326.05	325.65	21.3-36.3	7/25/2012	34.74	290.91	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	8/28/2012	34.79	290.86	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	9/24/2012	34.82	290.83	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	10/30/2012	34.85	290.80	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	11/20/2012	34.88	290.77	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	12/7/2012	30.97	294.68	30.97	294.68	sheen
MW-3	10/21/2005	326.05	325.65	21.3-36.3	1/29/2013	31.14	294.51	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	2/28/2013	31.83	293.82	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	3/25/2013	32.08	293.57	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	4/29/2013	33.89	291.76	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	5/31/2013	34.63	291.02	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	6/28/2013	34.74	290.91	--	--	--
MW-3	10/21/2005	326.05	325.65	21.3-36.3	7/30/2013	34.83	290.82	~~34.83~~	~~290.82~~	~~sheen~~
MW-3	10/21/2005	326.05	325.65	21.3-36.3	8/6/2013[4]	34.79	290.86	~~34.79~~	~~290.86~~	~~sheen~~
MW-3	10/21/2005	326.05	325.65	21.3-36.3	8/14/2013[5]	34.82	290.83	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	2/21/2006	36.72	292.95	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	5/10/2006	35.30	294.37	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	6/7/2006	35.76	293.91	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	8/22/2006	38.79	290.88	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	11/14/2006	38.84	290.83	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/8/2006	38.78	290.89	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	1/10/2007	36.54	293.13	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	2/20/2007	36.54	293.13	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	6/5/2007	38.77	290.90	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	7/13/2007	38.94	290.73	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	8/17/2007	39.00	290.67	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	9/5/2007	38.92	290.75	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	9/12/2007	38.93	290.74	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	10/31/2007	38.87	290.80	--	--	--

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MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/5/2007	38.97	290.70	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/11/2007	39.00	290.67	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	3/4/2008	36.15	293.52	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	3/19/2008	36.29	293.38	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	5/20/2008	36.27	293.40	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	6/5/2008	36.38	293.29	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	7/18/2008	38.31	291.36	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	9/5/2008	38.95	290.72	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	9/18/2008	39.03	290.64	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	10/31/2008	39.11	290.56	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	11/24/2008	39.03	290.64	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/11/2008	39.00	290.67	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/15/2008	39.03	290.64	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	1/22/2009	38.91	290.76	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	2/25/2009	36.35	293.32	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	3/27/2009	36.10	293.57	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	4/23/2009	36.36	293.31	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	5/28/2009	38.21	291.46	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	6/9/2009	38.62	291.05	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	8/25/2009	39.05	290.62	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	9/28/2009	39.04	290.63	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	10/21/2009	39.02	290.65	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	11/10/2009	39.09	290.58	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/9/2009	39.09	290.58	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	1/25/2010	35.96	293.71	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	2/19/2010	36.09	293.58	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	3/9/2010	35.69	293.98	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	4/22/2010	36.13	293.54	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	5/27/2010	36.27	293.40	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	6/23/2010	37.41	292.26	--	--	--

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MW-4	1/31/2006	329.97	329.67	30.7-40.7	7/27/2010	38.75	290.92	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	8/31/2010	38.89	290.78	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	9/29/2010	38.98	290.69	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	10/27/2010	39.02	290.65	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	11/23/2010	38.99	290.68	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/14/2010	37.61	292.06	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	1/31/2011	36.16	293.51	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	2/28/2011	35.93	293.74	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	3/28/2011	33.63	296.04	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	4/28/2011	35.65	294.02	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	5/26/2011	36.32	293.35	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	6/27/2011	36.84	292.83	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	7/25/2011	38.63	291.04	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	8/22/2011	38.88	290.79	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	9/19/2011	38.89	290.78	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	10/24/2011	38.89	290.78	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	11/21/2011	38.98	290.69	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/19/2011	34.75	294.92	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	1/30/2012	38.91	290.76	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	2/20/2012	38.94	290.73	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	3/20/2012	37.07	292.60	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	4/24/2012	36.21	293.46	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	5/30/2012	37.45	292.22	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	6/12/2012	37.94	291.73	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	7/25/2012	38.97	290.70	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	8/28/2012	39.02	290.65	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	9/24/2012	39.06	290.61	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	10/30/2012	39.08	290.59	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	11/20/2012	39.14	290.53	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	12/7/2012	36.21	293.46	--	--	--

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MW-4	1/31/2006	329.97	329.67	30.7-40.7	1/29/2013	36.24	293.43	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	2/28/2013	36.67	293.00	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	3/25/2013	36.84	292.83	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	4/29/2013	38.19	291.48	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	5/31/2013	38.80	290.87	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	6/28/2013	38.86	290.81	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	7/30/2013	39.03	290.64	~~39.03~~	~~290.64~~	~~sheen~~
MW-4	1/31/2006	329.97	329.67	30.7-40.7	8/6/2013[4]	39.00	290.67	--	--	--
MW-4	1/31/2006	329.97	329.67	30.7-40.7	8/14/2013[5]	39.03	290.64			
MW-5	1/27/2006	335.14	334.81	39.5-49.5	2/21/2006	11.48	323.33	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	6/7/2006	10.61	324.20	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	8/22/2006	11.93	322.88	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	11/14/2006	11.37	323.44	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	2/20/2007	11.41	323.40	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	6/5/2007	13.59	321.22	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	9/12/2007	15.65	319.16	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	12/11/2008	--	--	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	Q1 2008	--	--	--	--	--
MW-5	1/27/2006	335.14	334.81	39.5-49.5	Q2 2008	Abandoned[1]	Abandoned[1]	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	2/21/2006	18.02	314.36	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	6/7/2006	16.83	315.55	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	8/22/2006	18.66	313.72	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	11/14/2006	17.37	315.01	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	2/20/2007	17.51	314.87	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	6/5/2007	19.44	312.94	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	9/12/2007	23.46	308.92	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	12/11/2008	--	--	--	--	--
MW-6	1/27/2006	332.61	332.38	34.7-49.7	Q1 2008	--	--	--	--	--

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-6	1/27/2006	332.61	332.38	34.7-49.7	Q2 2008	Abandoned[1]	Abandoned[1]	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	2/21/2006	15.43	320.79	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	6/7/2006	16.68	319.54	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	8/22/2006	16.77	319.45	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	11/14/2006	16.99	319.23	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	2/20/2007	18.34	317.88	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	6/5/2007	19.88	316.34	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	9/12/2007	21.76	314.46	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	12/11/2008	--	--	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	Q1 2008	--	--	--	--	--
MW-7	1/27/2006	336.46	336.22	34.7-49.7	Q2 2008	Abandoned[1]	Abandoned[1]	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/22/2006	18.71	315.22	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	11/14/2006	18.73	315.20	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	12/8/2006	19.15	314.78	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	1/10/2007	19.19	314.74	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	2/20/2007	19.23	314.70	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	6/5/2007	20.48	313.45	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	7/13/2007	21.21	312.72	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/17/2007	21.45	312.48	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	9/5/2007	21.55	312.38	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	9/12/2007	21.47	312.46	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	10/31/2007	20.33	313.60	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	12/5/2007	19.55	314.38	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	12/11/2007	19.58	314.35	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	3/4/2008[3]	--	--	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	3/19/2008[3]	--	--	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	5/20/2008[3]	--	--	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	6/5/2008[3]	--	--	--	--	--

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-8	8/15/2006	335.23	333.93	14.5-24.5	7/18/2008	22.44	311.49	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	9/5/2008	21.76	312.17	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	9/18/2008	21.67	312.26	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	10/31/2008	21.87	312.06	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	11/24/2008	21.26	312.67	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	12/15/2008	20.73	313.20	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	1/22/2009	20.25	313.68	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	2/25/2009	19.50	314.43	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	3/27/2009	19.54	314.39	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	4/23/2009	20.24	313.69	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	5/28/2009	20.96	312.97	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	6/9/2009	23.31	310.62	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/25/2009	22.50	311.43	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	9/28/2009	22.58	311.35	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	10/21/2009	21.61	312.32	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	11/10/2009	21.15	312.78	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	12/9/2009	20.66	313.27	20.65	20.65	0.01
MW-8	8/15/2006	335.23	333.93	14.5-24.5	1/25/2010	19.19	314.74	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	2/19/2010	19.13	314.80	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	3/9/2010	18.97	314.96	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	4/22/2010	19.15	314.78	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	5/27/2010	19.29	314.64	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	6/23/2010	19.82	314.11	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	7/27/2010	21.40	312.53	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/31/2010	21.65	312.28	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	9/29/2010	22.23	311.70	22.22	22.22	0.01
MW-8	8/15/2006	335.23	333.93	14.5-24.5	10/27/2010	21.81	312.12	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	11/23/2010	22.31	311.62	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	12/14/2010	20.26	313.67	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	1/31/2011	19.43	314.50	--	--	--

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-8	8/15/2006	335.23	333.93	14.5-24.5	2/28/2011	18.90	315.03	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	3/28/2011	18.40	315.53	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	4/28/2011	18.46	315.47	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	5/26/2011	18.45	315.48	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	6/27/2011	18.88	315.05	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	7/25/2011	19.42	314.51	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/22/2011	19.97	313.96	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	9/19/2011	20.52	313.41	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	10/24/2011	19.78	314.15	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	11/21/2011	19.03	314.90	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	12/19/2011	18.84	315.09	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	1/30/2012	18.88	315.05	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	2/20/2012	18.66	315.27	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	3/20/2012	18.72	315.21	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	4/24/2012	18.69	315.24	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	5/30/2012	19.73	314.20	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	6/12/2012	20.29	313.64	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	7/25/2012	21.67	312.26	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/28/2012	22.08	311.85	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	9/24/2012	22.11	311.82	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	10/30/2012	21.80	312.13	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	11/20/2012	21.24	312.69	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	12/7/2012	20.12	313.81	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	1/29/2013	18.91	315.02	18.91	315.02	sheen
MW-8	8/15/2006	335.23	333.93	14.5-24.5	2/28/2013	18.95	314.98	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	3/25/2013	18.88	315.05	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	4/29/2013	19.56	314.37	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	5/31/2013	20.78	313.15	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	6/28/2013	21.53	312.40	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	7/30/2013	22.22	311.71	~~22.22~~	~~311.71~~	~~sheen~~

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/6/2013[4]	22.31	311.62	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/14/2013[5]	22.34	311.59	--	--	--
MW-8	8/15/2006	335.23	333.93	14.5-24.5	8/15/2013[5,6]	23.05	310.88	23.03	310.90	0.02
MW-9	8/16/2006	333.49	333.07	36.0-46.0	8/22/2006	42.59	290.48	42.55	42.55	0.04
MW-9	8/16/2006	333.49	333.07	36.0-46.0	11/14/2006	42.62	290.45	42.54	42.54	0.08
MW-9	8/16/2006	333.49	333.07	36.0-46.0	12/8/2006	42.56	290.51	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	1/10/2007	42.01	291.06	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	2/20/2007	41.91	291.16	41.86	41.86	0.05
MW-9	8/16/2006	333.49	333.07	36.0-46.0	3/20/2007	41.76	291.31	41.75	41.75	0.01
MW-9	8/16/2006	333.49	333.07	36.0-46.0	6/5/2007	42.71	290.36	42.69	42.69	0.02
MW-9	8/16/2006	333.49	333.07	36.0-46.0	7/13/2007	43.08	289.99	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	8/17/2007	43.14	289.93	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	9/5/2007	43.16	289.91	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	9/12/2007	43.09	289.98	43.01	43.01	0.08
MW-9	8/16/2006	333.49	333.07	36.0-46.0	10/31/2007	43.17	289.90	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	12/5/2007	43.10	289.97	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	12/11/2007	42.91	290.16	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	3/4/2008	41.31	291.76	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	3/19/2008	--	--	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	5/20/2008	41.33	291.74	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	6/5/2008	41.57	291.50	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	7/18/2008	42.52	290.55	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	9/5/2008	43.02	290.05	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	9/18/2008	43.07	290.00	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	10/31/2008	43.09	289.98	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	11/24/2008	43.02	290.05	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	12/15/2008	43.00	290.07	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	1/22/2009	42.90	290.17	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	2/25/2009	41.97	291.10	--	--	--

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-9	8/16/2006	333.49	333.07	36.0-46.0	3/27/2009	41.02	292.05	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	4/23/2009	41.42	291.65	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	5/28/2009	42.31	290.76	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	6/9/2009	42.53	290.54	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	8/25/2009	43.03	290.04	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	9/28/2009	43.02	290.05	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	10/21/2009	43.06	290.01	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	11/10/2009	43.06	290.01	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	12/9/2009	42.99	290.08	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	1/25/2010	41.18	291.89	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	2/19/2010	40.79	292.28	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	3/9/2010	39.97	293.10	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	4/22/2010	40.78	292.29	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	5/27/2010	41.21	291.86	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	6/23/2010	41.94	291.13	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	7/27/2010	42.64	290.43	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	8/31/2010	42.84	290.23	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	9/29/2010	42.81	290.26	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	10/27/2010	42.65	290.42	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	11/23/2010	42.63	290.44	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	12/14/2010	42.60	290.47	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	1/31/2011	41.09	291.98	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	2/28/2011	41.09	291.98	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	3/28/2011	37.70	295.37	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	4/28/2011	39.97	293.10	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	5/26/2011	41.28	291.79	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	6/27/2011	41.79	291.28	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	7/25/2011	42.38	290.69	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	8/22/2011	42.52	290.55	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	9/19/2011	42.71	290.36	--	--	--

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MW-9	8/16/2006	333.49	333.07	36.0-46.0	10/24/2011	42.65	290.42	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	11/21/2011	42.65	290.42	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	12/19/2011	42.64	290.43	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	1/30/2012	42.49	290.58	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	2/20/2012	42.46	290.61	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	3/20/2012	42.25	290.82	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	4/24/2012	41.29	291.78	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	5/30/2012	42.09	290.98	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	6/12/2012	42.23	290.84	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	7/25/2012	42.46	290.61	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	8/28/2012	44.53	288.54	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	9/24/2012	42.58	290.49	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	10/30/2012	42.59	290.48	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	11/20/2012	42.68	290.39	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	12/7/2012	41.79	291.28	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	1/29/2013	41.19	291.88	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	2/28/2013	41.98	291.09	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	3/25/2013	41.97	291.10	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	4/29/2013	42.28	290.79	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	5/31/2013	42.31	290.76	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	6/28/2013	42.36	290.71	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	7/30/2013	42.46	290.61	~~42.46~~	~~290.61~~	~~sheen~~
MW-9	8/16/2006	333.49	333.07	36.0-46.0	8/6/2013[4]	42.41	290.66	--	--	--
MW-9	8/16/2006	333.49	333.07	36.0-46.0	8/14/2013[5]	42.44	290.63	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	9/5/2007	54.86	281.03	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	10/31/2007	46.34	289.55	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	12/5/2007	45.84	290.05	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	12/12/2007	46.84	289.05	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	3/4/2008	43.31	292.58	--	--	--

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MW-10	9/5/2007	336.55	335.89	40.3-55.3	3/20/2008	44.41	291.48	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	5/20/2008	44.09	291.80	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	6/5/2008	43.67	292.22	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	7/18/2008	45.32	290.57	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	9/5/2008	45.79	290.10	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	9/18/2008	45.89	290.00	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	10/31/2008	46.50	289.39	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	11/24/2008	46.02	289.87	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	12/15/2008	45.91	289.98	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	1/22/2009	48.34	287.55	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	2/25/2009	45.21	290.68	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	3/27/2009	43.82	292.07	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	4/23/2009	44.13	291.76	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	5/28/2009	44.96	290.93	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	6/9/2009	45.19	290.70	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	8/25/2009	46.01	289.88	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	9/28/2009	45.94	289.95	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	10/21/2009	47.09	288.80	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	11/10/2009	46.29	289.60	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	12/9/2009	46.02	289.87	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	1/25/2010	45.74	290.15	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	2/19/2010	43.44	292.45	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	3/9/2010	42.62	293.27	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	4/22/2010	43.51	292.38	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	5/27/2010	44.03	291.86	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	6/23/2010	44.52	291.37	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	7/27/2010	46.11	289.78	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	8/31/2010	45.85	290.04	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	9/29/2010	45.89	290.00	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	10/27/2010	47.09	288.80	--	--	--

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-10	9/5/2007	336.55	335.89	40.3-55.3	11/23/2010	44.99	290.90	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	12/14/2010	45.77	290.12	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	1/31/2011	43.92	291.97	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	2/28/2011	43.20	292.69	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	3/28/2011	40.41	295.48	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	4/28/2011	42.68	293.21	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	5/26/2011	43.97	291.92	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	6/27/2011	44.51	291.38	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	7/25/2011	45.18	290.71	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	8/22/2011	45.57	290.32	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	9/19/2011	47.13	288.76	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	10/24/2011	45.97	289.92	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	11/21/2011	45.83	290.06	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	12/19/2011	45.72	290.17	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	1/30/2012	45.66	290.23	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	2/20/2012	45.64	290.25	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	3/20/2012	45.48	290.41	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	4/24/2012	43.94	291.95	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	5/30/2012	44.87	291.02	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	6/12/2012	45.16	290.73	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	7/25/2012	45.71	290.18	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	8/28/2012	45.85	290.04	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	9/24/2012	45.91	289.98	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	10/30/2012	46.65	289.24	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	11/20/2012	46.23	289.66	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	12/7/2012	45.79	290.10	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	1/29/2013	43.78	292.11	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	2/28/2013	44.82	291.07	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	3/25/2013	44.93	290.96	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	4/29/2013	45.65	290.24	--	--	--

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MW-10	9/5/2007	336.55	335.89	40.3-55.3	5/31/2013	45.53	290.36	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	6/28/2013	45.61	290.28	--	--	--
MW-10	9/5/2007	336.55	335.89	40.3-55.3	7/30/2013	45.76	290.13	~~45.76~~	~~290.13~~	~~sheen~~
MW-10	9/5/2007	336.55	335.89	40.3-55.3	8/6/2013[4]	45.71	290.18	~~45.71~~	~~290.18~~	~~sheen~~
MW-10	9/5/2007	336.55	335.89	40.3-55.3	8/14/2013[5]	45.76	290.13	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	9/6/2007	Dry	Dry	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	10/31/2007	45.05	284.84	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	12/5/2007	43.04	286.85	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	12/12/2007	42.73	287.16	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	3/4/2008	36.91	292.98	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	3/20/2008	37.29	292.60	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	5/20/2008	37.06	292.83	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	6/4/2008	37.18	292.71	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	7/18/2008	37.97	291.92	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	9/5/2008	38.86	291.03	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	9/18/2008	38.97	290.92	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	10/31/2008	41.02	288.87	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	11/24/2008	39.85	290.04	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	12/15/2008	39.36	290.53	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	1/22/2009	41.73	288.16	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	2/25/2009	37.12	292.77	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	3/27/2009	36.87	293.02	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	4/23/2009	37.13	292.76	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	5/28/2009	37.99	291.90	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	6/9/2009	38.30	291.59	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	8/25/2009	39.78	290.11	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	9/28/2009	39.21	290.68	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	10/21/2009	42.22	287.67	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	11/10/2009	40.93	288.96	--	--	--

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-11	9/6/2007	330.29	329.89	37.0-47.0	12/9/2009	39.73	290.16	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	1/25/2010	36.77	293.12	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	2/19/2010	36.78	293.11	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	3/9/2010	36.28	293.61	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	4/22/2010	36.87	293.02	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	5/27/2010	37.03	292.86	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	6/23/2010	37.72	292.17	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	7/27/2010	40.66	289.23	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	8/31/2010	39.34	290.55	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	9/29/2010	44.84	285.05	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	10/27/2010	42.23	287.66	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	11/23/2010	40.53	289.36	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	12/14/2010	39.56	290.33	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	1/31/2011	36.93	292.96	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	2/28/2011	36.63	293.26	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	3/28/2011	34.25	295.64	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	4/28/2011	36.32	293.57	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	5/26/2011	37.06	292.83	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	6/27/2011	37.46	292.43	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	7/25/2011	38.26	291.63	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	8/19/2011	39.41	290.48	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	8/22/2011	38.73	291.16	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	9/19/2011	47.13	282.76	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	10/24/2011	39.06	290.83	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	11/21/2011	39.02	290.87	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	12/19/2011	38.95	290.94	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	1/30/2012	38.96	290.93	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	2/20/2012	38.94	290.95	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	3/20/2012	38.67	291.22	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	4/24/2012	36.98	292.91	--	--	--

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-11	9/6/2007	330.29	329.89	37.0-47.0	5/30/2012	37.97	291.92	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	6/12/2012	38.08	291.81	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	7/25/2012	38.82	291.07	38.82	291.07	sheen
MW-11	9/6/2007	330.29	329.89	37.0-47.0	8/28/2012	38.98	290.91	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	9/24/2012	39.04	290.85	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	10/30/2012	41.70	288.19	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	11/20/2012	40.47	289.42	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	12/7/2012	37.00	292.89	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	1/29/2013	36.99	292.90	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	2/28/2013	37.40	292.49	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	3/25/2013	37.49	292.40	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	4/29/2013	38.06	291.83	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	5/31/2013	38.62	291.27	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	6/28/2013	38.80	291.09	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	7/30/2013	39.02	290.87	--	--	--
MW-11	9/6/2007	330.29	329.89	37.0-47.0	8/6/2013[4]	38.98	290.91	~~38.98~~	~~290.91~~	~~sheen~~
MW-11	9/6/2007	330.29	329.89	37.0-47.0	8/14/2013[5]	39.02	290.87	--	--	--
MW-12	12/4/2012	334.90	334.58	16.7-26.7	1/29/2013	25.53	309.05	--	--	--
MW-12	12/4/2012	334.90	334.58	16.7-26.7	1/29/2013	22.26	312.32	22.26	307.63	sheen
MW-12	12/6/2012	334.90	334.58	16.7-26.9	2/28/2013	22.14	312.44	--	--	--
MW-12	12/7/2012	334.90	334.58	16.7-26.10	3/25/2013	21.92	312.66	--	--	--
MW-12	12/8/2012	334.90	334.58	16.7-26.11	3/26/2013[2]	23.92	310.66	--	--	--
MW-12	12/9/2012	334.90	334.58	16.7-26.12	4/29/2013	23.08	311.50	--	--	--
MW-12	12/10/2012	334.90	334.58	16.7-26.13	5/31/2013	24.91	309.67	--	--	--
MW-12	12/11/2012	334.90	334.58	16.7-26.14	6/28/2013	26.05	308.53	--	--	--
MW-12	12/12/2012	334.90	334.58	16.7-26.15	7/30/2013	26.23	308.35	--	--	--
MW-12	12/13/2012	334.90	334.58	16.7-26.16	8/6/2013[4]	26.20	308.38	~~26.20~~	~~308.38~~	~~sheen~~
MW-12	12/13/2012	334.90	334.58	16.7-26.16	8/14/2013[5]	26.28	308.30	--	--	--

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MW-13	12/5/2012	336.79	336.79	15.7-25.7	1/29/2013	Dry	Dry	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	1/29/2013	25.98	310.81	25.98	329.89	sheen
MW-13	12/5/2012	336.79	336.79	15.7-25.7	2/28/2013	26.00	310.79	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	3/25/2013	25.96	310.83	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	3/26/2013[2]	Dry	Dry	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	4/29/2013	26.00	310.79	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	5/31/2013	25.96	310.83	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	6/28/2013	25.96	310.83	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	7/30/2013	25.98	310.81	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	8/6/2013[4]	25.96	310.83	--	--	--
MW-13	12/5/2012	336.79	336.79	15.7-25.7	8/14/2013[5]	25.97	310.82	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	1/29/2013	25.76	312.18	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	1/29/2013	25.85	312.09	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	2/28/2013	25.88	312.06	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	3/25/2013	25.83	312.11	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	3/26/2013[2]	Dry	Dry	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	4/29/2013	25.95	311.99	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	5/31/2013	25.93	312.01	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	6/28/2013	25.91	312.03	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	7/30/2013	25.94	312.00	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	8/6/2013[4]	25.91	312.03	--	--	--
MW-14	12/3/2012	338.15	337.94	16.0-26.0	8/14/2013[5]	25.92	312.02	--	--	--
MW-15	12/4/2012	333.38	333.43	14.0-24.0	1/29/2013	Dry	Dry	--	--	--
MW-15	12/4/2012	333.38	333.43	14.0-24.0	1/29/2013	23.57	309.86	--	--	--
MW-15	12/4/2012	333.38	333.43	14.0-24.0	2/28/2013	23.63	309.80	--	--	--
MW-15	12/4/2012	333.38	333.43	14.0-24.0	3/25/2013	23.58	309.85	--	--	--
MW-15	12/4/2012	333.38	333.43	14.0-24.0	3/26/2013[2]	23.61	309.82	--	--	--
MW-15	12/4/2012	333.38	333.43	14.0-24.0	4/29/2013	23.94	309.49	--	--	--

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Well ID	Date Installed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Interval (feet bgs)	Date Measured	Depth to Groundwater (feet below TOC)	Groundwater Elevation (feet msl)	Depth to LNAPL (feet below TOC)	LNAPL Elevation (feet msl)	LNAPL Thickness (feet)
MW-15	12/4/2012	333.38	333.43	14.0-24.0	5/31/2013	23.89	309.54	--	--	--
MW-15	12/4/2012	333.38	333.43	14.0-24.0	6/28/2013	23.91	309.52	--	--	--
MW-15	12/4/2012	333.38	333.43	14.0-24.0	7/30/2013	23.92	309.51	~~23.92~~	~~309.51~~	~~sheen~~
MW-15	12/4/2012	333.38	333.43	14.0-24.0	8/6/2013[4]	23.90	309.53	~~23.90~~	~~309.53~~	~~sheen~~
MW-15	12/4/2012	333.38	333.43	14.0-24.0	8/14/2013[5]	23.95	309.48	--	--	--

Notes/Abbreviations:

-- = Not present/not measured

TOC = top of casing

feet-msl = feet above average mean sea level (msl).

~~37.04~~ = data confirmed to be false positive readings based on visual and analytical data

1. MW-5 through MW-7 abandoned June 23, 2008.
2. MW-12 through MW-15 results from 24 hour recharge period after purging well on March 25, 2013.
3. MW-8 not gauged due to extreme overhead hazards posed by dead trees on the 80-90% grade directly uphill from the gauging location.
4. Confirmation gauging event conducted on August 6, 2013 to confirm presence of LNAPL in the monitoring wells.
5. Semi-annual groundwater event conducted early to confirm false positive readings.
6. MW-8 result from 24 hour recharge period after well dewatered on August 14, 2013.

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-12 through MW-15 surveyed on December 7, 2012

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Well ID	Date	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**
MW-1	6/8/2006	**37,000**	**10**	**330**	**120**	**8,200**
MW-1	Q3 2006 [2]	NS	NS	NS	NS	NS
MW-1	11/15/2006	**38,000**	**14**	**110**	**38**	**5,900**
MW-1	2/21/2007	**18,000**	**4**	7	8	**1,600**
MW-1	6/5/2007	**17,000**	**3**	7	4	**1,100**
MW-1	Q3 2007 [2]	NS	NS	NS	NS	NS
MW-1	Q4 2007 [2]	NS	NS	NS	NS	NS
MW-1	3/19/2008	**12,000**	0.8	1	1	**320**
MW-1	6/6/2008	**8,200**	1	2	3	**150**
MW-1	Q3 2008 [3]	NS	NS	NS	NS	NS
MW-1	Q4 2008 [3]	NS	NS	NS	NS	NS
MW-1	3/31/2009	**3,700**	<0.5	1	1	**44**
MW-1	6/10/2009	**5,000**	<0.5	<0.5	0.7	13
MW-1	Q3 2009 [3]	NS	NS	NS	NS	NS
MW-1	Q4 2009 [3]	NS	NS	NS	NS	NS
MW-1	3/10/2010	**3,800**	<0.5	<0.5	<0.5	4
MW-1	Q2 2010 [3]	NS	NS	NS	NS	NS
MW-1	Q3 2010 [3]	NS	NS	NS	NS	NS
MW-1	12/14/2010	**1,900**	0.8	1	0.7	3
MW-1	3/29/2011	**1,200**	<0.5	<0.5	<0.5	<0.5
MW-1	8/23/2011	**960**	<0.5	1	<0.5	2
MW-1	3/21/2012	**880**	<0.5	<0.5	<0.5	0.7
MW-1	9/25/2012	**1,100 J**	<0.5	7	5	**29**
MW-1	3/25/2013	**709**	<0.5	<0.5	<0.5	<0.5
MW-1	8/15/2013	**570**	<0.5	<0.5	<0.5	<0.5
MW-2/MW-X	2/21/2006	<50/<50	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5
MW-2	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-2	8/23/2006	<50	0.5	<0.5	<0.5	<0.5
MW-2	11/14/2006	<50	0.7	<0.5	<0.5	<0.5

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Well ID	Date	TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1]		**100**	**1**	**40**	**30**	**20**
MW-2	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-2	6/5/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-2	Q3 2007 [3]	NS	NS	NS	NS	NS
MW-2	Q4 2007 [3]	NS	NS	NS	NS	NS
MW-2	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-2/MW-X	6/5/2008	<50/<50	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5
MW-2	Q3 2008 [3]	NS	NS	NS	NS	NS
MW-2	Q4 2008 [3]	NS	NS	NS	NS	NS
MW-2	3/27/2009	<50	<0.5	<0.5	<0.5	<0.5
MW-2	Q2 2009 [3]	NS	NS	NS	NS	NS
MW-2	Q3 2009 [3]	NS	NS	NS	NS	NS
MW-2	Q4 2009 [3]	NS	NS	NS	NS	NS
MW-2	3/10/2010	<50	<0.5	<0.5	<0.5	2
MW-2	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-2	Q3 2010 [3]	NS	NS	NS	NS	NS
MW-2	Q4 2010 [3]	NS	NS	NS	NS	NS
MW-2	3/28/2011	<50	<0.5	<0.5	<0.5	<0.5
MW-2	Q3 2011 [3]	NS	NS	NS	NS	NS
MW-2	3/21/2012	<50	<0.5	<0.5	<0.5	0.6
MW-2	Q3 2012 [3]	NS	NS	NS	NS	NS
MW-2	3/25/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-2	8/15/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-3	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-3	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-3	8/23/2006	**170**	<0.5	<0.5	<0.5	<0.5
MW-3	11/14/2006	86	<0.5	1	<0.5	<0.5
MW-3	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-3	Q2 2007 [3]	NS	NS	NS	NS	NS
MW-3	Q3 2007 [3]	NS	NS	NS	NS	NS

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Well ID	Date	TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1]		**100**	**1**	**40**	**30**	**20**
MW-3	Q4 2007 [3]	NS	NS	NS	NS	NS
MW-3	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-3	6/5/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-3	Q3 2008 [3]	NS	NS	NS	NS	NS
MW-3	Q4 2008 [3]	NS	NS	NS	NS	NS
MW-3	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
MW-3	Q2 2009 [3]	NS	NS	NS	NS	NS
MW-3	Q3 2009 [3]	NS	NS	NS	NS	NS
MW-3	Q4 2009 [3]	NS	NS	NS	NS	NS
MW-3	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-3	Q2 2010 [3]	NS	NS	NS	NS	NS
MW-3	Q3 2010 [3]	NS	NS	NS	NS	NS
MW-3	Q4 2010 [3]	NS	NS	NS	NS	NS
MW-3	3/28/2011	<50	<0.5	<0.5	<0.5	<0.5
MW-3	8/23/2011	<50	<0.5	2	1	5
MW-3	3/20/2012	<50	<0.5	<0.5	<0.5	<0.5
MW-3	Q3 2012 [3]	NS	NS	NS	NS	NS
MW-3	3/25/2013	<50	<0.5	<0.5	<0.5	1
MW-3	8/14/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-4	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-4	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-4	8/23/2006	70	0.6	<0.5	<0.5	1
MW-4	11/15/2006	<50	<0.5	<0.5	<0.5	0.5
MW-4	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-4	Q2 2007 [3]	NS	NS	NS	NS	NS
MW-4	Q3 2007 [3]	NS	NS	NS	NS	NS
MW-4	Q4 2007 [3]	NS	NS	NS	NS	NS
MW-4	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5

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Well ID	Date	TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1]		**100**	**1**	**40**	**30**	**20**
MW-4	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-4	Q3 2008 [3]	NS	NS	NS	NS	NS
MW-4	Q4 2008 [3]	NS	NS	NS	NS	NS
MW-4	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
MW-4	Q2 2009 [3]	NS	NS	NS	NS	NS
MW-4	Q3 2009 [3]	NS	NS	NS	NS	NS
MW-4	Q4 2009 [3]	NS	NS	NS	NS	NS
MW-4	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-4	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-4	Q3 2010 [3]	NS	NS	NS	NS	NS
MW-4	12/14/2010	<50	<0.5	<0.5	<0.5	0.8
MW-4	3/29/2011	<50	<0.5	<0.5	<0.5	<0.5
MW-4	Q3 2011 [3]	NS	NS	NS	NS	NS
MW-4	3/21/2012	<50	<0.5	<0.5	<0.5	1
MW-4	Q3 2012 [3]	NS	NS	NS	NS	NS
MW-4	3/25/2013	<50	<0.5	<0.5	1	5
MW-4	8/15/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-5	2/22/2006	<50	<0.5	0.6	<0.5	1
MW-5	6/8/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-5	8/24/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-5	11/16/2006	<50	<0.5	2	<0.5	<0.5
MW-5	2/20/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-5	6/6/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-5	9/12/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-5	Q4 2007	NS	NS	NS	NS	NS
MW-5	Q1 2008	NS	NS	NS	NS	NS
MW-5	Q2 2008	Well Abandoned				

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Well ID	Date	TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1]		**100**	**1**	**40**	**30**	**20**
MW-6	2/22/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-6	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-6	8/22/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-6	11/16/2006	<50	<0.5	<0.5	<0.5	<0.5
MW-6	2/20/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-6	6/6/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-6	9/12/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-6	Q4 2007	NS	NS	NS	NS	NS
MW-6	Q1 2008	NS	NS	NS	NS	NS
MW-6	Q2 2008	Well Abandoned				
MW-7	2/22/2006	<50	0.7	**2**	0.9	5
MW-7	6/8/2006	<50	0.7	<0.5	1	4
MW-7/MW-X	8/22/2006	<50/<50	**2/2**	<0.5/<0.5	1/0.6 J	3/2 J
MW-7	11/16/2006	<50	0.7	2	0.6	2
MW-7/MW-X	2/20/2007	<50/<50	0.7/0.6	1/0.9	0.9/0.6 J	3/2 J
MW-7	6/6/2007	<50	0.7	0.8	0.8	2
MW-7/MW-X	9/12/2007	<50/<50	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5
MW-7	Q4 2007	NS	NS	NS	NS	NS
MW-7	Q1 2008	NS	NS	NS	NS	NS
MW-7	Q2 2008	Well Abandoned				
MW-8	8/24/2006	**18,000**	**190**	**2,600**	**590**	**2,800**
MW-8	11/16/2006	**990**	**76**	**80**	**69**	**190**
MW-8	2/20/2007	**2,000**	**180**	**57**	**170**	**74**
MW-8	6/6/2007	**3,600**	**340**	**92**	**370**	**210**
MW-8	9/12/2007	**4,200**	**470**	**230**	**630**	**320**
MW-8	12/11/2007	**4,900**	**350**	**300**	**490**	**650**
MW-8	Q1 2008 [4]	NS	NS	NS	NS	NS
MW-8	Q2 2008 [4]	NS	NS	NS	NS	NS
MW-8/MW-X	9/18/2008 [1]	**11,000/9,200**	**740/690**	**320/290**	**790/720**	**2,600/2,100**
MW-8	12/15/2008	**12,000**	**810**	**920**	**880**	**3,300**

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ESL[1]		**100**	**1**	**40**	**30**	**20**
MW-8/MW-X	3/27/2009	**29,000/29,000 J**	**1,500/1,200**	**7,200/4,500**	**1,200/1,100**	**4,700/4,100**
MW-8	Q2 2009 [3]	NS	NS	NS	NS	NS
MW-8	Q3 2009 [3]	NS	NS	NS	NS	NS
MW-8	12/10/2009	**19,000**	**930**	**1,600**	**1,200**	**3,800**
MW-8/MW-X	3/10/2010	**10,000/10,000**	**570/580**	**500/500**	**730/730**	**1,800/1,800**
MW-8	6/24/2010	**14,000**	**630**	**680**	**870**	**2,500**
MW-8/MW-X	9/29/2010	**74,000/170,000 J**	**1,400/1,500 J**	**16,000/23,000 J**	**3,200/4,300 J**	**16,000/25,000 J**
MW-8	12/15/2010	**78,000**	**2,000**	**15,000**	**2,800**	**15,000**
MW-8	3/29/2011	**49,000**	**1,600**	**7,500**	**2,000**	**11,000**
MW-8	8/23/2011	**72,000**	**1,200**	**15,000**	**3,200**	**15,000**
MW-8/MW-X	3/21/2012	**52,000/55,000**	**1,000/1,000**	**2,300 J/2,900 J**	**2,600/2,600**	**8,500/9,700**
MW-8	Q3 2012 [3]	NS	NS	NS	NS	NS
MW-8/MW-X	3/24/2013	**41,000/42,000**	**760/769**	**3,100/4,000**	**820/819**	**12,000/12,000**
MW-8[9]	8/15/2013	**56,000**	**720**	**1,700**	**2,900**	**12,000**
MW-9	Q3 2006 [2]	NS	NS	NS	NS	NS
MW-9	11/15/2006	**74,000**	**480**	**12,000**	**2,200**	**17,000**
MW-9	Q1 2007 [2]	NS	NS	NS	NS	NS
MW-9	Q2 2007 [2]	NS	NS	NS	NS	NS
MW-9	Q3 2007 [2]	NS	NS	NS	NS	NS
MW-9	12/11/2007	**48,000**	**62**	**5,400**	**1,700**	**12,000**
MW-9	Q1 2008 [2]	NS	NS	NS	NS	NS
MW-9	6/6/2008	**31,000**	**5**	**1,000**	**1,300**	**9,000**
MW-9	9/18/2008	**25,000**	**6**	**610**	**800**	**4,800**
MW-9	12/16/2008	**34,000**	**6**	**750**	**930**	**6,000**
MW-9	3/31/2009	**20,000**	**3**	**100**	**460**	**3,200**
MW-9	6/10/2009	**27,000**	**<3**	**66**	**610**	**4,100**
MW-9	Q3 2009 [2]	NS	NS	NS	NS	NS
MW-9	12/10/2009	**20,000**	**3**	**85**	**460**	**2,800**
MW-9	3/10/2010	**18,000**	**<3**	17	**250**	**1,700**
MW-9	6/24/2010	**16,000**	0.9	7	**210**	**1,300**

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Well ID	Date	TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1]		**100**	**1**	**40**	**30**	**20**
MW-9	9/29/2010	**24,000**	**<10**	<10	**440**	**2,100**
MW-9	12/14/2010	**9,100**	**6**	2	**80**	**340**
MW-9	3/29/2011	**7,100**	0.8	0.9	**44**	**190**
MW-9/MW-X[7]	8/23/2011	**7900/8,300**	<0.5/<1.0	2/2	**46/47**	**200/220**
MW-9	3/21/2012	**2,500**	<0.5	<0.5	3	4
MW-9/MW-X[7]	9/25/2012	**3,900/4,100 J**	<1/<1	2/2	6/7	18/19
MW-9	3/25/2013	**2,100**	<0.5	**43**	2	**71**
MW-9/MW-X[7]	8/15/2013	**2,200/2,400**	<0.5/<0.5	1/1	10/12	**31 J/39 J**
MW-10	Q3 2007 [3]	NS	NS	NS	NS	NS
MW-10	12/14/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-10	3/20/2008	<50	0.9	<0.5	<0.5	<0.5
MW-10	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-10	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-10	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-10	3/27/2009	52	<0.5	0.7	<0.5	<0.5
MW-10	6/10/2009	<50	<0.5	1	<0.5	<0.5
MW-10/MW-X[6]	9/28/2009	<50/<50	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5
MW-10	12/10/2009	**540**	1	2	5	23
MW-10	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-10	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-10	9/29/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-10	12/15/2010	<50	<0.5	1	<0.5	<0.5
MW-10	3/28/2011	<50	<0.5	<0.5	<0.5	<0.5
MW-10	8/23/2011	<50	<0.5	<0.5	<0.5	0.6
MW-10	3/20/2012	<50	<0.5	<0.5	<0.5	<0.5
MW-10	9/24/2012	<50	<0.5	<0.5	<0.5	<0.5
MW-10	3/24/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-10	8/14/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-11	Q3 2007 [3]	NS	NS	NS	NS	NS
MW-11	12/14/2007	<50	<0.5	<0.5	<0.5	<0.5

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Well ID	Date	TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1]		**100**	**1**	**40**	**30**	**20**
MW-11	3/20/2008 [1]	<50/<50	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5
MW-11	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-11	9/24/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-11	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
MW-11	3/27/2009	<50	<0.5	<0.5	<0.5	<0.5
MW-11	6/10/2009	59	<0.5	2	<0.5	3
MW-11	9/29/2009	<50	<0.5	<0.5	<0.5	<0.5
MW-11	12/10/2009	66	<0.5	<0.5	<0.5	**3**
MW-11	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-11	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-11	9/29/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-11	12/15/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-11	3/28/2011	<50	<0.5	<0.5	<0.5	<0.5
MW-11	8/23/2011	<50	<0.5	<0.5	<0.5	<0.5
MW-11	3/20/2012	<50	<0.5	<0.5	<0.5	<0.5
MW-11	9/24/2012	<50	<0.5	<0.5	<0.5	<0.5
MW-11	3/24/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-11	8/14/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-12	3/26/2013	**520**	**2**	1	<0.5	<0.5
MW-12	Q3 2013 [8]	NS	NS	NS	NS	NS
MW-13	Q1 2013 [8]	NS	NS	NS	NS	NS
MW-13	Q3 2013 [8]	NS	NS	NS	NS	NS
MW-14	Q1 2013 [8]	NS	NS	NS	NS	NS
MW-14	Q3 2013 [8]	NS	NS	NS	NS	NS

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TABLE 2

Summary of Groundwater Analytical Results Gasoline Compounds
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Chevron Sunol Pipeline

Well ID	Date	TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1]		**100**	**1**	**40**	**30**	**20**
MW-15	3/26/2013	<50	<0.5	<0.5	<0.5	<0.5
MW-15	Q3 2013 [8]	NS	NS	NS	NS	NS
SW-Creek	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
SW-Creek	8/22/2006	<50	<0.5	<0.5	<0.5	<0.5
SW-Creek	11/15/2006	<50	<0.5	<0.5	<0.5	<0.5
SW-Creek	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
Stream	6/5/2007	<50	<0.5	<0.5	<0.5	<0.5
Stream	9/12/2007	<50	<0.5	<0.5	<0.5	<0.5
Stream	1/25/2008	<50	<0.5	<0.5	<0.5	<0.5
Stream	3/20/2008	<50	<0.5	<0.5	<0.5	<0.5
Stream	6/5/2008	<50	<0.5	<0.5	<0.5	<0.5
Stream	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
Stream	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
Stream	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
Stream	6/9/2009	<50	<0.5	<0.5	<0.5	<0.5
Stream	Q3 2009 [5]	NS	NS	NS	NS	NS
Stream	Q4 2009 [5]	NS	NS	NS	NS	NS
Stream	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
Stream	6/24/2010	<50	<0.5	<0.5	<0.5	<0.5
Stream	9/28/2010	<50	<0.5	<0.5	<0.5	<0.5
Stream	12/15/2010	<50	<0.5	<0.5	<0.5	<0.5
Stream	3/29/2011	<50	<0.5	<0.5	<0.5	<0.5
Stream	8/23/2011	<50	<0.5	<0.5	<0.5	<0.5
Stream	3/20/2012	<50	<0.5	<0.5	<0.5	<0.5
Stream	9/24/2012	<50	<0.5	<0.5	<0.5	<0.5
Stream	3/26/2013	<50	<0.5	<0.5	<0.5	<0.5
Stream	Q3 2013 [5]	NS	NS	NS	NS	NS

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TABLE 2

Summary of Groundwater Analytical Results Gasoline Compounds
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Chevron Sunol Pipeline

Notes:

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

(1) Final Groundwater ESL, Groundwater is a Current or Potential Drinking Water Resource (Regional Water Quality Control Board, Final Interim May 2013)
(2) Sample not collected during quarterly monitoring due to the presence of measurable free product.
(3) Sample not collected during quarterly monitoring because well is not hydraulically connected to unconfined water-bearing zone.
(4) Sample not collected due to extreme overhead hazards posed by dead trees on the 80-90% grade directly uphill from the sampling location.
(5) Sample not collected during quarterly monitoring due to the stream sample location being dry.
(6) Duplicate sample collected from MW-10 during the third quarter 2009 sampling event because MW-8 was not hydraulically connected to the water bearing zone.
(7) Duplicate sample collected from MW-9 during the third quarter 2011, 2012, and 2013 sampling events.
(8) Sample not collected due to insufficient water measured in the monitoring well.
(9) Sample collected by bailer after well dewatered during purging. LNAPL present in well at time of sampling.

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TABLE 3
Summary of Groundwater Analytical Results Geochemical Indicators and Other Parameters
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Chevron Sunol Pipeline

Well ID	Date	DO[1] (mg/L)	ORP[1] (mV)	Nitrate (mg/L)	Manganese (mg/L)	Ferrous Iron (mg/L)	Dissolved Iron (mg/L)	Sulfate (mg/L)	Methane (mg/L)	pH[1]	TDS (mg/L)	Alkalinity to pH 4.5 (mg/L) as CaCO3	Alkalinity to pH 8.3 (mg/L) as CaCO3
MW-1	6/8/2006	0.28	88.15	2.6	0.116	<0.008	<0.052	48.3	<0.002	6.62	494	317	<0.46
MW-1	Q3 2006	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]
MW-1	11/15/2006	4.87[6]	25	0.37 J	1	0.22	0.079	108	<0.002	6.67	882	597	<0.46
MW-1	3/31/2009	2.45	-147	10.3 J	0.534	0.12	<0.052	62.4	0.051	6.61	650	343	<0.46
MW-1	6/10/2009	0.00	-115	0.42	0.576	0.2	<0.052	72.6	<0.005	7.07	614	422	<0.46
MW-1	Q4 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-1	3/10/2010	0.00	-118	NM[7]	0.431	<0.01	<0.0522	56.9	0.067	6.79	551	347	<0.46
MW-1	Q2 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-1	Q3 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-1	12/14/2010	1.97	-193	<0.25	1.07	1.5 J	0.538	26.4	0.017	6.55	647	495	<0.46
MW-1	3/29/2011	2.84	-5	9 J	0.21	<0.01 J-	<0.052	49.4	0.012	7.01	532	327	<0.46
MW-1	8/22/2011	2.34	-276	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	6.88	NM[9]	NM[9]	NM[9]
MW-1	3/21/2012	0.31	-54	1.1	0.456	0.58 J-	0.0593	106	<0.005	6.93	868	574	<0.46
MW-1	9/25/2012	2.93	-108	<0.25	0.872	3.7 J-	<0.0333	45.9	0.0096	6.80	740	530	<0.7
MW-1	3/26/2013	1.85	-156	15.7	0.198	0.43	<0.0333	71.8	0.15	8.29	596	366	<0.7
MW-1	8/15/2013	4.34	-193	<0.25	0.362	0.87 J	<0.0430	39.6	0.0064	6.71	683	529	<0.7
MW-2	6/7/2006	NR[3]	36.43	11.9	0.003	<0.008	<0.052	47.5	<0.002	6.56	465	286	<0.46
MW-2	8/23/2006	0.32	25.69	7	0.024	0.015	<0.052	121	0.005	6.63	811	470	<0.46
MW-2	11/14/2006	0.2	220.84	4	0.021	0.021	<0.052 U J	126 J	0.004	6.72	867	530	<0.46
MW-2	3/27/2009	5.47	-86	18.2	0.017	0.036 J	<0.052	65	<0.01	6.62	642	347	<0.46
MW-2	Q2 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-2	Q4 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-2	3/10/2010	2.81	38	13 J	0.0182	0.35	<0.0522	54.9	<0.005	6.89	532	322	<0.46
MW-2	6/23/2010	2.18	173	13.2	0.103	4	<0.0522	50.9	<0.005	11.51	524	319	<0.46
MW-2	Q3 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-2	Q4 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-2	3/28/2011	6.11	168	16.600	0.001	0.021 J-	<0.052	53.8	<0.01	7.04	529	304	<0.46
MW-2	Q3 2011	NM[7]	NM[7]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[7]	NM[9]	NM[9]	NM[9]
MW-2	3/21/2012	1.22	134	4.4	0.0079	<0.010 R	0.0141	159	<0.005	7.01	874	568	<0.46
MW-2	Q3 2012	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-2	3/26/2013	2.28	-144	13.2	0.13	1	0.568	74	0.77	7.98	597	383	<0.7
MW-2	8/15/2013	3.82	59	15.5	0.0580	0.49 J	<0.0430	98.9	<0.0030	6.73	740	430	<0.7
MW-3	6/7/2006	0.37	31.23	10.9	0.005	<0.008	<0.052	45.1	<0.002	6.56	446	274	<0.46
MW-3	8/23/2006	0.3	-1.8	<0.25	0.368	0.24	<0.052	26.3	1.5	6.6	711	421	<0.46
MW-3	11/14/2006	0.12	-17.57	NM[5]	NM[5]	NM[5]	NM[5]	NM[5]	0.42	6.95	NM[5]	NM[5]	NM[5]
MW-3	3/31/2009	0.00	48	22.2 J	0.0017	0.08	<0.052	57.7	<0.01	6.75	688	320	<0.46
MW-3	Q2 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]

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TABLE 3
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Well ID	Date	DO[1] (mg/L)	ORP[1] (mV)	Nitrate (mg/L)	Manganese (mg/L)	Ferrous Iron (mg/L)	Dissolved Iron (mg/L)	Sulfate (mg/L)	Methane (mg/L)	pH[1]	TDS (mg/L)	Alkalinity to pH 4.5 (mg/L) as CaCO3	Alkalinity to pH 8.3 (mg/L) as CaCO3
MW-3	Q4 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-3	3/9/2010	1.75	182	12.6 J	0.0093	0.064	<0.0522	54.4	<0.005	6.78	496	293	<0.46
MW-3	Q2 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-3	Q3 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-3	Q4 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-3	3/28/2011	5.32	185	12.8	<0.0084	0.026 J-	<0.052	46.3	<0.01	7.06	454	269	<0.46
MW-3	8/22/2011	2.15	-183	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	7.02	NM[9]	NM[9]	NM[9]
MW-3	3/20/2012	4.40	37	14.9	0.0291	0.054 J-	0.0219 J+	65.4	0.028	6.66	686	396	<0.46
MW-3	Q3 2012	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-3	3/26/2013	3.97	116	21.5	0.0095	0.73	<0.0333	66.4	<0.003	8.07	546	313	<0.7
MW-3	8/14/2013	6.20	121	0.91	0.882	0.18 J	<0.0430	22.5	0.95	6.16	706	416	<0.7
MW-4	6/7/2006	0.28	29.57	9.2	0.02	0.059	<0.052	60.2	<0.002	6.65	423	282	<0.46
MW-4	8/23/2006	NR[3]	-22.49	<0.25	0.226	0.7	<0.052	78.4	0.003	6.62	590	396	<0.46
MW-4	11/15/2006	3.46[6]	106	0.34 J	0.137	0.47	<0.052	90.3	0.003	6.74	672	490	<0.46
MW-4	3/31/2009	3.96	5	19.5 J	0.0406	0.14	<0.052	83.7	<0.01	6.64	631	323	<0.46
MW-4	Q2 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-4	Q4 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-4	3/9/2010	0.05	123	10.5 J	0.0343	0.13	<0.0522	89.8	<0.005	6.74	560	312	<0.46
MW-4	6/23/2010	0.03	164	9.4	0.0295	0.034	<0.0522	62.5	<0.005	11.03	491	297	<0.46
MW-4	Q3 2010	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-4	12/14/2010	1.24	162	6.6	0.084	0.021 J	<0.052	213	<0.010	6.51	771	354	<0.46
MW-4	3/29/2011	3.81	220	12 J	0.018	0.032 J-	<0.052	59.5	<0.010	6.98	488	290	<0.46
MW-4	Q3 2011	NM[7]	NM[7]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[7]	NM[9]	NM[9]	NM[9]
MW-4	3/21/2012	2.69	107	13.3	0.0433	0.021 J-	0.0141	119	0.0063	6.85	672	384	<0.46
MW-4	Q3 2012	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-4	3/26/2013	2.51	153	17.8	0.221	0.13	<0.0333	89.7	0.00	6.85	560	306	<0.7
MW-4	8/15/2013	4.19	141	0.31	0.152	0.08 J	<0.0430	200	<0.0030	6.40	681	340	<0.7
MW-5	6/8/2006	0.19	12.05	<0.25	0.029	0.120	<0.052	71.30	0.004	7.24	502.00	313.00	2.60
MW-5	8/24/2006	NR[3]	-151.92	<0.25	0.021	0.280	<0.052	72.20	0.0054 J	7.32	506.00	320.00	<0.46
MW-5	11/16/2006	0.08	-48.11	<0.25	0.020 J	0.280	<0.052	73.80 J	0.005	7.45	513.00	320.00	<0.46
MW-6	6/7/2006	NM[2]	NM[2]	<0.25	0.599	12.600	<0.052	41.60	<0.002	NM[2]	531.00	364.00	3.70
MW-6	8/22/2006	NM[2]	NM[2]	<0.25	0.600	5.500	<0.052	36.90	5.800	NM[2]	553.00	375.00	<0.46
MW-6	11/16/2006	0.04	-71.00	<0.25	0.203 J	0.700	<0.052	38.30 J	5.700	7.92	541.00	366.00	<0.46
MW-7	6/8/2006	NM[2]	NM[2]	<0.25	0.706	13.400	<0.052	70.40	0.022	NM[2]	542.00	310.00	5.90
MW-7	8/22/2006	NM[2]	NM[2]	<0.25	0.160	0.910	<0.052	75.70	0.094	NM[2]	534.00	335.00	<0.46

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TABLE 3
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Well ID	Date	DO[1] (mg/L)	ORP[1] (mV)	Nitrate (mg/L)	Manganese (mg/L)	Ferrous Iron (mg/L)	Dissolved Iron (mg/L)	Sulfate (mg/L)	Methane (mg/L)	pH[1]	TDS (mg/L)	Alkalinity to pH 4.5 (mg/L) as CaCO3	Alkalinity to pH 8.3 (mg/L) as CaCO3
MW-7	11/16/2006	0.06	-24.00	<0.25	0.376	5.800	<0.052	77.60 J	0.061	7.42	533.00	358.00	<0.46
MW-8	8/24/2006	NM[2]	NM[2]	<0.25	0.171	0.14	<0.052	90.2	<0.002 U J	NM[2]	563	362	<0.46
MW-8	11/16/2006	0.05	-74	<0.25	0.123	0.8	<0.052	78.6 J	0.002	7.22	564	350	<0.46
MW-8	3/27/2009	6.88[6]	-113	0.27	0.553	2.5 J	<0.052	15.5	0.13	6.74	639	467	<0.46
MW-8	Q2 2009	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]	NM[7]
MW-8	12/10/2009	0.04	-165	<0.25 U J	0.549 J	<2.5	0.06	2 J	<0.2	6.94	576	445	<0.46
MW-8	3/10/2010	0.00	-85	<0.25	0.334	3	<0.0522	1.7	0.33	6.89	587	453	<0.46
MW-8	6/24/2010	5.83[6]	-84	<0.25	1.08	7.8	0.0949 J+	6.1	0.65	6.72	679	502	<0.46
MW-8	Q3 2010	NM[8]	NM[8]	NM[8]	NM[8]	NM[8]	NM[8]	NM[8]	NM[8]	NM[8]	NM[8]	NM[8]	NM[8]
MW-8	12/15/2010	NM[8]	NM[8]	<0.25	1.57	1.2 J	0.0693	23	0.59	NM[8]	803.00	536	<0.46
MW-8	3/29/2011	NM[8]	NM[8]	<0.25U J	2.29	1.2 J-	0.413	84.1	0.39 J	NM[8]	1210.00	680	<0.46
MW-8	8/23/2011	1.18	-261	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	6.94	NM[9]	NM[9]	NM[9]
MW-8/MW-X	3/21/2012	8.75[6]	-103	0.29/<0.25	0.383 J/0.590 J	2.6 J-/3.0 J-	0.017 J/0.385 J	<1.5 J/3.9 J	67/58	7.43	599/674	473/507	<0.46/<0.46
MW-8	Q3 2012	NM[5]	NM[5]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[5]	NM[4]	NM[4]	NM[4]
MW-8/MW-X	3/25/2013	1.79	-95	<0.25/<0.25	0.855	2.3/2.4	<0.043	<0.25/<0.25	8.1/7.7	8.15	660	528	<0.7/<0.7
MW-8	8/15/2013	3.73[13]	-119[13]	<0.25[14]	0.855[14]	2.9(14) J	<0.0430[14]	<1.5[14]	4.3[14]	6.20[13]	660[14]	528[14]	<0.7[14]
MW-9	Q3 2006	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]	NM[4]
MW-9	11/15/2006	3.01[6]	4	<0.25 U J	4.41	1.2	0.496	29.5	0.009	6.92	836	657	<0.46
MW-9	3/31/2009	3.35	-179	0.39 J	3.2	0.099	<0.052	60.5	0.012	6.59	632	419	<0.46
MW-9	6/10/2009	0.00	-141	<0.25	3.01	1.7	<0.052	46.4	<0.005	6.98	622	468	<0.46
MW-9	12/10/2009	1.43	-188	<0.25 U J	4.39 J	3.3	2.54	4.5 J	<0.2	6.6	734	620	<0.46
MW-9	3/10/2010	0.00	-197	<0.25	2.94	1.7	<0.0522	40.9	0.046	6.84	596	448	<0.46
MW-9	6/24/2010	0.00	-108	<0.25	2.46	1.5	0.131 J+	33.5	0.012	6.61	489	380	<0.46
MW-9	9/29/2010	0.70	-231	<0.25	3.83	2.2 J	0.082	4.5	0.018	6.68	627	549	<0.46
MW-9	12/14/2010	3.37	-181	0.89	2.98	2.8 J	1.48	25	0.025	6.46	666	523	<0.46
MW-9	3/29/2011	2.78	-140	6.40 J	1.58	0.043	<0.052	63	0.018	7.09	608	396	<0.46
MW-9	8/22/2011	2.32	-451	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	7.08	NM[9]	NM[9]	NM[9]
MW-9	3/21/2012	0.48	-147	1.8	0.154	0.18 J-	0.146	103	<0.005	6.91	784	552	<0.046
MW-9	9/25/2012	2.67	-156	<0.25	0.401	0.58 J-	<0.0333	32.3	0.028	6.79	742	529	<0.7
MW-9	3/26/2013	1.86	-132	11.4	0.506	0.27	0.248	58	0.057	8.19	569	379	<0.7
MW-9/MW-X	8/15/2013	3.35	-247	0.3 J/0.57 J	0.217/0.213	0.46 J/0.44 J	0.152/0.222	29.5/30.5	0.043/0.044	6.70	657/669	533/535	<0.7/<0.7
MW-10	3/27/2009	3.65	48	8.2	0.367	0.21 J	<0.052	155	0.28	6.69	1,200	645	<0.46
MW-10	6/10/2009	0.37	109	<0.25	0.767	0.8	<0.052	133	2.30	7.20	1,100	623	<0.46
MW-10	12/10/2009	0.06	-74	0.33 J	0.964 J	10.90	<0.052	640 J	<0.2	6.85	1,580	512	<0.46
MW-10	3/9/2010	1.52	105	13.9 J	0.0357	0.054	<0.052	63.6	0.19	6.89	596	349	<0.46
MW-10	6/23/2010	0.00	79	0.68	0.2650	0.200	<0.0522	136.0	0.94	6.76	1000	604	<0.46

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TABLE 3
Summary of Groundwater Analytical Results Geochemical Indicators and Other Parameters
Second Semi-Annual 2013 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	DO[1] (mg/L)	ORP[1] (mV)	Nitrate (mg/L)	Manganese (mg/L)	Ferrous Iron (mg/L)	Dissolved Iron (mg/L)	Sulfate (mg/L)	Methane (mg/L)	pH[1]	TDS (mg/L)	Alkalinity to pH 4.5 (mg/L) as CaCO3	Alkalinity to pH 8.3 (mg/L) as CaCO3
MW-10	9/29/2010	0.87	22	<0.25	0.384	5.0 J	<0.0522	148	0.550	6.89	998	610	<0.46
MW-10	12/15/2010	2.28	61	0.41	0.581	0.29 J	<0.0522	155	0.74	6.78	1,070	606	<0.46
MW-10	3/28/2011	5.56	48	18.00	0.101	0.39 J-	<0.052	57	0.03	7.00	652	392	<0.46
MW-10	8/22/2011	0.00	9	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	7.09	NM[9]	NM[9]	NM[9]
MW-10	3/20/2012	0.56	-34	2.5	0.201	0.280 J-	0.0743 J+	256	0.54	7.03	960	592	<0.46
MW-10	9/24/2012	2.44	-28	1.5	0.210	0.29 J-	<0.0333	112	1.30	6.91	970	567	<0.7
MW-10	3/25/2013	1.36	-4	2.5	0.282	2.800	<0.0333	115	0.81	7.59	930	573	<0.7
MW-10	8/14/2013	4.01	-22	5.5	0.130	0.250 J	0.111	111	0.44	6.29	904	564	<0.7
MW-11	3/27/2009	5.86	53	15.3	0.114	0.058 J	<0.052	134	0.06	6.61	742	365	<0.46
MW-11	6/10/2009	0.37	44	NM	0.415	NM	NM	NM	0.12	7.16	NM	NM	NM
MW-11	12/10/2009	1.01	-50	0.48 J	0.804 J	3.6	<0.052	151 J	<0.2	6.84	1720	556	<0.46
MW-11	3/9/2010	3.68	133	11.9 J	0.0176	0.087	<0.0522	91.7	0.039	6.73	615	314	<0.46
MW-11	6/23/2010	0.45	-2	0.4	0.2420	0.150	<0.0522	437	0.29	6.70	1,300	479	<0.46
MW-11	9/28/2010	1.16	7	<0.25	0.320	0.3 J	<0.0522	457	0.350	6.99	1,310	458	<0.46
MW-11	12/15/2010	NM[8]	NM[8]	<0.25	0.245	0.84 J	<0.0522	451	0.23	NM[8]	1,320	494	<0.46
MW-11	2/28/2011	5.25	91.00	17.50	0.022	0.03 J-	<0.052	76	0.06	6.98	602	319	<0.46
MW-11	8/22/2011	2.89	-38.00	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	NM[9]	6.53	NM[9]	NM[9]	NM[9]
MW-11	3/20/2012	0.38	-16.00	0.3	0.221	0.20 J-	0.025 J+	134	0.42	7.02	954	455	<0.46
MW-11	9/24/2012	2.28	-3.00	<0.25	0.195	0.028 J-	<0.0333	216	0.380	6.87	876	469	<0.7
MW-11	3/25/2013	2.08	-56	3.7	0.166	0.18	<0.0333	286	0.130	7.97	922	419	<0.7
MW-11	8/14/2013	3.35	-41	<0.25	0.195	0.24 J	<0.0430	268	0.160	6.15	876	431	<0.7
MW-12	3/26/2013	NM[10]	NM[10]	<0.25	0.842	0.580	0.042	44.3	0.13	NM[10]	571	441	<0.7
MW-12	Q3 2013	NM[12]	NM[12]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[12]	NM[11]	NM[11]	NM[11]
MW-13	3/26/2013	NM[10]	NM[10]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[10]	NM[11]	NM[11]	NM[11]
MW-13	Q3 2013	NM[12]	NM[12]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[12]	NM[11]	NM[11]	NM[11]
MW-14	3/26/2013	NM[10]	NM[10]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[10]	NM[11]	NM[11]	NM[11]
MW-14	Q3 2013	NM[12]	NM[12]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[12]	NM[11]	NM[11]	NM[11]
MW-15	3/26/2013	NM[10]	NM[10]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[10]	NM[11]	NM[11]	NM[11]
MW-15	Q3 2013	NM[12]	NM[12]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[11]	NM[12]	NM[11]	NM[11]	NM[11]

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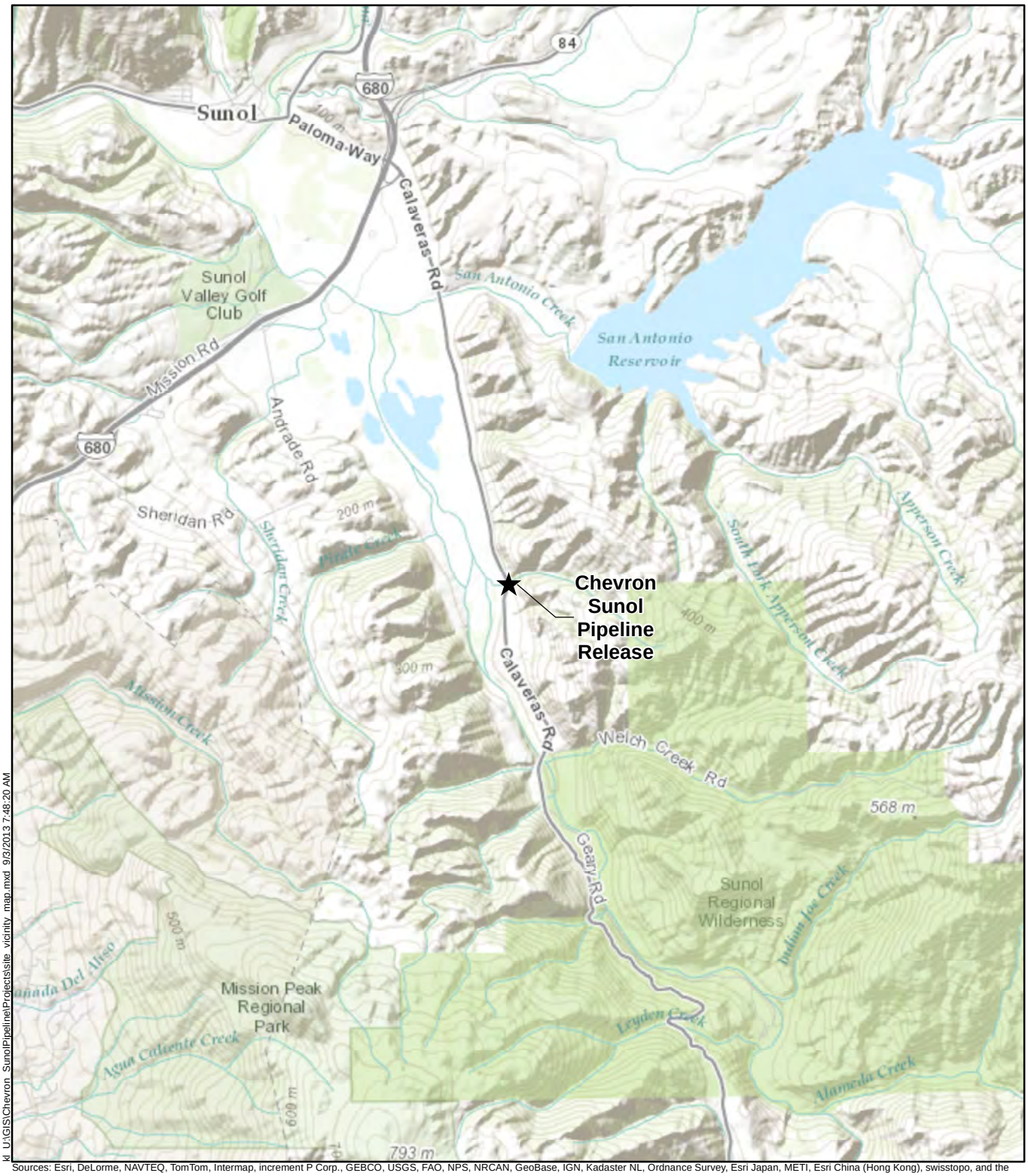
TABLE 3

Summary of Groundwater Analytical Results Geochemical Indicators and Other Parameters
Second Semi-Annual 2013 Groundwater Monitoring Report
Chevron Sunol Pipeline

Notes:

DO = Dissolved oxygen	TDS = Total dissolved solids	NM = Not measured	J = Estimated result	J- = Biased low value	R = Rejected
ORP = Oxygen reduction potential	$CaCO_3$ = Calcium Carbonate	NR = Not Reported	UJ = Estimated result	J+ = Biased high value	

Note: MW-5, MW-6, and MW-7 were destroyed on June 23, 2008.
(1) DO, ORP, and pH values were obtained in the field using a flow-through cell and a multi-parameter meter unless otherwise noted.
(2) Field data was not collected for DO, ORP, and pH because groundwater was removed from the well without using the in-line flow-through cell due to insufficient recharge.
(3) DO meter did not appear to be functioning correctly.
(4) The well was not sampled and parameters were not measured due to the presence of free product at this location.
(5) The well was purged dry and recharge was insufficient to collect groundwater for geochemical analysis.
(6) DO readings were artificially high because purge water was poured into the multi-parameter meter from a bailer.
(7) Sample not collected during quarterly monitoring because well is not hydraulically connected to unconfined water-bearing zone.
(8) Parameters not collected because well dewatered before 1 well volume was collected.
(9) Geochemical parameters were not collected because the sampling crew could not collect enough sample from at least 4 of the monitoring wells for analysis.
(10) Field data was not collected for DO, ORP, and pH because groundwater was purged using a disposable bailer.
(11) Monitoring wells MW-13 through MW-15 had insufficient water to collect geochemical samples.
(12) Field data was not collected for DO, ORP, and pH because wells had insufficient water for purging.
(13) Field data for DO, ORP, and PH collected on August 14, 2014 before well dewatered. Sample collected by bailer on August 15, 2013.
(14) LNAPL was present in well MW-8 at the time of sampling.



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the

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0 3,000 6,000 FEET

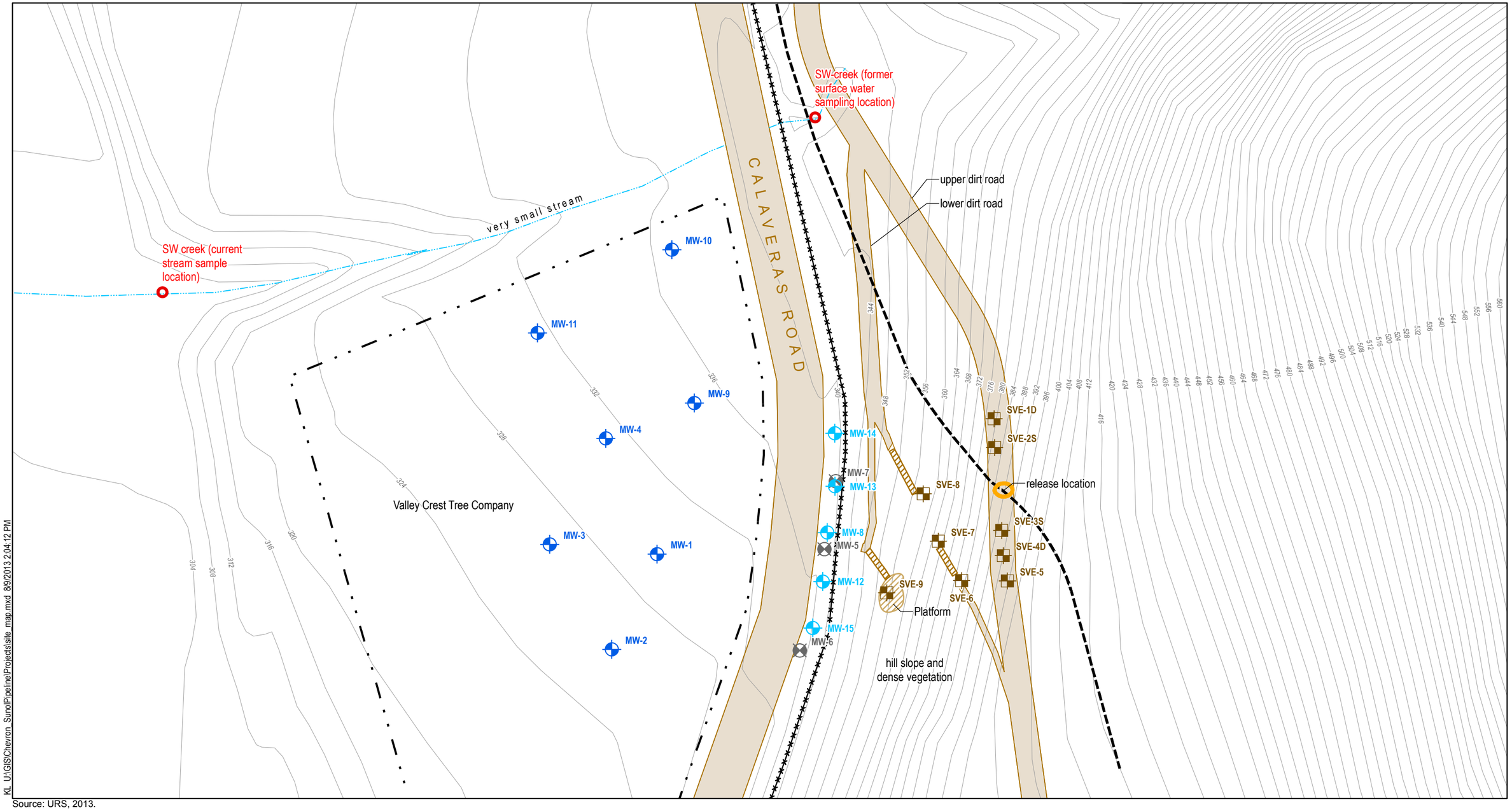
SITE VICINITY MAP

September 2013
26818083

Chevron Sunol Pipeline
Sunol, California

URS

FIGURE 1



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Source: URS, 2013.

- Monitoring well in unconfined water bearing zone
- Monitoring well in perched zone
- Monitoring well - abandoned
- SVE well
- Stream sample location
- Location of slit in pipeline causing release
- 4-foot contour line
- Fence
- Pipeline
- Property line/fence
- Stream
- Road
- Stairs

0 25 50 FEET

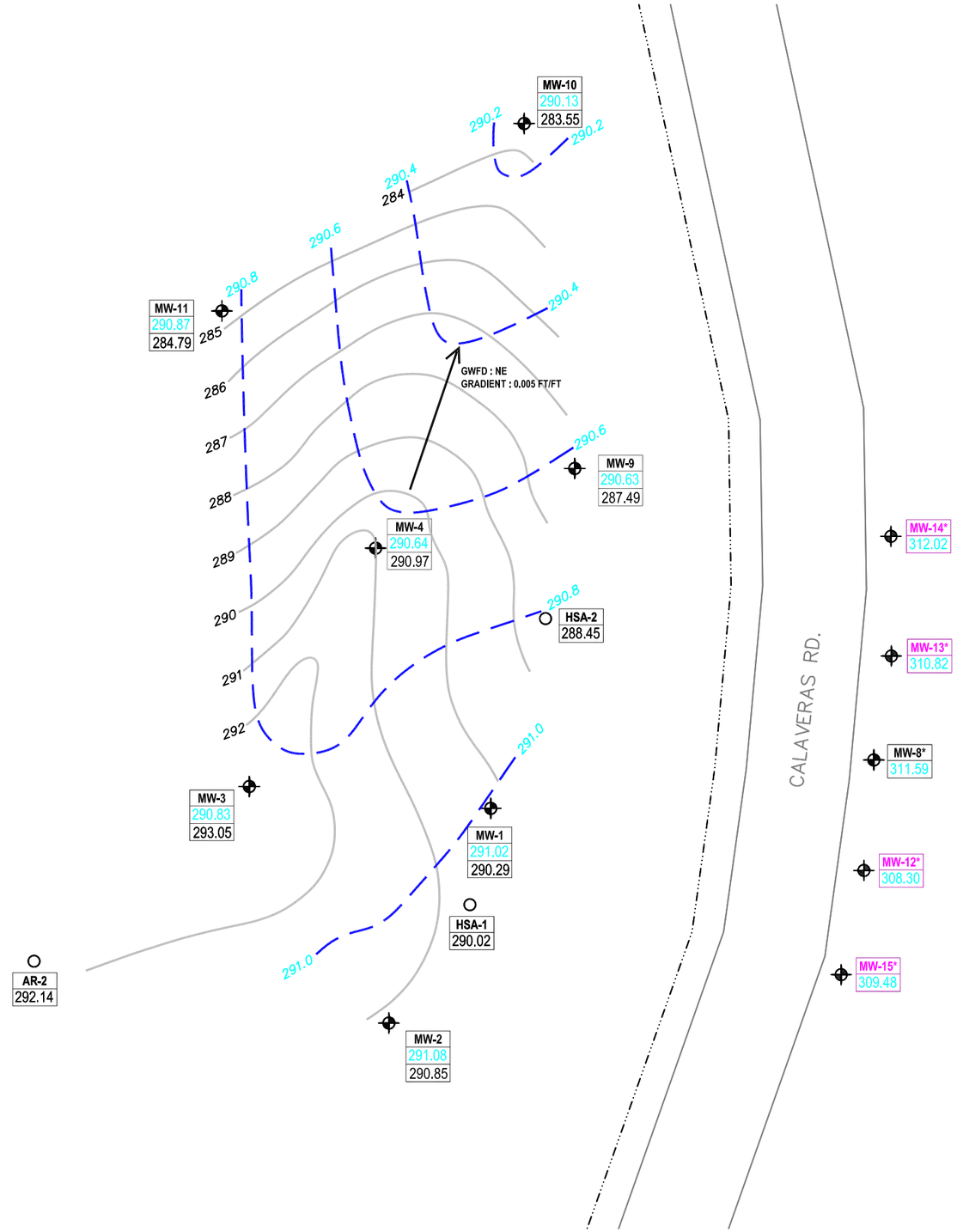
SITE MAP

September 2013
26818083

Chevron Sunol Pipeline
Sunol, California

URS

FIGURE 2



LEGEND:

- MONITORING WELL
- MW-1 / 291.02 / 290.29 — MONITORING WELL LABEL; GROUNDWATER ELEVATION; BEDROCK CONTACT ELEVATION
- SOIL BORING
- HSA-2 / 288.45 — SOIL BORING LABEL; BEDROCK CONTACT ELEVATION
- 292 — BEDROCK SURFACE ELEVATION
- GWFD — GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION
- MW-12 / 308.30 — NOT PART OF THE MONITORING WELL NETWORK.

NOTES:

1. ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (msl).
2. GROUNDWATER ELEVATIONS FOR MW–1 THROUGH MW–4 AND MW–8 THROUGH MW–15, AS MEASURED ON APRIL 14, 2013.
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. CALCULATED GROUNDWATER GRADIENT IN NORTHEASTERLY FLOW DIRECTION dh/dl = 0.005 ft/ft.
6. MW–12 THROUGH MW–15 INSTALLED IN DECEMBER 2012. WELLS NOT YET DEVELOPED DUE TO INSUFFICIENT WATER AT THE TIME OF AUGUST 2013 GAUGING EVENT, AND THEREFORE NOT YET PART OF THE MONITORING WELL NETWORK.

* NOT USED IN GROUNDWATER CONTOURS.

NORTH

0 30' 60'

SCALE 1"= 30'

Sep 10, 2013 - 4:05pm
T:\SFPUC Sunol Pipeline\Figures\FIGURE 3.dwg

URS

CHEVRON PIPELINE COMPANY

Project No. 26818083

UNCONFINED WATER–BEARING ZONE GROUNDWATER AND BEDROCK ELEVATIONS MAP CHEVRON SUNOL PIPLINE

Figure 3

Appendix A
Groundwater Sampling Forms

URS

Low-Flow Sampling Log

Project Information:		**Pump Information:**	
Operator Name	Jeremy Quick/Vicky Wiraatmadja	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Poly
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 inch
Site Name	Sunol	Tubing Length	45 ft
Date	8/15/2013	Pump placement from TOC	2 ft off bottom

Well Information:		**Pumping information:**	
Well Id	MW- 1	Final pumping rate	320 mL/min
Well diameter	[in] 4	Flowcell volume	1000 mL
Well total depth	[ft] 39.3	Calculated Sample Rate	NM
Depth to top of screen	[ft] 29.3	Sample rate	NM
Screen length	[ft] 10	Stabilized drawdown	NM
Depth to Water	[ft] 37.02		

Low-Flow Sampling Stabilization Summary

	Time	Temp [°C]	pH [pH]	Cond. [mS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	13:14	19.18	6.91	1.15	0.0*	6.24	-140
	13:17	18.97	6.74	1.13	0.0*	3.96	-168
	13:20	18.65	6.72	1.12	0.0*	4.05	-175
	13:23	18.63	6.71	1.12	0.0*	4.39	-182
	13:26	18.64	6.71	1.12	0.0*	4.48	-188
	13:29	19.16	6.71	1.12	0.0*	4.34	-193
	Sample collected from MW-1 at 13:42						
Variance in last 3 readings		-0.01	0.00	0.00	NA	-0.09	6
		-0.52	0.00	0.00	NA	0.14	5

Notes: Starting pumping at 13:14
Initial depth to water = 37.02 ft
Total Volume Purged = 0.9 gal
Sample collected at 13:42

0.0* - over limit/outside measurable range/error
Groundwater slightly cloudy, sulfur odor

URS

Low-Flow Sampling Log

Project Information:		**Pump Information:**	
Operator Name	Jeremy Quick/Vicky Wiraatmadja	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Poly
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 inch
Site Name	Sunol	Tubing Length	37 ft
Date	8/15/2013	Pump placement from TOC	2 ft off bottom

Well Information:			**Pumping information:**	
Well Id	MW-	2	Final pumping rate	200 mL/min
Well diameter	[in]	4	Flowcell volume	1000 mL
Well total depth	[ft]	38.3	Calculated Sample Rate	NM
Depth to top of screen	[ft]	23.3	Sample rate	NM
Screen length	[ft]	15	Stabilized drawdown	NM
Depth to Water	[ft]	33.07		

Low-Flow Sampling Stabilization Summary

	Time	Temp [°C]	pH [pH]	Cond. [mS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	14:10	19.26	7.02	1.20	122.0	3.62	74
	14:13	19.07	6.77	1.16	0.0*	4.35	67
	14:16	19.02	6.75	1.16	0.0*	4.04	60
	14:19	19.22	6.74	1.16	0.0*	3.84	57
	14:22	19.53	6.74	1.16	0.0*	3.75	57
	14:25	19.24	6.73	1.17	0.0*	3.82	59
	Sample from MW-2 collected 14:36						
Variance in last 3 readings		-0.31	0.00	0.00	NA	0.09	0
		0.29	0.01	-0.01	NA	-0.07	-2

Notes:

Starting pumping at 14:10
Initial depth to water = 33.07 ft
Total Volume Purged = 0.7 gal
Sample collected at 14:36

0.0* - over limit/outside measurable range/error
Groundwater slightly cloudy, no odor

URS

Low-Flow Sampling Log

Project Information:		**Pump Information:**	
Operator Name	Jeremy Quick/Vicky Wiraatmadja	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Poly
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 inch
Site Name	Sunol	Tubing Length	40 ft
Date	8/14/2013	Pump placement from TOC	2 ft off bottom

Well Information:			**Pumping information:**	
Well Id	MW-	3	Final pumping rate	<300 mL/min
Well diameter	[in]	4	Flowcell volume	1000 mL
Well total depth	[ft]	36.3	Calculated Sample Rate	NM
Depth to top of screen	[ft]	21.3	Sample rate	NM
Screen length	[ft]	15	Stabilized drawdown	NM
Depth to Water	[ft]	34.82		

Low-Flow Sampling Stabilization Summary

	Time	Temp [°C]	pH [pH]	Cond. [mS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	13:28	18.13	6.54	1.19	333.0	9.38	169
	13:31	17.87	6.13	1.16	246.0	6.13	136
	13:34	19.07	6.06	1.16	228.0	5.45	119
	Tubing disconnected; reattached then resumed pumping						
	13:50	20.83	6.32	1.18	354.0	6.78	140
	13:53	19.69	6.19	1.17	319.0	6.70	137
	13:56	19.11	6.15	1.17	297.0	6.66	134
	13:59	19.20	6.15	1.16	274.0	6.57	131
	14:02	19.32	6.15	1.16	274.0	6.57	129
	14:05	19.62	6.15	1.16	260.0	6.40	126
	14:08	19.51	6.16	1.16	257.0	6.29	123
	14:11	19.99	6.16	1.16	252.0	6.20	121
	Sample collected at 15:05						
Variance in last 3 readings		0.11	-0.01	0.00	3.0	0.11	3
		-0.48	0.00	0.00	5.00	0.09	2

Notes:

Starting pumping at 13:28
Initial depth to water = 34.82 ft
Total Volume Purged = 1.1 gal
Sample collected at 15:05

Groundwater slightly cloudy, no odor

URS

Low-Flow Sampling Log

Project Information:		**Pump Information:**	
Operator Name	Jeremy Quick/Vicky Wiraatmadja	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Poly
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 inch
Site Name	Sunol	Tubing Length	43 ft
Date	8/15/2013	Pump placement from TOC	2 ft off bottom

Well Information:		**Pumping information:**	
Well Id	MW- 4	Final pumping rate	160
Well diameter	[in] 4	Flowcell volume	1000 mL
Well total depth	[ft] 40.7	Calculated Sample Rate	NM
Depth to top of screen	[ft] 30.7	Sample rate	NM
Screen length	[ft] 10	Stabilized drawdown	NM
Depth to Water	[ft] 39.03		

Low-Flow Sampling Stabilization Summary

	Time	Temp [°C]	pH [pH]	Cond. [mS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	10:02	18.78	5.90	1.02	45.7	6.07	266
	10:05	19.30	5.93	1.01	33.7	5.25	238
	10:08	19.08	6.04	1.00	33.0	5.16	206
	10:11	19.21	6.14	1.00	33.7	4.80	180
	10:14	19.52	6.21	1.00	31.2	4.60	167
	10:17	20.05	6.27	1.00	24.8	4.39	155
	10:20	20.07	6.32	1.00	22.1	4.32	150
	10:23	20.60	6.36	1.00	19.2	4.13	143
	10:26	20.01	6.40	1.00	23.3	4.19	141
	Sample collected from MW-4 at 10:42						
Variance in last 3 readings		-0.53	-0.04	0.00	2.9	0.19	7
		0.59	-0.04	0.00	-4.1	-0.06	2

Notes: Starting pumping at 10:02
Initial depth to water = 39.03 ft
Total Volume Purged = 1.0 gal
Sample collected at 10:42

Groundwater clear and odorless

URS

Low-Flow Sampling Log

Project Information:		**Pump Information:**	
Operator Name	Jeremy Quick/Vicky Wiraatmadja	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Poly
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 inch
Site Name	Sunol	Tubing Length	25 ft
Date	8/14/2013	Pump placement from TOC	6 in off bottom

Well Information:			**Pumping information:**	
Well Id	MW- 8		Final pumping rate	200 mL/min
Well diameter	[in] 2		Flowcell volume	1000 mL
Well total depth	[ft] 24.5		Calculated Sample Rate	NM
Depth to top of screen	[ft] 14.5		Sample rate	NM
Screen length	[ft] 10		Stabilized drawdown	NM
Depth to Water	[ft]	22.34		

Low-Flow Sampling Stabilization Summary

	Time	Temp [°C]	pH [pH]	Cond. [mS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	15:33	22.41	6.34	1.10	365.0	6.53	-97
	15:36	22.07	6.13	1.05	347.0	3.77	-102
	15:39	22.56	6.12	1.04	303.0	3.51	-104
	15:42	22.70	6.13	1.04	270.0	3.65	-106
	15:45	22.58	6.15	1.04	249.0	3.86	-109
	15:48	22.38	6.18	1.05	0.0*	3.94	-117
	15:51	23.52	6.20	1.04	0.0*	3.73	-119
	Well dewatered on 8/14/2013						
	Sampled collected at 09:05 on 8/15/2013 by bailer						
Variance in last 3 readings		0.20	-0.03	-0.01	NA	-0.08	8
		-1.14	-0.02	0.01	NA	0.21	2

Notes:

Starting pumping at 15:33
Initial depth to water = 22.34
Total Volume Purged = 0.7 gal
Well dewatered on 8/14/2013
Sample collected at 09:05 8/15/2013 by bailer
LNAPL present at time of sampling

0.0* - over limit/outside measurable range/error
Moderate to strong hydrocarbon odor at first, faded to slight hydrocarbon odor/organic odor
Cloudy groundwater

URS

Low-Flow Sampling Log

Project Information:		**Pump Information:**	
Operator Name	Jeremy Quick/Vicky Wiraatmadja	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Poly
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 inch
Site Name	Sunol	Tubing Length	50 ft
Date	8/15/2013	Pump placement from TOC	2 ft off bottom

Well Information:			**Pumping information:**	
Well Id	MW-	9	Final pumping rate	200 mL/min
Well diameter	[in]	2	Flowcell volume	1000 mL
Well total depth	[ft]	46	Calculated Sample Rate	NM
Depth to top of screen	[ft]	36	Sample rate	NM
Screen length	[ft]	10	Stabilized drawdown	NM
Depth to Water	[ft]	42.44		

Low-Flow Sampling Stabilization Summary

	Time	Temp [°C]	pH [pH]	Cond. [mS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	11:10	19.71	6.80	1.10	0.0*	5.22	-132
	11:13	20.05	6.66	1.09	0.0*	3.58	-172
	11:16	20.27	6.65	1.09	0.0*	3.53	-198
	11:19	20.57	6.66	1.09	0.0*	3.71	-213
	11:22	20.51	6.67	1.09	0.0*	3.75	-225
	11:25	21.04	6.68	1.09	0.0*	3.61	-232
	11:28	20.75	6.69	1.09	0.0*	3.51	-242
	11:31	20.69	6.69	1.09	0.0*	3.40	-244
	11:34	20.77	6.70	1.09	0.0*	3.35	-247
	Sample collected from MW-9 at 12:00						
Variance in last 3 readings		0.06	0.00	0.0	NA	0.11	2
		-0.08	-0.01	0.00	NA	0.05	3

Notes:

Starting pumping at 11:10
Initial depth to water = 42.44 ft
Total Volume Purged = 1.1 gal
Sample collected at 12:00

MS/MSD sample collected at 12:00
MW-X sample collected at 12:05

Groundwater light grey, cloudy, sulfur odor
Minor hydrocarbon odor on submersible pump after removed from well

URS

Low-Flow Sampling Log

Project Information:		**Pump Information:**	
Operator Name	Jeremy Quick/Vicky Wiraatmadja	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Poly
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 inch
Site Name	Sunol	Tubing Length	56 ft
Date	8/14/2013	Pump placement from TOC	2 ft off bottom

Well Information:		**Pumping information:**	
Well Id	MW- 10	Final pumping rate	200 mL/min
Well diameter	[in] 2	Flowcell volume	1000 mL
Well total depth	[ft] 55.3	Calculated Sample Rate	NM
Depth to top of screen	[ft] 40.3	Sample rate	NM
Screen length	[ft] 15	Stabilized drawdown	NM
Depth to Water	[ft] 45.76		

Low-Flow Sampling Stabilization Summary

	Time	Temp [°C]	pH [pH]	Cond. [mS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	10:28	20.90	6.38	1.71	465.0	4.28	-88
	10:31	20.58	6.40	1.69	304.0	3.99	-89
	10:34	21.37	6.38	1.64	198.0	4.19	-84
	10:37	21.20	6.34	1.63	145.0	4.00	-76
	10:40	21.03	6.32	1.61	116.0	3.77	-65
	10:43	20.96	6.31	1.58	107.0	3.91	-48
	10:46	20.85	6.27	1.54	103.0	4.09	-35
	10:49	21.19	6.28	1.51	95.0	4.07	-27
	10:52	20.90	6.28	1.51	95.9	3.99	-23
	10:55	21.07	6.29	1.51	96.0	4.01	-22
	Sample collected from MW-10 at 11:10						
Variance in last 3 readings		0.29	0.00	0.00	-0.9	0.08	-4
		-0.17	-0.01	0.00	-0.10	-0.02	-1

Notes:

Starting pumping at 10:28
Initial depth to water = 45.76 ft
Total Volume Purged = 1.3 gal
Sample collected at 11:10

Equipment blank sample collected at 11:35

Groundwater minorly cloudy at first then became clear; no odor

URS

Low-Flow Sampling Log

Project Information:		**Pump Information:**	
Operator Name	Jeremy Quick/Vicky Wiraatmadja	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Poly
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 inch
Site Name	Sunol	Tubing Length	50 ft
Date	8/14/2013	Pump placement from TOC	2 ft off bottom

Well Information:		**Pumping information:**	
Well Id	MW- 11	Final pumping rate	260
Well diameter	[in] 2	Flowcell volume	1000 mL
Well total depth	[ft] 47	Calculated Sample Rate	NM
Depth to top of screen	[ft] 37	Sample rate	NM
Screen length	[ft] 10	Stabilized drawdown	NM
Depth to Water	[ft] 39.02		

Low-Flow Sampling Stabilization Summary

	Time	Temp [°C]	pH [pH]	Cond. [mS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	11:54	19.08	6.95	1.85	max	8.10	-70
	11:57	19.51	6.53	1.76	541.0	3.93	-76
	12:00	19.88	6.40	1.69	320.0	3.62	-72
	12:03	20.02	6.34	1.63	238.0	3.48	-68
	12:06	20.30	6.27	1.50	207.0	3.42	-67
	12:09	20.01	6.19	1.36	184.0	3.55	-46
	12:12	20.47	6.13	1.30	167.0	3.46	-30
	12:15	20.59	6.13	1.31	153.0	3.49	-30
	12:18	21.18	6.14	1.30	148.0	3.63	-40
	12:21	21.20	6.14	1.31	142.0	3.36	-43
	12:24	21.04	6.15	1.32	140.0	3.35	-41
	Sample collected from MW-11 at 12:37						
Variance in last 3 readings		-0.02	0.00	-0.01	6.0	0.27	3
		0.16	-0.01	-0.01	2.00	0.01	-2

Notes: Starting pumping at 11:54
Initial depth to water = 39.02 ft
Total Volume Purged = 1.8 gal
Sample collected at 12:37

Groundwater slightly cloudy, no odor

Appendix B
Laboratory Analytical Results

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

August 25, 2013

Project: Sunol, CA

Submittal Date: 08/15/2013
Group Number: 1411678
PO Number: 0015075159
Release Number: GWIN
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
MW-10 Grab Groundwater	7162012
MW-10 Filtered Grab Groundwater	7162013
MW-11 Grab Groundwater	7162014
MW-11 Filtered Grab Groundwater	7162015
MW-3 Grab Groundwater	7162016
MW-3 Filtered Grab Groundwater	7162017
Equip Blank Grab Water	7162018
Trip Blank NA Water	7162019

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	URS	Attn: Rachel Naccarati
ELECTRONIC COPY TO	URS Corporation	Attn: Christine Pilachowski
ELECTRONIC COPY TO	URS	Attn: Jeremy Quick

Respectfully Submitted,

Jill M. Parker
Senior Specialist

(717) 556-7262

Sample Description: MW-10 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162012
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 11:10 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SCM10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1
GC Miscellaneous	**SW-846 8015B modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	440	3.0	1
Metals	**SW-846 6010B**		**ug/l**	**ug/l**	
07058	Manganese	7439-96-5	130	0.83	1
Wet Chemistry	**EPA 300.0**		**ug/l**	**ug/l**	
00368	Nitrate Nitrogen	14797-55-8	5,500	250	5
00228	Sulfate	14808-79-8	111,000	6,000	20
	SM 2320 B-1997		**ug/l as CaCO3**	**ug/l as CaCO3**	
12150	Total Alkalinity	n.a.	564,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		**ug/l**	**ug/l**	
00212	Total Dissolved Solids	n.a.	904,000	38,800	1
	SM 3500-Fe B modified-1997		**ug/l**	**ug/l**	
08344	Ferrous Iron	n.a.	250	10	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P132281AA	08/16/2013 21:48	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P132281AA	08/16/2013 21:48	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231A07A	08/19/2013 20:42	Marie D Beamenderfer	1

Sample Description: MW-10 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162012
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 11:10 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SCM10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01146	GC VOA Water Prep	SW-846 5030B	1	13231A07A	08/19/2013 20:42	Marie D Beamenderfer	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/21/2013 23:59	Elizabeth J Marin	1
07058	Manganese	SW-846 6010B	1	132281848009	08/24/2013 15:08	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132281848009	08/19/2013 16:05	Kevin C Piaskowski	1
00368	Nitrate Nitrogen	EPA 300.0	1	13227347602B	08/16/2013 06:51	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	13227347602B	08/16/2013 23:08	Sandra J Miller	20
12150	Total Alkalinity	SM 2320 B-1997	1	13229002205A	08/18/2013 02:15	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13229002205A	08/18/2013 02:15	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13232021202A	08/20/2013 10:15	Susan A Engle	1
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13227834401A	08/15/2013 21:50	Daniel S Smith	1

Sample Description: MW-10 Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162013
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 11:10 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	111	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132281848009	08/24/2013 15:12	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132281848009	08/19/2013 16:05	Kevin C Piaskowski	1

Sample Description: MW-11 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162014
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 12:37 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SCM11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1
GC Miscellaneous	**SW-846 8015B modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	160	3.0	1
Metals	**SW-846 6010B**		**ug/l**	**ug/l**	
07058	Manganese	7439-96-5	195	0.83	1
Wet Chemistry	**EPA 300.0**		**ug/l**	**ug/l**	
00368	Nitrate Nitrogen	14797-55-8	N.D.	250	5
00228	Sulfate	14808-79-8	268,000	15,000	50
	SM 2320 B-1997		**ug/l as CaCO3**	**ug/l as CaCO3**	
12150	Total Alkalinity	n.a.	431,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		**ug/l**	**ug/l**	
00212	Total Dissolved Solids	n.a.	876,000	38,800	1
	SM 3500-Fe B modified-1997		**ug/l**	**ug/l**	
08344	Ferrous Iron	n.a.	240	10	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P132281AA	08/16/2013 22:16	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P132281AA	08/16/2013 22:16	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231A07A	08/19/2013 21:08	Marie D Beamenderfer	1

Sample Description: MW-11 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162014
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 12:37 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SCM11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01146	GC VOA Water Prep	SW-846 5030B	1	13231A07A	08/19/2013 21:08	Marie D Beamenderfer	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/22/2013 00:54	Elizabeth J Marin	1
07058	Manganese	SW-846 6010B	1	132281848009	08/24/2013 15:16	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132281848009	08/19/2013 16:05	Kevin C Piaskowski	1
00368	Nitrate Nitrogen	EPA 300.0	1	13227347602B	08/16/2013 07:07	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	13227347602B	08/16/2013 23:24	Sandra J Miller	50
12150	Total Alkalinity	SM 2320 B-1997	1	13229002205A	08/18/2013 02:22	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13229002205A	08/18/2013 02:22	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13232021202A	08/20/2013 10:15	Susan A Engle	1
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13227834401A	08/15/2013 21:50	Daniel S Smith	1

Sample Description: MW-11 Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162015
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 12:37 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	N.D.	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132281848009	08/24/2013 15:19	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132281848009	08/19/2013 16:05	Kevin C Piaskowski	1

Sample Description: MW-3 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162016
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 15:05 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SCMW3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1
GC Miscellaneous	**SW-846 8015B modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	95	3.0	1
Metals	**SW-846 6010B**		**ug/l**	**ug/l**	
07058	Manganese	7439-96-5	88.2	0.83	1
Wet Chemistry	**EPA 300.0**		**ug/l**	**ug/l**	
00368	Nitrate Nitrogen	14797-55-8	910	250	5
00228	Sulfate	14808-79-8	22,500	1,500	5
	SM 2320 B-1997		**ug/l as CaCO3**	**ug/l as CaCO3**	
12150	Total Alkalinity	n.a.	416,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		**ug/l**	**ug/l**	
00212	Total Dissolved Solids	n.a.	706,000	19,400	1
	SM 3500-Fe B modified-1997		**ug/l**	**ug/l**	
08344	Ferrous Iron	n.a.	180	10	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P132281AA	08/16/2013 22:45	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P132281AA	08/16/2013 22:45	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231A07A	08/19/2013 21:34	Marie D Beamenderfer	1

Sample Description: MW-3 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162016
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 15:05 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SCMW3

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01146	GC VOA Water Prep	SW-846 5030B	1	13231A07A	08/19/2013 21:34	Marie D Beamenderfer	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/22/2013 01:11	Elizabeth J Marin	1
07058	Manganese	SW-846 6010B	1	132281848009	08/24/2013 15:23	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132281848009	08/19/2013 16:05	Kevin C Piaskowski	1
00368	Nitrate Nitrogen	EPA 300.0	1	13227347602B	08/16/2013 07:23	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	13227347602B	08/16/2013 07:23	Sandra J Miller	5
12150	Total Alkalinity	SM 2320 B-1997	1	13229002205A	08/18/2013 02:29	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13229002205A	08/18/2013 02:29	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13232021202A	08/20/2013 10:15	Susan A Engle	1
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13227834401A	08/15/2013 21:50	Daniel S Smith	1

Sample Description: MW-3 Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162017
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 15:05 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	N.D.	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132281848009	08/24/2013 15:27	Deborah A Krady	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132281848009	08/19/2013 16:05	Kevin C Piaskowski	1

Sample Description: Equip Blank Grab Water
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162018
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013 11:35 by JQ

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SCEQB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P132281AA	08/16/2013 13:11	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P132281AA	08/16/2013 13:11	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231A07A	08/19/2013 13:52	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	13231A07A	08/19/2013 13:52	Marie D Beamenderfer	1

Sample Description: Trip Blank NA Water
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7162019
LL Group # 1411678
Account # 11875

Project Name: Sunol, CA

Collected: 08/14/2013

Submitted: 08/15/2013 09:05
Reported: 08/25/2013 10:43

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SCTB-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P132281AA	08/16/2013 13:45	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P132281AA	08/16/2013 13:45	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231A07A	08/19/2013 14:18	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	13231A07A	08/19/2013 14:18	Marie D Beamenderfer	1

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1411678
Reported: 08/25/13 at 10:43 AM

Matrix QC may not be reported if insufficient sample or 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.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: P132281AA	Sample number(s): 7162012,7162014,7162016,7162018-7162019							
Benzene	N.D.	0.5	ug/l	95	96	77-121	0	30
Ethylbenzene	N.D.	0.5	ug/l	89	89	79-120	0	30
Toluene	N.D.	0.5	ug/l	92	91	79-120	0	30
Xylene (Total)	N.D.	0.5	ug/l	89	90	77-120	1	30
Batch number: 13231A07A	Sample number(s): 7162012,7162014,7162016,7162018-7162019							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	122	134	75-135	9	30
Batch number: 132330024A	Sample number(s): 7162012,7162014,7162016							
Methane	N.D.	3.0	ug/l	99		80-120		
Batch number: 132281848009	Sample number(s): 7162012-7162017							
Iron	N.D.	43.0	ug/l	99		90-112		
Manganese	N.D.	0.83	ug/l	100		90-110		
Batch number: 13227347602B	Sample number(s): 7162012,7162014,7162016							
Nitrate Nitrogen	N.D.	50.	ug/l	107		90-110		
Sulfate	N.D.	300.	ug/l	108		90-110		
Batch number: 13227834401A	Sample number(s): 7162012,7162014,7162016							
Ferrous Iron	N.D.	10.	ug/l	101		93-105		
Batch number: 13229002205A	Sample number(s): 7162012,7162014,7162016							
Total Alkalinity	N.D.	700.	ug/l as CaCO3	97		90-110		
Batch number: 13232021202A	Sample number(s): 7162012,7162014,7162016							
Total Dissolved Solids	N.D.	9,700.	ug/l	92		80-120		

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: 132330024A	Sample number(s): 7162012,7162014,7162016 UNSPK: 7162012								
Methane	62 (2)	-2 (2)	35-157	8	20				
Batch number: 132281848009	Sample number(s): 7162012-7162017 UNSPK: P161149 BKG: P161149								

*- 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: 1411678
Reported: 08/25/13 at 10:43 AM

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
Iron	150*	166*	75-125	3	20	3,480	4,000	14	20
Manganese	98	98	75-125	0	20	278	290	4	20
Batch number: 13227347602B	Sample number(s): 7162012,7162014,7162016 UNSPK: P161905 BKG: P161905								
Nitrate Nitrogen	111*		90-110			N.D.	N.D.	0 (1)	20
Sulfate	109		90-110			2,500	2,500	2 (1)	20
Batch number: 13227834401A	Sample number(s): 7162012,7162014,7162016 UNSPK: P161905 BKG: P161905								
Ferrous Iron	97	97	81-112	0	6	10,900	11,400	4 (1)	5
Batch number: 13229002205A	Sample number(s): 7162012,7162014,7162016 UNSPK: P161884 BKG: P161884								
Total Alkalinity	77		10-159			588,000	582,000	1	5
Phenolphthalein Alkalinity						N.D.	N.D.	0 (1)	5
Batch number: 13232021202A	Sample number(s): 7162012,7162014,7162016 UNSPK: 7162012 BKG: 7162012								
Total Dissolved Solids	96		51-144			904,000	930,000	3	5

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: UST VOCs by 8260B - Water
Batch number: P132281AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7162012	101	97	100	93
7162014	100	96	100	93
7162016	101	98	99	92
7162018	100	100	100	92
7162019	100	100	99	91
Blank	101	98	100	92
LCS	101	101	99	94
LCSD	100	101	101	94
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 13231A07A

	Trifluorotoluene-F
7162012	90
7162014	85
7162016	90
7162018	96
7162019	93
Blank	92
LCS	108
LCSD	111

*- 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.

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Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1411678
Reported: 08/25/13 at 10:43 AM

Surrogate Quality Control

Limits: 63-135

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 132330024A

	Propene
7162012	70
7162014	86
7162016	78
Blank	93
LCS	94
MS	72
MSD	68

Limits: 42-131

*- 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

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Acct. # 11875 Group # 1411678 Sample # 7162012-19

For Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

SCR #: _____

1 Client Information

Facility # _____ WBS _____

Site Address: Mile Marker 27, Calaveras Rd., Sunol, CA

Chevron PM: Steve Gwin

Lead Consultant: URS Corporation

Consultant/Office: Oakland, CA

Consultant Project Mgr.: Joe Morgan

Consultant Phone #: 510-874-3201

Sampler: Jeremy Quick, Vicky Wiraatmadja

4 Matrix

Soil ☐ Sediment ☐ | Water ☒ Ground ☐ Potable ☐ NPDES ☐ Surface ☐ | Oil ☐ Air ☐

3 Sample Identification

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total Number of Containers
MW-10	8/14/13	11:10	✓		15
MW-11	8/14/13	12:37	✓		15
MW-3	8/14/13	1505	✓		15
Equip Blank	8/14/13	11:35	✓		6

5 Analyses Requested

Sample Identification	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☒	8260 full scan ~~8260~~ 8015 B methane SW-846	Oxygenates ____	TPHG ____ N. CA LUFT	TPHD ____ Silica Gel Cleanup ☐	Lead ____ Total ☐ Diss. ☐ Method ____	dissolved iron SW-846 6010 B ~~ICP/MS Method~~	nitrate and sulfate EPA method 300.0	manganese SW-846 6010 B	ferrous iron SM20 3500 Fe B mod	total dissolved solids SM 2540 C	alkalinity SM20 2320 B
MW-10	✓	✓		✓			✓	✓	✓	✓	✓	✓
MW-11	✓	✓		✓			✓	✓	✓	✓	✓	✓
MW-3	✓	✓		✓			✓	✓	✓	✓	✓	✓
Equip Blank	✓			✓								

☐ Results in Dry Weight
☐ 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

6 Remarks

7 Turnaround Time Requested (TAT) (please circle)

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour

8 Data Package Options (please circle if required)

Type I - Full | Type VI (Raw Data) | Alaska/Type III

Same as prior

9

Relinquished by	Date	Time	Received by	Date	Time
Jeremy Quick	8/14/13	1730			

Relinquished by Commerical Carrier: UPS ____ FedEx X Other ____

Temperature Upon Receipt 1.0 °C

Received by: C Eshler — Date 8/15/13 — Time 0905

Custody Seals Intact? (Yes) No

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Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< 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 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. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP 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 quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
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 sample 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 meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

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.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

August 26, 2013

Project: Sunol, CA

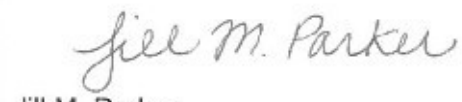
Submittal Date: 08/16/2013
Group Number: 1412151
PO Number: 0015075159
Release Number: GWIN
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
MW-8 Grab Groundwater	7164402
MW-8 Filtered Grab Groundwater	7164403
MW-4 Grab Groundwater	7164404
MW-4 Filtered Grab Groundwater	7164405
MW-9 Grab Groundwater	7164406
MW-9 MS Grab Groundwater	7164407
MW-9 MSD Grab Groundwater	7164408
MW-9 DUP Grab Groundwater	7164409
MW-9 Filtered Grab Groundwater	7164410
MW-9 MS Filtered Grab Groundwater	7164411
MW-9 MSD Filtered Grab Groundwater	7164412
MW-9 DUP Filtered Grab Groundwater	7164413
MW-X Grab Groundwater	7164414
MW-X Filtered Grab Groundwater	7164415
MW-1 Grab Groundwater	7164416
MW-1 Filtered Grab Groundwater	7164417
MW-2 Grab Groundwater	7164418
MW-2 Filtered Grab Groundwater	7164419

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	URS	Attn: Rachel Naccarati
ELECTRONIC COPY TO	URS Corporation	Attn: Christine Pilachowski
ELECTRONIC COPY TO	URS	Attn: Jeremy Quick

Respectfully Submitted,



Jill M. Parker
Senior Specialist

(717) 556-7262

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Analysis Report

Sample Description: MW-8 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164402
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 09:05 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**ug/l**	**ug/l**	
07058	Manganese	7439-96-5	855	0.83	1
Wet Chemistry	**SM 2320 B-1997**		**ug/l as CaCO3**	**ug/l as CaCO3**	
12150	Total Alkalinity	n.a.	528,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		**ug/l**	**ug/l**	
00212	Total Dissolved Solids	n.a.	660,000	9,700	1
	This sample had two layers. Only the lower aqueous phase was used for the determination.				

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 22:36	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/20/2013 23:57	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13232002102A	08/20/2013 23:57	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13233021201A	08/21/2013 09:12	Noah M Rainbow	1

Sample Description: MW-8 Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164403
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 09:05 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	N.D.	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 07:59	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

Sample Description: MW-4 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164404
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 10:42 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		ug/l	ug/l	
07058	Manganese	7439-96-5	152	0.83	1
Wet Chemistry	**SM 2320 B-1997**		ug/l as CaCO3	ug/l as CaCO3	
12150	Total Alkalinity	n.a.	340,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		ug/l	ug/l	
00212	Total Dissolved Solids	n.a.	681,000	19,400	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 22:40	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 01:21	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 01:21	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13233021201A	08/21/2013 09:12	Noah M Rainbow	1

Sample Description: MW-4 Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164405
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 10:42 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	N.D.	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 08:03	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

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Analysis Report

Sample Description: MW-9 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164406
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SNL09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		ug/l	ug/l	
07058	Manganese	7439-96-5	217	0.83	1
Wet Chemistry	**SM 2320 B-1997**		ug/l as CaCO3	ug/l as CaCO3	
12150	Total Alkalinity	n.a.	533,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		ug/l	ug/l	
00212	Total Dissolved Solids	n.a.	657,000	19,400	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 22:11	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:03	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:03	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13233021201A	08/21/2013 09:12	Noah M Rainbow	1

Sample Description: MW-9 MS Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164407
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SNL09

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals		**SW-846 6010B**		**ug/l**	**ug/l**	
07058	Manganese		7439-96-5	740	0.83	1
Wet Chemistry		**SM 2320 B-1997**		**ug/l as CaCO3**	**ug/l as CaCO3**	
12150	Total Alkalinity		n.a.	710,000	700	1
		SM 2540 C-1997		**ug/l**	**ug/l**	
00212	Total Dissolved Solids		n.a.	1,050,000	19,400	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 22:23	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:10	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13233021201A	08/21/2013 09:12	Noah M Rainbow	1

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Analysis Report

Sample Description: MW-9 MSD Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164408
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SNL09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		ug/l	ug/l	
07058	Manganese	7439-96-5	714	0.83	1
Wet Chemistry	**SM 2320 B-1997**		ug/l as CaCO3	ug/l as CaCO3	
12150	Total Alkalinity	n.a.	704,000	700	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 22:27	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:17	Clayton C Litchmore	1

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Analysis Report

Sample Description: MW-9 DUP Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164409
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SNL09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		ug/l	ug/l	
07058	Manganese	7439-96-5	220	0.83	1
Wet Chemistry	**SM 2320 B-1997**		ug/l as CaCO3	ug/l as CaCO3	
12150	Total Alkalinity	n.a.	533,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		ug/l	ug/l	
00212	Total Dissolved Solids	n.a.	685,000	19,400	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 22:19	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:23	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:23	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13233021201A	08/21/2013 09:12	Noah M Rainbow	1

Sample Description: MW-9 Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164410
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

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100 Northpark Blvd.
Covington LA 70433

SNF09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	152	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 06:29	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

Sample Description: MW-9 MS Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164411
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SNF09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	1,090	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 06:41	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

Sample Description: MW-9 MSD Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164412
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
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SNF09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	1,110	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 06:45	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

Sample Description: MW-9 DUP Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164413
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
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SNF09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	139	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 06:37	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

Sample Description: MW-X Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164414
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:05 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		ug/l	ug/l	
07058	Manganese	7439-96-5	213	0.83	1
Wet Chemistry	**SM 2320 B-1997**		ug/l as CaCO3	ug/l as CaCO3	
12150	Total Alkalinity	n.a.	535,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		ug/l	ug/l	
00212	Total Dissolved Solids	n.a.	669,000	19,400	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 22:52	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:47	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:47	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13233021201A	08/21/2013 09:12	Noah M Rainbow	1

Sample Description: MW-X Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164415
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:05 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	222	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 08:07	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

Sample Description: MW-1 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164416
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 13:42 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		ug/l	ug/l	
07058	Manganese	7439-96-5	362	0.83	1
Wet Chemistry	**SM 2320 B-1997**		ug/l as CaCO3	ug/l as CaCO3	
12150	Total Alkalinity	n.a.	529,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		ug/l	ug/l	
00212	Total Dissolved Solids	n.a.	683,000	19,400	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 22:56	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:52	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:52	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13233021201A	08/21/2013 09:12	Noah M Rainbow	1

Sample Description: MW-1 Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164417
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 13:42 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	N.D.	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 08:10	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

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Analysis Report

Sample Description: MW-2 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164418
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 14:36 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		ug/l	ug/l	
07058	Manganese	7439-96-5	58.0	0.83	1
Wet Chemistry	**SM 2320 B-1997**		ug/l as CaCO3	ug/l as CaCO3	
12150	Total Alkalinity	n.a.	430,000	700	1
12707	Phenolphthalein Alkalinity	n.a.	N.D.	700	1
	SM 2540 C-1997		ug/l	ug/l	
00212	Total Dissolved Solids	n.a.	740,000	19,400	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	132321848007	08/25/2013 23:00	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848007	08/21/2013 15:40	Kevin C Piaskowski	1
12150	Total Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:59	Clayton C Litchmore	1
12707	Phenolphthalein Alkalinity	SM 2320 B-1997	1	13232002102A	08/21/2013 00:59	Clayton C Litchmore	1
00212	Total Dissolved Solids	SM 2540 C-1997	1	13233021201B	08/21/2013 09:12	Noah M Rainbow	1

Sample Description: MW-2 Filtered Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7164419
LL Group # 1412151
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 14:36 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/26/2013 08:04

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals Dissolved	**SW-846 6010B**		ug/l	ug/l	
01754	Iron	7439-89-6	N.D.	43.0	1

General Sample Comments

State of California Lab Certification No. 2501
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01754	Iron	SW-846 6010B	1	132321848008	08/25/2013 08:14	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132321848008	08/21/2013 15:40	Kevin C Piaskowski	1

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1412151
Reported: 08/26/13 at 08:04 AM

Matrix QC may not be reported if insufficient sample or 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.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 132321848007	Sample number(s): 7164402,7164404,7164406-7164409,7164414,7164416,7164418							
Manganese	2.6	0.83	ug/l	100		90-110		
Batch number: 132321848008	Sample number(s): 7164403,7164405,7164410-7164413,7164415,7164417,7164419							
Iron	N.D.	43.0	ug/l	94		90-112		
Batch number: 13232002102A	Sample number(s): 7164402,7164404,7164406-7164409,7164414,7164416,7164418							
Total Alkalinity	720	700.	ug/l as CaCO3	98		90-110		
Batch number: 13233021201A	Sample number(s): 7164402,7164404,7164406-7164407,7164409,7164414,7164416							
Total Dissolved Solids	N.D.	9,700.	ug/l	104		80-120		
Batch number: 13233021201B	Sample number(s): 7164418							
Total Dissolved Solids	N.D.	9,700.	ug/l	104		80-120		

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: 132321848007	Sample number(s): 7164402,7164404,7164406-7164409,7164414,7164416,7164418 UNSPK: 7164406 BKG: 7164406								
Manganese	105	99	75-125	4	20	217	220	1	20
Batch number: 132321848008	Sample number(s): 7164403,7164405,7164410-7164413,7164415,7164417,7164419 UNSPK: 7164410 BKG: 7164410								
Iron	93	95	75-125	2	20	152	139	9 (1)	20
Batch number: 13232002102A	Sample number(s): 7164402,7164404,7164406-7164409,7164414,7164416,7164418 UNSPK: 7164406 BKG: 7164406								
Total Alkalinity	94	91	10-159	1	5	533,000	533,000	0	5
Phenolphthalein Alkalinity						N.D.	N.D.	0 (1)	5
Batch number: 13233021201A	Sample number(s): 7164402,7164404,7164406-7164407,7164409,7164414,7164416 UNSPK: 7164406 BKG: 7164406								
Total Dissolved Solids	99		51-144			657,000	685,000	4	5
Batch number: 13233021201B	Sample number(s): 7164418 UNSPK: 7164406 BKG: 7164418								

*- 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: 1412151
Reported: 08/26/13 at 08:04 AM

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
Total Dissolved Solids	99		51-144			740,000	759,000	3	5

*- 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

eurofins | Lancaster Laboratories

Acct. # 11875 Group # 1412151 Sample # 7164402-19

For Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

SCR #: _____

1 Client Information

Facility # _____ WBS _____

Site Address: Mile Marker 2.7, Calaveras Rd. Sunol, CA

Chevron PM: Steve Gwin

Lead Consultant: URS ~~Geraghty~~ Corp.

Consultant/Office: Oakland, CA

Consultant Project Mgr.: Joe Morgan

Consultant Phone #: 510-874-3201

Sampler: Jeremy Quick, Vicky Wiraatmadja

4 Matrix

Soil ☐ Sediment ☐ Water ☒ Ground ☐ Potable ☐ NPDES ☐ Surface ☐ Oil ☐ Air ☐

3 Grab / Composite

5 Analyses Requested

Total Number of Containers

BTEX + MTBE ☐ 8021 ☐ 8260 ☐ Naphth

8260 full scan

Oxygenates _____

TPHG _____

TPHD _____ Silica Gel Cleanup ☐

Lead ☐ Total ☐ Diss. ☐ Method _____

VPH/EPH Method _____

~~Nitrate and sulfate by EPA method 300.0~~

manganese SW-846 6010B

~~total~~ TDS SM 2540 C

alkalinity SM20 2320B

dissolved iron SW-846 6010B

2 Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE	8260 full scan	Oxygenates	TPHG	TPHD	Silica Gel Cleanup	Lead	Total	Diss.	Method	VPH/EPH Method	~~Nitrate and sulfate by EPA method 300.0~~	manganese SW-846 6010B	~~total~~ TDS SM 2540 C	alkalinity SM20 2320B	dissolved iron SW-846 6010B
MW-8	8/15/13	0905	X			GW		4													X	X	X	X
MW-4		1042	X			GW		4													X	X	X	X
MW-9 (+ MS/MSD)		1200	X			GW		5													X	X	X	X
MW-X		1205	X			GW		4													X	X	X	X
MW-1		1342	X			GW		4													X	X	X	X
MW-2		1436	X			GW		4													X	X	X	X
~~MS/MSD~~ GW																								

6 Remarks

unpreserved MS/MSD sample should be used for MW-9 for total alkalinity (as labeled)

MW-8 samples may contain free product

7 Turnaround Time Requested (TAT) (please circle)

(Standard) 5 day 4 day

72 hour 48 hour 24 hour

8 Data Package Options (please circle if required)

Type I - Full Type VI (Raw Data) Alaska/Type III

Same as prior

Relinquished by	Date	Time	Received by	Date	Time
Jeremy Quick	8/15/13	1700			

9

Relinquished by Commercial Carrier: UPS _____ FedEx X Other _____

Received by: [signature] Date 8/16/13 Time 0850

Temperature Upon Receipt 0.4 °C

Custody Seals Intact? (Yes) No

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< 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 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. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

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.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

August 23, 2013

Project: Sunol, CA

Submittal Date: 08/16/2013
Group Number: 1412028
PO Number: 0015075159
Release Number: GWIN
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
MW-8 Grab Groundwater	7163792
MW-4 Grab Groundwater	7163793
MW-9 Grab Groundwater	7163794
MW-X Grab Groundwater	7163795
MW-1 Grab Groundwater	7163796
MW-2 Grab Groundwater	7163797
Trip Blank NA Water	7163798

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	URS	Attn: Rachel Naccarati
ELECTRONIC COPY TO	URS Corporation	Attn: Christine Pilachowski
ELECTRONIC COPY TO	URS	Attn: Jeremy Quick

Respectfully Submitted,

Jill M. Parker
Senior Specialist

(717) 556-7262

Sample Description: MW-8 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7163792
LL Group # 1412028
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 09:05 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/23/2013 15:00

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SLMW8

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles		**SW-846 8260B**		ug/l	ug/l	
10943	Benzene		71-43-2	720	3	5
10943	Ethylbenzene		100-41-4	2,900	25	50
10943	Toluene		108-88-3	1,700	25	50
10943	Xylene (Total)		1330-20-7	12,000	25	50
GC Volatiles		**SW-846 8015B**		ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12		n.a.	56,000	500	10
GC Miscellaneous		**SW-846 8015B modified**		ug/l	ug/l	
07105	Methane		74-82-8	4,300	60	20
Wet Chemistry		**EPA 300.0**		ug/l	ug/l	
00368	Nitrate Nitrogen		14797-55-8	N.D.	250	5
00228	Sulfate		14808-79-8	N.D.	1,500	5
		SM 3500-Fe B modified-1997		ug/l	ug/l	
08344	Ferrous Iron		n.a.	2,900	200	20

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	D132312AA	08/19/2013 14:40	Daniel H Heller	5
10943	BTEX 8260B Water	SW-846 8260B	1	D132312AA	08/19/2013 15:02	Daniel H Heller	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D132312AA	08/19/2013 14:40	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D132312AA	08/19/2013 15:02	Daniel H Heller	50
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231B20A	08/20/2013 18:19	Catherine J Schwarz	10
01146	GC VOA Water Prep	SW-846 5030B	1	13231B20A	08/20/2013 18:19	Catherine J Schwarz	10
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/22/2013 18:03	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	13228347901B	08/16/2013 15:54	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	13228347901B	08/16/2013 15:54	Sandra J Miller	5
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13232834401A	08/20/2013 20:10	Daniel S Smith	20

Sample Description: MW-4 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7163793
LL Group # 1412028
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 10:42 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/23/2013 15:00

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SLMW4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**SW-846 8015B**		ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1
GC Miscellaneous	**SW-846 8015B modified**		ug/l	ug/l	
07105	Methane	74-82-8	N.D.	3.0	1
Wet Chemistry	**EPA 300.0**		ug/l	ug/l	
00368	Nitrate Nitrogen	14797-55-8	310	250	5
00228	Sulfate	14808-79-8	200,000	6,000	20
	SM 3500-Fe B modified-1997		ug/l	ug/l	
08344	Ferrous Iron	n.a.	80	10	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	D132312AA	08/19/2013 13:31	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D132312AA	08/19/2013 13:31	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231B20A	08/20/2013 12:29	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13231B20A	08/20/2013 12:29	Catherine J Schwarz	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/22/2013 03:20	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	13228347901B	08/16/2013 17:15	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	13228347901B	08/22/2013 07:17	Sandra J Miller	20
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13232834401A	08/20/2013 20:10	Daniel S Smith	1

Sample Description: MW-9 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7163794
LL Group # 1412028
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:00 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/23/2013 15:00

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SLMW9

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles		**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene		71-43-2	N.D.	0.5	1
10943	Ethylbenzene		100-41-4	10	0.5	1
10943	Toluene		108-88-3	1	0.5	1
10943	Xylene (Total)		1330-20-7	31	0.5	1
GC Volatiles		**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12		n.a.	2,200	50	1
GC Miscellaneous		**SW-846 8015B modified**		**ug/l**	**ug/l**	
07105	Methane		74-82-8	43	3.0	1
Wet Chemistry		**EPA 300.0**		**ug/l**	**ug/l**	
00368	Nitrate Nitrogen		14797-55-8	300	250	5
00228	Sulfate		14808-79-8	29,500	1,500	5
		SM 3500-Fe B modified-1997		**ug/l**	**ug/l**	
08344	Ferrous Iron		n.a.	460	10	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	D132312AA	08/19/2013 15:25	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D132312AA	08/19/2013 15:25	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231B20A	08/20/2013 20:30	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13231B20A	08/20/2013 20:30	Catherine J Schwarz	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/22/2013 03:38	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	13228347901B	08/16/2013 17:31	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	13228347901B	08/16/2013 17:31	Sandra J Miller	5
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13232834401A	08/20/2013 20:10	Daniel S Smith	1

Sample Description: MW-X Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7163795
LL Group # 1412028
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 12:05 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/23/2013 15:00

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SLMWX

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	12	0.5	1
10943	Toluene	108-88-3	1	0.5	1
10943	Xylene (Total)	1330-20-7	39	0.5	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	2,400	50	1
GC Miscellaneous	**SW-846 8015B modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	44	3.0	1
Wet Chemistry	**EPA 300.0**		**ug/l**	**ug/l**	
00368	Nitrate Nitrogen	14797-55-8	570	250	5
00228	Sulfate	14808-79-8	30,500	1,500	5
	SM 3500-Fe B modified-1997		**ug/l**	**ug/l**	
08344	Ferrous Iron	n.a.	440	10	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	D132312AA	08/19/2013 15:48	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D132312AA	08/19/2013 15:48	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231B20A	08/20/2013 12:51	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13231B20A	08/20/2013 12:51	Catherine J Schwarz	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/22/2013 03:56	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	13228347901B	08/16/2013 17:48	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	13228347901B	08/16/2013 17:48	Sandra J Miller	5
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13232834401A	08/20/2013 20:10	Daniel S Smith	1

Sample Description: MW-1 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7163796
LL Group # 1412028
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 13:42 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/23/2013 15:00

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SLMW1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	570	50	1
GC Miscellaneous	**SW-846 8015B modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	6.4	3.0	1
Wet Chemistry	**EPA 300.0**		**ug/l**	**ug/l**	
00368	Nitrate Nitrogen	14797-55-8	N.D.	250	5
00228	Sulfate	14808-79-8	39,600	1,500	5
	SM 3500-Fe B modified-1997		**ug/l**	**ug/l**	
08344	Ferrous Iron	n.a.	870	20	2

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	D132312AA	08/19/2013 16:11	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D132312AA	08/19/2013 16:11	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231B20A	08/20/2013 13:13	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13231B20A	08/20/2013 13:13	Catherine J Schwarz	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/22/2013 04:14	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	13228347901B	08/16/2013 18:04	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	13228347901B	08/16/2013 18:04	Sandra J Miller	5
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13232834401A	08/20/2013 20:10	Daniel S Smith	2

Sample Description: MW-2 Grab Groundwater
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7163797
LL Group # 1412028
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013 14:36 by JQ

Submitted: 08/16/2013 08:50
Reported: 08/23/2013 15:00

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SLMW2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC Volatiles	**SW-846 8015B**		ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1
GC Miscellaneous	**SW-846 8015B modified**		ug/l	ug/l	
07105	Methane	74-82-8	N.D.	3.0	1
Wet Chemistry	**EPA 300.0**		ug/l	ug/l	
00368	Nitrate Nitrogen	14797-55-8	15,500	500	10
00228	Sulfate	14808-79-8	98,900	3,000	10
	SM 3500-Fe B modified-1997		ug/l	ug/l	
08344	Ferrous Iron	n.a.	490	10	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	D132312AA	08/19/2013 16:34	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D132312AA	08/19/2013 16:34	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231B20A	08/20/2013 13:34	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13231B20A	08/20/2013 13:34	Catherine J Schwarz	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	132330024A	08/22/2013 04:33	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	13228347901B	08/17/2013 15:49	Sandra J Miller	10
00228	Sulfate	EPA 300.0	1	13228347901B	08/17/2013 15:49	Sandra J Miller	10
08344	Ferrous Iron	SM 3500-Fe B modified-1997	1	13232834401A	08/20/2013 20:10	Daniel S Smith	1

Sample Description: Trip Blank NA Water
NA URSO
Sunol Pipeline SL0600100443

LL Sample # WW 7163798
LL Group # 1412028
Account # 11875

Project Name: Sunol, CA

Collected: 08/15/2013

Submitted: 08/16/2013 08:50
Reported: 08/23/2013 15:00

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SLMTB

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles		**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene		71-43-2	N.D.	0.5	1
10943	Ethylbenzene		100-41-4	N.D.	0.5	1
10943	Toluene		108-88-3	N.D.	0.5	1
10943	Xylene (Total)		1330-20-7	N.D.	0.5	1
GC Volatiles		**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water	C6-C12	n.a.	N.D.	50	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	D132312AA	08/19/2013 13:08	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D132312AA	08/19/2013 13:08	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	13231B20A	08/20/2013 11:24	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13231B20A	08/20/2013 11:24	Catherine J Schwarz	1

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1412028
Reported: 08/23/13 at 03:00 PM

Matrix QC may not be reported if insufficient sample or 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.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D132312AA	Sample number(s): 7163792-7163798							
Benzene	N.D.	0.5	ug/l	97		78-120		
Ethylbenzene	N.D.	0.5	ug/l	95		79-120		
Toluene	N.D.	0.5	ug/l	96		80-120		
Xylene (Total)	N.D.	0.5	ug/l	97		80-120		
Batch number: 13231B20A	Sample number(s): 7163792-7163798							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	110	110	75-135	0	30
Batch number: 132330024A	Sample number(s): 7163792-7163797							
Methane	N.D.	3.0	ug/l	99		80-120		
Batch number: 13228347901B	Sample number(s): 7163792-7163797							
Nitrate Nitrogen	N.D.	50.	ug/l	101		90-110		
Sulfate	N.D.	300.	ug/l	102		90-110		
Batch number: 13232834401A	Sample number(s): 7163792-7163797							
Ferrous Iron	N.D.	10.	ug/l	101		93-105		

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: D132312AA	Sample number(s): 7163792-7163798 UNSPK: 7163793								
Benzene	112	111	72-134	1	30				
Ethylbenzene	110	110	71-134	0	30				
Toluene	110	110	80-125	0	30				
Xylene (Total)	111	111	79-125	0	30				
Batch number: 132330024A	Sample number(s): 7163792-7163797 UNSPK: P162012								
Methane	62 (2)	-2 (2)	35-157	8	20				
Batch number: 13228347901B	Sample number(s): 7163792-7163797 UNSPK: 7163792 BKG: 7163792								
Nitrate Nitrogen	134*		90-110			N.D.	N.D.	0 (1)	20
Sulfate	135*		90-110			N.D.	N.D.	0 (1)	20
Batch number: 13232834401A	Sample number(s): 7163792-7163797 UNSPK: P163274 BKG: P163274								
Ferrous Iron	97	94	81-112	1	6	2,800	2,800	1 (1)	5

*- 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: 1412028
Reported: 08/23/13 at 03:00 PM

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

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: UST VOCs by 8260B - Water
Batch number: D132312AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7163792	96	94	100	109
7163793	98	99	100	96
7163794	96	93	99	100
7163795	96	94	100	100
7163796	97	93	99	98
7163797	99	97	99	96
7163798	99	96	99	95
Blank	97	100	99	95
LCS	98	100	98	100
MS	98	101	98	99
MSD	96	99	98	99
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 13231B20A

	Trifluorotoluene-F
7163792	130
7163793	87
7163794	126
7163795	130
7163796	118
7163797	88
7163798	81
Blank	87
LCS	119
LCSD	123
Limits:	63-135

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 132330024A

	Propene
7163792	102
7163793	79
7163794	73
7163795	78

*- 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.

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Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1412028
Reported: 08/23/13 at 03:00 PM

Surrogate Quality Control

7163796	71
7163797	78
Blank	93
LCS	94
MS	72
MSD	68
Limits:	42-131

*- 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

eurofins | Lancaster Laboratories

Acct. # 11875 Group # 1412028 Sample # 7163792-98

For Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

1 Client Information

Facility # WBS

Site Address: Mile Marker 2.7, Calaveras Rd, Sunol, CA

Chevron PM: Steve Gwin

Lead Consultant: URS Corporation

Consultant/Office: Oakland, CA

Consultant Project Mgr.: Joe Morgan

Consultant Phone #: 510-874-3201

Sampler: Jeremy Quick, Vicky Miraatmadja

4 Matrix

Soil ☐ Sediment ☐ Water ☒ Ground ☐ Potable ☐ NPDES ☐ Surface ☐ Oil ☐ Air ☐

5 Analyses Requested

2 Sample Identification	Time Collected Date	Time	3 Grab	Composite	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☒ Naphth ☐	8260 full scan	Oxygenates	TPHG N CA LUFT	Silica Gel Cleanup ☐	TPHD	Lead Total ☐ Diss. ☐ Method	VPH/EPH Method	ferrous iron SM20 3500 FeB mod	Methane SW-846 8015 B	nitrate and sulfate EPA method 300
MW-8	0905	8/15/13	X		11	X			X					X	X	X
MW-4	1042	↓	X		11	X			X					X	X	X
MW-9	1200		X		11	X			X					X	X	X
MW-X	1205		X		11	X			X					X	X	X
MW-1	1342		X		11	X			X					X	X	X
MW-2	1436	↓	X		11	X			X					X	X	X
Trip blank	—	—			2	X			X							

SCR #: _____

☐ Results in Dry Weight
☐ 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

6 Remarks

2 trip blanks have 4mm bubbles (other trip blanks had larger bubbles)
MW-8 samples may contain some free product

7 Turnaround Time Requested (TAT) (please circle)

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour

8 Data Package Options (please circle if required)

Type I - Full | Type VI (Raw Data) | Alaska/Type III

same as prior

Relinquished by	Date	Time	Received by	Date	Time
Jeremy Quick	8/15/13	1700			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by Commerical Carrier: UPS ____ FedEx X Other ____			Received by	Date 8-16-13	Time 0850
Temperature Upon Receipt 1.1 °C			Custody Seals Intact? (Yes) No		

9

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< 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 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. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

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.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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